Pennsylvania State Literacy Plan

A framework for developing a comprehensive system that ensures literacy growth from the early years through high school graduation.

Released 2019

pennsylvania
DEPARTMENT OF EDUCATION

Commonwealth of Pennsylvania
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF EDUCATION

Dear Administrator and Educator:

Here at the Pennsylvania Department of Education, we work each day to ensure that students across the commonwealth have access to a high-quality education and the tools they need to succeed. While our state's educators and administrators are responsible for the growth of children at school, we know that learning doesn't end when the last school bell rings.

To that end, the Department has developed resources – both print and electronic – that provide guidance for families and educators of students in all communities and at all levels of education. Over the years, the Department has supported literacy programs across the commonwealth, because we know that literacy is the foundation for all learning.

In 1977, Pennsylvania adopted a literacy framework that provided the basis for literacy development in schools. Since then, there has been other iterations of that plan, culminating in the 2019 PA State Literacy Plan. This updated plan provides key information on:

- Guiding principles, based on research findings that provide a foundation for improving literacy acquisition and instruction (from birth through grade 12);
- A summary of the essential elements of developing a coherent, comprehensive literacy plan and supporting research findings; and
- Recommendations for various stakeholders who have an impact on teaching and learning.

This plan provides guidance to all involved in the education of Pennsylvania's students, and a framework for developing a comprehensive system that ensures literacy growth from the early years through high school graduation.

I believe that if we support a focus on "literacy is for life," students will develop the complex literacy skills they need to be future ready, make meaningful contributions to society, and enjoy personal fulfillment.

Sincerely,

Pedro A. Rivera
Secretary of Education

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Preface

Using the Pennsylvania State Literacy Plan

The initial state plan, Comprehensive Reading Communication Arts Plan, was written in 1977 by Dr. Morton Botel. The plan described a model of literacy for school-aged learners. Each subsequent edition of the document has extended or modified the knowledge base and practice of the previous document utilizing lead researchers in the state of Pennsylvania.

1977 - A Comprehensive Reading Communication Arts Plan (written by Dr. Morton Botel)

1998 - The Pennsylvania Framework for Reading, Writing, and Talking Across the Curriculum (written by Dr. Susan Lytle & Dr. Morton Botel)

2000 - The PA Literacy Framework (Dr. Jean Winsand, Review Team Chairman)

2012 - The Comprehensive Literacy Plan (Dr. Rita Bean, Review Team Chairman)

2019 - Pennsylvania State Literacy Plan (Dr. Rita Bean, Review Team Chairman)

The Pennsylvania State Literacy Plan (PaSLP) was written to provide guidance to stakeholders about their roles in developing an integrated, aligned, and comprehensive set of literacy experiences for children (birth—grade 12). Administrators and educators will find specific information about developing, implementing, and evaluating an evidence-based school literacy program. The plan also addresses the important role of literacy partners, such as parents, librarians, those who work in community agencies or businesses, and so on, who make important contributions to the development of literacy learning. Below are suggestions for using this document.

1. The PaSLP is a dynamic plan allowing the Pennsylvania Department of Education (PDE) to continue to add resources that can enhance its comprehensiveness and usability. Access the plan electronically in two locations:
   a. Pennsylvania Department of Education
      i. www.education.pa.gov;
      ii. Click on PaSLP Toolkit.
   b. Standards Aligned System
      i. www.pdesas.org;
      ii. Click on Materials and Resources;
      iii. Click on Pennsylvania Literacy; and
      iv. Click on Pennsylvania State Literacy Plan.

   By accessing electronically, readers may use the hyperlinks to connect to resources that provide elaboration and explanation about various topics. The plan includes examples of exemplary classroom and school practices and provides ideas for partnering with various stakeholders. The links include print resources and video clips that illustrate ways that school districts have implemented the ideas described in the Guiding Principles and Essential Elements.

2. The PaSLP does not need to be read cover to cover. Rather, readers can select specific topics based on need or interest. For example, the educator interested in oral language development can go directly to Essential Element 2: Oral Language, which addresses the key role of oral language in literacy development. In that section readers will find research findings, instructional implications, and a list of resources, which include links to electronic materials. The secondary teacher of content can focus on Essential Element 6: Disciplinary Literacy, and again find similar information. Higher education faculty and those preparing teachers can find links to key documents prepared by the PDE.
3. The PaSLP can be used by those applying for grants from PDE as it serves as a blueprint for comprehensive literacy development, birth—grade 12. Schools that are writing grant proposals can use the contents of the plan to identify goals, specific instructional strategies, or assessment approaches. In addition, they can consult references and resources in the plan that may be helpful in writing a well-designed grant proposal.
4. The PaSLP can serve as the basis for curriculum development in a school or district. Schools can use the plan to determine to what extent their literacy program addresses the Guiding Principles and Essential Elements described in the plan. The PA Literacy Needs Assessment (PaLNA) can be used as a guide for educators about how to make decisions to improve the literacy program birth—grade 12. An electronic copy of the PaLNA can be found at www.education.pa.gov or www.pdesas.org.
5. The PaSLP can serve as a basis for professional learning that will assist schools in developing a comprehensive, aligned, and coherent local literacy plan. Such professional development can be provided for various stakeholders, e.g., those in leadership positions, those who teach literacy or content area subjects, specialized personnel including reading specialists, special educators, speech and language teachers, as well as parents, and community leaders. Specific ideas for possible use of the plan as a guide for professional learning include:
    a. Establish a leadership team or curriculum committee that can use the PA Literacy Needs Assessment (www.education.pa.gov or www.pdesas.org) to assess the quality of the current literacy program. Based on data and the results of the discussions, the leadership team or curriculum committee can make decisions about materials, assessment strategies, resources, professional development, partnerships with stakeholders, etc.
    b. Base professional learning experiences on the goals and established needs of students in a specific school or district, identifying topics that will enable educators to develop the skills and competencies to address those needs. Also, PDE has developed learning paths that are available electronically[1]. Each of the learning paths contain at least six hours of baseline content that provides a common language and literacy knowledge for all district or charter school educators. See Learning Paths[1].
    c. Use the content of the plan itself for professional learning experiences. Choose a specific topic and provide opportunities for teachers to address that topic in depth. For example, in addressing the topic of disciplinary literacy (Essential Element 6), teachers might read that section in the plan and hold discussions about its content. They might also select one or more of the references or additional resources and

[1] Migration of this resource will occur in the future, please check www.education.pa.gov for updates.

use those as a basis for a book club or study group. In other words, each of the Guiding Principles and Essential Elements can serve as the basis for long-term, comprehensive professional learning for teachers, administrators, and specialized personnel.

In conclusion, the PaSLP is not a prescriptive document. Rather, it was written as a guide or road map to help school districts and local educational agencies (LEA) to think about the assumptions and beliefs that guide their decision making about literacy instruction and assessment. Further, it provides educators with specific evidence-based ideas about how they might put into action those beliefs and assumptions. As a road map, it acknowledges the importance of context as a key factor that influences decisions made by districts. School districts and other users should take into consideration the strengths and needs of their own students, families or caregivers, and educational personnel in making decisions about how to move forward on their journey to greater literacy achievement for their students.

Part I: Introduction and Overview

Pennsylvania State Literacy Plan: Purpose and Goals

The Pennsylvania State Literacy Plan (PaSLP) is a detailed and comprehensive plan designed to support the efforts of local districts in developing and implementing their own literacy plans. It provides school leadership with information to facilitate the analysis of literacy needs and to develop curriculum addressing the needs. The plan also provides district leadership with information to develop professional learning experiences for teachers. Guidance and tools are provided to develop and implement a local literacy plan that is aligned with the state plan. The PaSLP addresses three major goals for improving literacy in PA schools:

- **To improve literacy learning outcomes** and dramatically increase reading achievement for all students, including students in danger of academic failure birth through grade 12 in Pennsylvania;
- **To create a culture of data-informed decision making** in which multiple measures of assessment are used at the state, regional, and local levels to inform instruction and for accountability purposes; and
- **To create 21st century classrooms and schools** in which digital technology, including Universal Design for Learning (UDL), is an integral aspect of instruction and in which teachers are provided with the professional learning they need to assist students in using multiple pathways to express and represent information.

The PaSLP can be helpful to districts in the following ways:

- Develop shared understandings and a common language about literacy development, acquisition, instruction, and assessment for improving literacy learning in the district;
- Provide a roadmap for a well-articulated literacy program, birth – grade 12, that provides for vertical and horizontal alignment of literacy instruction;
- Provide for sustainability in district efforts, regardless of teacher or administrative turnover; and
- Serve as a resource guide that enables districts to search for information that meets specific literacy needs.

Pennsylvania State Literacy Plan: Vision and Mission

Students graduating from Pennsylvania schools in the 21st century need to be “future ready” at the completion of grade 12. Educators need to rethink the ways by which they approach literacy instruction at all levels, including early learning for students ages birth through five years of age. Students must be able to read more challenging and complex text; moreover, they will need experiences that enable them to use literacy as a tool for learning the content in each of the academic disciplines (i.e., science, social studies, math, and English language arts). The availability of technology has created a need for new ways of thinking about how students learn, as students of today have access to many different technological devices and social media. At the same time, many do not know how to use technological resources critically or effectively (Castek & Gwinn, 2012). Furthermore, Pennsylvania has always valued and supported early learning initiatives. Research has shown how to incorporate language and literacy into early childhood programs. Likewise, the importance of literacy across curricula has begun to assume more importance with the recognition that literacy skills are important for learning academic content.

A review of the 2017-18 State Level Pennsylvania State System of Assessment (PSSA) results on the English language arts assessment (Pennsylvania Department of Education [PDE], 2018) for schools illustrates the importance of developing a comprehensive, coherent, and well-articulated literacy plan that can provide the direction for successful literacy instruction in 21st century schools. On average, on the PSSA and Keystone exams approximately 61% of the students in Pennsylvania scored at or above proficient in reading (Grades 3-8) or literature (HS). These data indicate the continued need for Pennsylvania schools to emphasize their efforts to improve literacy instruction so that a greater number of students achieve proficiency.

Figure 1. Percent of Students Scoring at or Above Proficiency in PA Schools (2018)

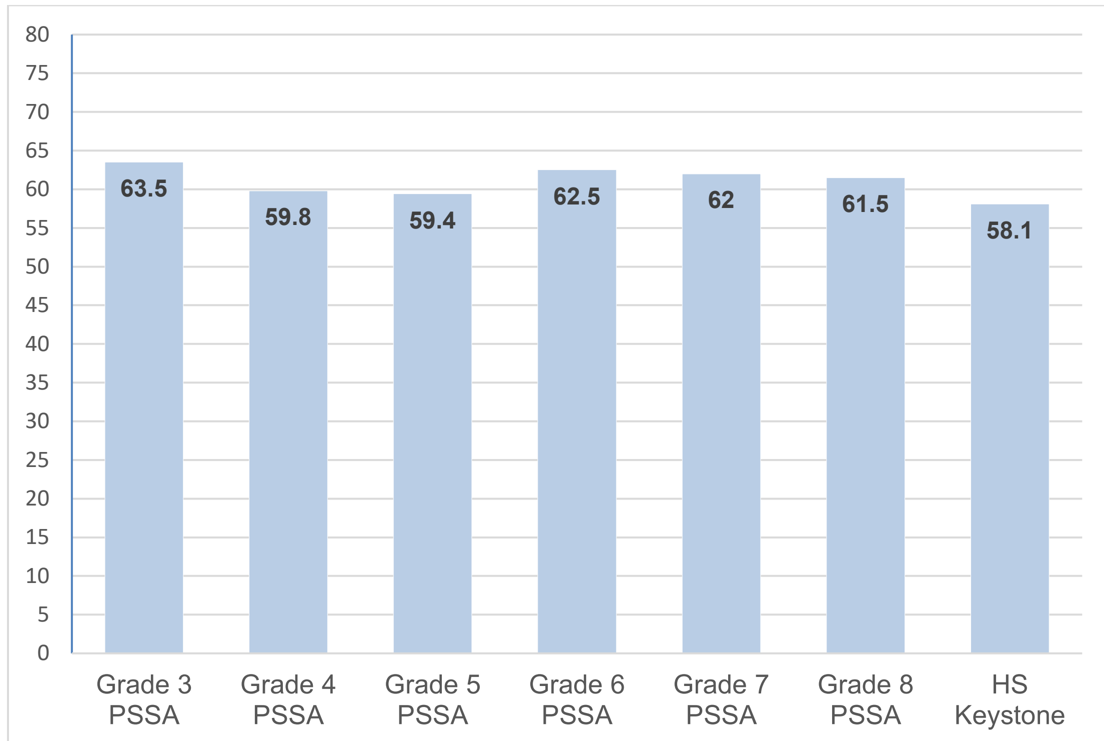


Figure 1 indicates that on average, 61% of students in PA scored at or above proficient in English language arts on the 2018 PSSA and Keystone Literature exam. There was little variation in scores across grade levels. Approximately 58% of students in grade 11 scored at proficiency on the Literature Keystone Exam.

Figure 2. Percent of All Students and Those Identified as Historically Underperforming Scoring At or Above Proficient in PA Schools (2018)

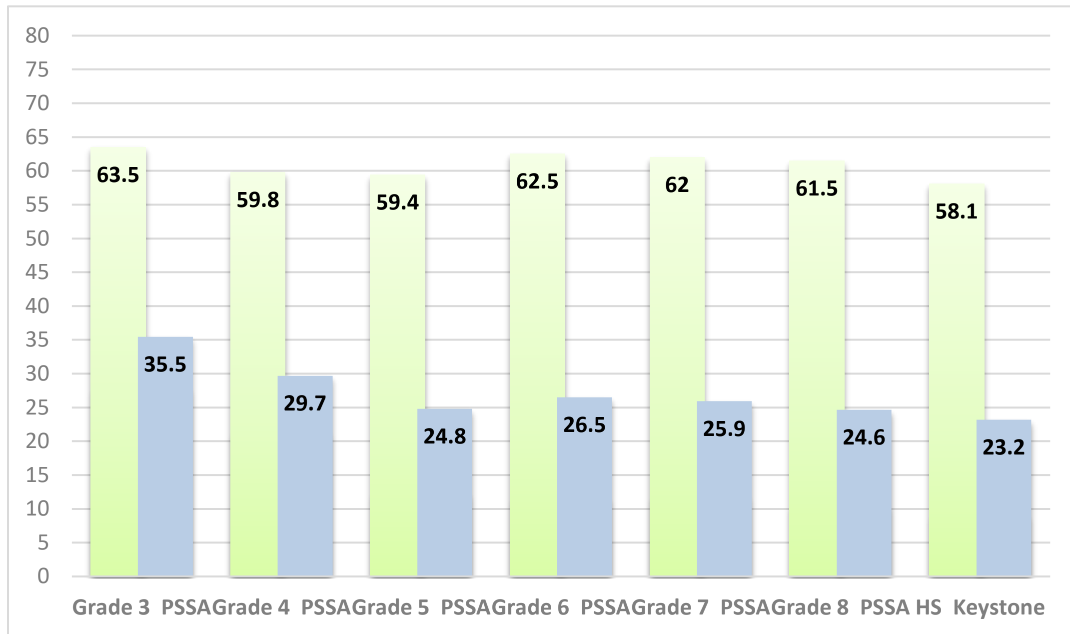


Figure 2 indicates that on average about 27% of students identified as historically underperforming scored at or above proficient on the PSSA (Grades 3-8) and the Literature Keystone Exam.

In Figure 2, scores of all students and those identified as historically underperforming (English learners, special education and economically disadvantaged) show evidence of the achievement gap that exists between these two groups.

Vision: All students in Pennsylvania from birth through grade 12 will become well-educated citizens with a command of literacy that prepares them for the challenges of the 21st century and enables them to achieve their personal and professional goals.

***Mission*.** The Pennsylvania State Literacy Plan (PaSLP) provides guidance to stakeholders about their roles in developing an integrated, aligned, and comprehensive set of literacy experiences for students. The plan identifies and describes (1) essential evidence-based concepts about the content of literacy (birth-grade 12) and (2) processes by which all stakeholders (e.g., parents, care-takers, educators, community members, etc.) involved in students' literacy learning can facilitate that learning in a coherent and consistent manner.

Audience

The PaSLP provides guidance for administrators, educators, families or caregivers, and agencies to support equitable and high-quality literacy instruction for all students. In Section B, each of the five guiding principles is supported by recommendations for action for all stakeholders supporting literacy education.

Defining Literacy

The International Literacy Association defines literacy as "the ability to read, write, and communicate" (www.literacyworldwide.org), with communication defined as the ability to listen and speak. Visual literacy, or viewing, that is, the ability to interpret, negotiate, and make meaning from information presented in the form of an image, is often included in a broader definition of literacy. Critical literacy includes learners' abilities to analyze ideas, effect social change, and empower themselves to make a difference in their own and in others' lives (National Board for Professional Teaching Standards). In the Academic Standards for Reading, Writing, Speaking, and Listening (2011), the Pennsylvania State Code defines literacy as:

> "The language arts, Reading, Writing, Speaking, and Listening, are unique because they are processes that students use to learn and make sense of their world. Students do not read "reading;" they read about history, science, mathematics, and other content areas as well as topics that interest and entertain them. Similarly, students do not write "writing;" they use written words to express their knowledge and ideas and to inform or entertain others. Because of the unique nature of the language arts, all teachers in a school use Reading, Writing, Speaking, and Listening…[to] assist their students in learning them through multiple classroom situations in all the subject areas." (§ 4.83)

Although many dictionaries define literacy as the ability to read and write, the definition of literacy has evolved and expanded over the past several decades. As summarized by Bean & Ippolito (2016), the following major shifts in our understanding of literacy are influencing literacy instruction in schools:

- Need for an integrated view of literacy, given the recognition of the interrelationships between and among all literacy skills (reading, writing, listening, and speaking);
- Understanding that literacy has an impact on learning in all classrooms and that it is a foundation for all learning;
- Importance of a comprehensive, systematic literacy program in schools from the early stages of learning through high school;
- Importance of supporting students in using both print and digital text in a critical and effective manner;
- Role of both general academic and discipline-specific vocabulary in helping students read effectively and to learn new, unfamiliar concepts; and
- Need for a combination of fiction and informational texts from early grades through high school.

In summary, in the 21st century, literacy includes the ability to locate, evaluate, use, and communicate through a wide range of resources including text, visual, audio, and video sources. In other words, literate individuals demonstrate independence; build strong content knowledge; respond to the varying demands of audience, task, purpose, and discipline; comprehend as well as critique; value evidence; use technology and digital media strategically and capably; and come to understand other perspectives and cultures (Common Core State Standards, 2010).

To develop individuals with such 21st century literacies requires instruction that is integrated and helps students understand how to access, evaluate, synthesize, and contribute to information (National Council of Teachers of English [NCTE], 2013). To ensure academic success, such instruction must occur in the context of all academic disciplines and is the responsibility of all teachers.

The Science of Reading

Consistent with research, the reciprocal nature of reading, writing, speaking, and listening warrants the use of an explicit, integrated, and aligned instructional approach. Research in cognitive science and neuroscience has helped us make significant progress toward understanding the acquisition of reading skills, the brain bases of reading, the causes of reading impairments and effective interventions. Further, the neurology and biology of the brain has enhanced our understanding of how the reading brain develops and why some students struggle to attain proficiency. The Science of Reading is a defensible foundation for helping practitioners design and deliver effective literacy instruction based upon the following shifts in the field:

- Support for theoretical models of proficient reading development as foundational for reading instruction (Seidenberg, 2016; Perfetti, 2013; Vellutino, Tunmer, Jaccard, & Chen, 2007; Scarborough, 2001; Gough & Tunmer, 1986).
- Use of neurobiological evidence on how children learn to read and why some children are at risk (Ozernov-Palchik, Yu X, Wang &, Gaab, 2016; Krafnick, Flowers, Luetje, Napoliello, & Eden, 2014; Dehaene, 2013).
- Recognition of the importance of literacy instruction delivered through multiple tiers of support and services from a child's early years through adulthood (Bursuk & Damer, 2007).

The preparation of teachers for teaching reading has also become a growing priority among the research community (Moats, 2014; Anders, Hoffman, & Duffy, 2000; Roller, 2001). Supportingly, teachers have expressed a thirst for program specific training, information about the scientific studies of reading development and difficulty, and information about language structure (Kilpatrick, 2004). In keeping with best practices in teacher preparation, Pennsylvania's State Literacy Plan references the International Literacy Association' (ILA's) Standards for the Preparation for Literacy Professionals (2017) and the International Dyslexia Association's (IDA's) Knowledge and Practice Standards for Teachers of Reading (2010), which outline the content knowledge necessary to teach reading and writing to all students using effective instructional practices.

The human brain serves as a source for understanding reading acquisition and reading difficulties and the practical application of these advances to classroom settings. In closing the existing gap between research and practice, the following are examples of sources that embody empirical reading research and evidence-based practices:

- Annals of Dyslexia
- Children of the Code
- Kilpatrick, D.A. (2015). Essentials of assessing, preventing and overcoming reading difficulties. New Jersey: Wiley.
- Language Essentials for Teachers of Reading and Spelling (LETRS)
- McCardle, P., & Chhabra, V. (2004). The voice of evidence in reading research. Bethesda,

MD: Paul H. Brookes Publishing Company.

- National Right to Read Foundation
- Reading and Writing: An Interdisciplinary Journal
- Scientific Studies of Reading
- The International Dyslexia Association
- The International Literacy Association
- The NICHD Reading Research Program: Three Decades of Research to Understand How Children Learn to Read, Why Some Children Have Difficulties Doing So, and What Can Be Done to Prevent and Remediate Reading Failure

Standards in Pennsylvania

Pennsylvania sets high expectations to ensure that students are prepared to succeed in a competitive global environment. Standards describe what students should know and be able to do from early childhood through high school. PDE convened stakeholders to develop content and process standards in 14 different subject areas.

These standards are designed to meet the needs of all students and serve as the foundation for this comprehensive literacy plan. The Standards that guide literacy instruction in Pennsylvania are briefly described below.

Standards for English Language Arts (Birth – Grade 12)

The PA Learning Standards for Early Childhood are designed to address the needs of young children. They are divided into Infant-Toddler, Pre-K and Kindergarten. The Learning Standards for Early Childhood were revised in 2014 to ensure that they are more consistent, better aligned across ages, and better connected to the academic standards. PDE Learning Standards for Early Childhood include clearly sequenced skills from infancy through kindergarten, an emphasis on the process of learning, a greater infusion of active learning strategies, and recognition of the impact of culture and diversity on learning.

In March 2014, Pennsylvania adopted the PA Core Standards for English Language Arts for Grades Pre-K – 12. The PA Core Standards for English Language Arts require a greater emphasis on informational text, text complexity, digital literacy, discussion, and argumentation. These standards indicate what students should know and be able to do at the end of each grade level in the areas of listening, reading, writing, and speaking. The standards provide the targets for instruction and student learning essential for success in all academic areas, not just language arts. All teachers are expected to use the standards as they define the skills and strategies employed by effective readers and writers. The standards provide clear expectations in the following standard categories:

- Foundational Skills
- Reading Informational Text
- Reading Literature
- Writing
- Speaking and Listening

PDE developed an implementation plan to assist schools in the transition to the PA Core Standards and to make any needed curricular and instructional changes.

Pennsylvania's Standards Aligned System

Pennsylvania developed an online resource, Standards Aligned System (SAS), to describe the elements necessary for high levels of student achievement. The SAS website provides resources for understanding and for implementing six critical components of the educational system. The intentional interaction of the articulated components increases the likelihood of student success. The elements include:

- Standards
- Assessment
- Curriculum Framework
- Instruction
- Materials and Resources
- Safe and Supportive Schools

History of Literacy in Pennsylvania

Pennsylvania has a history of commitment to quality literacy instruction. The Pennsylvania Literacy Framework (Pennsylvania Department of Education [PDE], 2000) was the third in a series of documents that has guided literacy instruction since 1979. The initial plans described a model of literacy for school-aged learners that described its multi-faceted nature as meaning-making, social, language-based, and human or personal. In 2012, the PA Comprehensive Literacy Plan (PaCLP) was written to provide guidance to all stakeholders about their roles in developing an integrated, aligned, and comprehensive set of literacy experiences for children (birth-grade 12). In 2014, the prior edition was updated with new resources, links, and tools that could be used to develop local literacy plans. The 2019 Pennsylvania State Literacy Plan (PaSLP) provides additional updates, resources and links, and a new section titled Recommendations for Action that provide ideas for various stakeholders about how they can be involved in enhancing literacy learning in the state, district, and communities. There are also substantive changes in two of the essential elements: Engagement and Resiliency (now 21st Century Classrooms) and Disciplinary Literacy. The major purpose of this 2019 version was to build on current research evidence as well as information generated by the Keystones to Opportunity grant that was implemented in many Pennsylvania districts (2011-2017).

Keystones to Opportunity (2011-2017): Contribution to the PaSLP

The Keystones to Opportunity (KtO) grant (2011-2017, Striving Readers Comprehensive Literacy) was a $180 million federal grant awarded to Pennsylvania to improve literacy outcomes for all students. The grant was awarded to support Pennsylvania's comprehensive approach to improving literacy outcomes for all children—birth through grade 12. Keystones to Opportunity (KtO) supported programs that advance literacy skills through professional learning, screening and assessment, targeted interventions for students reading below grade level and research-based methods of improving classroom instruction and practice. For a detailed description of KtO, see Appendix A. One of the outcomes of the KtO grant was the development of the Literacy is for Life initiative.

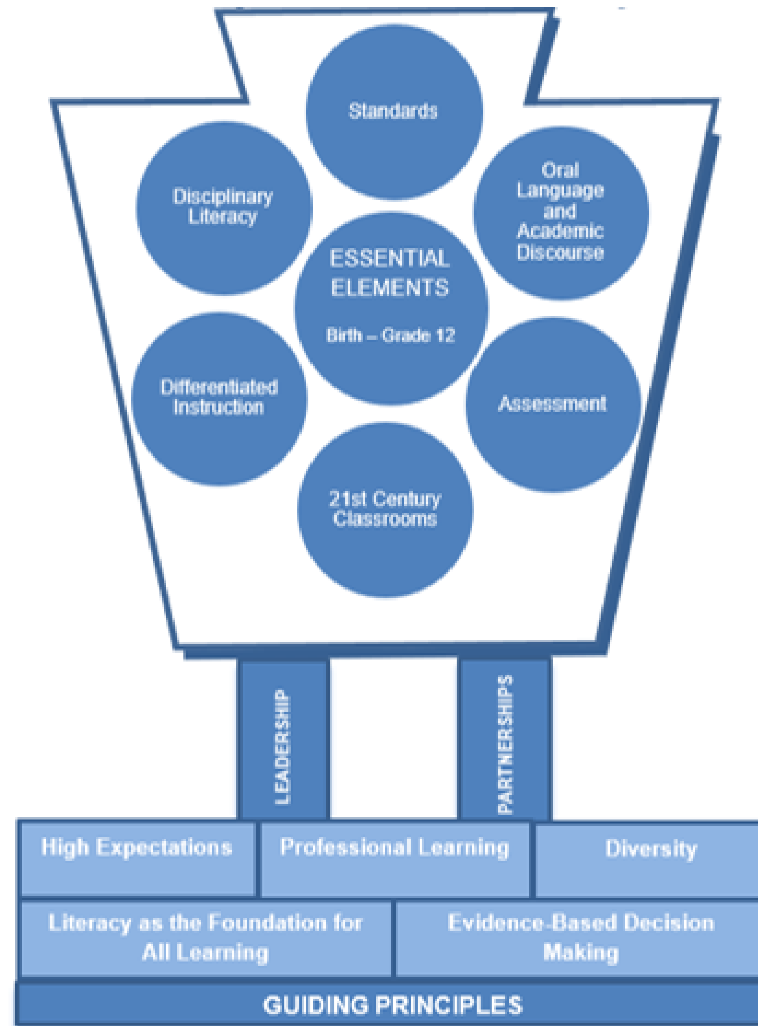
Overview of the Pennsylvania State Literacy Plan

This plan includes the following:

- Guiding Principles that represent the beliefs and assumptions underlying the PaSLP;
- Essential Elements that describe the basic components critical to developing and implementing an effective literacy plan. The essential elements are necessary for operationalizing the assumptions and beliefs identified in the Guiding Principles. Each of the Essential Elements includes a definition and rationale for its inclusion, implications for instruction, and a list of resources for educators;
- Implementation Plan that summarizes recommendations for action, provides a template for developing a local comprehensive literacy plan and a rubric for assessing the quality of the developed plan; and
- Analysis and Assessment Section that provides ideas for developing an assessment plan and describes data team meetings.

Pennsylvania State Literacy Plan

Vision: All students in Pennsylvania from birth through grade 12 will become well-educated citizens with a command of literacy that prepares them for the challenges of the 21st century and enables them to achieve their personal and professional goals.



Mission: The Pennsylvania State Literacy Plan will provide guidance to stakeholders about their roles in developing an integrated, aligned, and comprehensive set of literacy experiences for students.

Pennsylvania State Literacy Plan: A Visual Representation
The Pennsylvania State Literacy Plan graphic on the preceding page provides a visual representation of the framework for the PaSLP. The base or guiding principles represent the beliefs and assumptions underlying a strong literacy plan (see Part II: Guiding Principles) and support the essential elements or critical components that must be defined and operationalized in any comprehensive literacy program (see Part III: Essential Elements). The two pillars, Leadership and Partnerships, provide the bridge between the guiding principles and essential elements. They permeate all aspects of essential elements and are critical to the success of a comprehensive literacy program. Each of these pillars is discussed below.

Leadership
In any discussion of school reform or school change, the importance of effective leadership is highlighted. Bryk, Sebring, Allensworth, Luppescu, and Easton (2010), for example, in their framework for school reform, describe leadership as "the driver for change" (p. 62); they also identify principals as key agents in any systemic improvement. In addition to having excellent management skills, principals must be able to orchestrate "people, programs, and extant resources" (p. 63) to influence instructional practices and develop a climate in which distributed leadership is encouraged and supported. Further, effective principals are able to inspire, nudge, and build the collective capacity towards achieving common goals. As explained by Bryk et al. (2010), principals will need to develop environments in which there is shared or distributed leadership—a climate in which leadership is distributed or stretched across individuals and situations (Spillane, Halverson, & Diamond, 2001).

Given the importance of supporting students' literacy and language growth; that is, their ability to read, write, and communicate, literacy leadership is an essential. In other words, educators such as school librarians, literacy coaches, reading specialists, teacher leaders, as well as classroom teachers, have a major responsibility to work collaboratively and to serve as leaders in facilitating instructional change and student literacy achievement. In a recent study of schools in PA designed to investigate how Response to Intervention (RtI) had affected the role of specialized personnel and what skill sets they needed to effect change (Bean & Lillenstein, 2010), several key findings emerged. First, the principal had a key role in establishing a positive school climate and norms for collaboration. Second, a literacy leadership team that included the principal, literacy professionals (coaches, reading specialists, librarians), classroom teachers, and others such as a psychologist and special educators worked collaboratively to analyze data, student learning, and various strategies for modifying instruction. Educators in these schools had to learn to work collaboratively, to share ideas about instructional practices, to discuss openly what was working and what was not as effectively in meeting student needs. As summarized by Bean (2014), literacy leaders can be those with a formal leadership position (literacy coach) or they can function informally (teacher leaders who provide support and resources for their peers). To be effective, they must, in addition to their knowledge of literacy instruction and assessment, understand adult learning, how to lead adult learning, and how to "set into motion the leadership of others" (p. 17). They must be able to work collaboratively with others to set common goals and a shared vision—a vision that addresses the needs of students as 21st century learners.

Partnerships
Robust evidence indicates a strong relationship between active family involvement and students' success in school, including their academic performance, motivation and engagement, rates of graduation and higher grade-point averages at the secondary school level (Paratore, Steiner, & Dougherty, 2014). In Bryk et al.'s (2010) framework for school improvement, the importance of school-community partnerships is highlighted as a key factor in a comprehensive school improvement initiative. By developing partnerships with families/caregivers and with community agencies, schools have a greater possibility of keeping students engaged and active in school. Epstein et al., (2009), describes six categories of partnerships, including:

- Parenting: Helping parents create positive home environments for learning;
- Communicating with parents: Designing and implementing processes, including technology, for home and school communication;
- Volunteers: Seeking opportunities for volunteers, including senior citizens, family members, university students;
- Learning at home: Helping families or caregivers understand how to support student learning at home;
- Decision Making: Involving families or caregivers in the decisions made in schools (e.g., scheduling); and
- Community Collaboration: Establishing partnerships with community organizations and agencies and providing services for the community.

Districts then have a responsibility to develop well-articulated, systematic programs that create opportunities for families/caregivers to be involved with their children's education, from early years of schooling through high school. They should also seek to develop relationships with community agencies in their locale, including preschool providers, local libraries, universities, as well as various social agencies that might be interested in partnering in various activities.

Introduction References

Part II: Guiding Principles

The five guiding principles described below represent the beliefs and assumptions underlying the Pennsylvania State Literacy Plan.

1. **Literacy as a Critical Foundation for All Learning**
Literacy is a critical foundation for all learning. Being fully literate in the 21st century requires that students read, write, and communicate at high levels to construct meaning from and across multiple sources, including print and non-print, and to communicate ideas orally and in writing. Schools must prepare students to develop the complex literacy skills they need to be future ready, to make meaningful contributions to society, and to enjoy personal fulfillment. Literacy, an important skill, and tool for learning, requires instruction and support from birth-grade 12.

2. **Diversity**
Diversity (e.g., linguistic, cultural, race and socioeconomic status) should be acknowledged, valued, and respected in our schools and classrooms. Students should have educational experiences that enable them to learn about their own culture as well as the culture of others, to make connections between what they know and what they are learning. By valuing and acknowledging diversity in our curriculum and instructional practices, student learning, motivation, and access to educational opportunities will be increased.

3. **High Expectations**
There must be high expectations for all learners and a belief that all students can gain literacy skills that prepare them to be future ready; that is, to be successful in college, career, and as citizens. Instruction must address the full range of learners and be differentiated to meet each child's needs; such instruction requires a well-integrated system connecting general, compensatory, gifted, and special education.

4. **Evidence-Based Decision Making**
Decision making about literacy programs, practices, and policies must be evidence-based; that is, it must be grounded in reliable and valid research results and informed by experiential and contextual evidence. Evidence must come from multiple sources and provide information about the many factors that influence student learning.

5. **Professional Learning**
Educators must be prepared to teach effectively in the schools of the 21st century. Practicing teachers will benefit from ongoing, job-embedded learning opportunities that promote lifelong learning and reflective teaching.

Guiding Principle 1: Literacy as a Critical Foundation for All Learning

Literacy is a critical foundation for all learning. Being fully literate in the 21st century requires that students read, write, and communicate at high levels to construct meaning from and across multiple sources, including print and non-print, and to communicate ideas orally and in writing. Schools must prepare students to develop the complex literacy skills they need to be future ready, to make meaningful contributions to society, and to enjoy personal fulfillment. Literacy, an important skill, and tool for learning, requires instruction and support from birth-grade 12.

Literacy expectations and demands have increased given 21st century societal changes and challenges. These changes include:

- More jobs will require some postsecondary education, and this expectation will require that graduates be able to read and comprehend challenging content and apply their reading to problem solving (Haynes, 2011).
- Increased use of technology for communication and learning is changing the way we read, write, teach, and learn. Today's students are surrounded by technology; they think and learn in different ways (Coiro, 2009; ISTE, 2016 www.iste.org). Technology is, therefore, not only changing the way that students learn, but the nature of teaching in schools.
- Because of increased access to communication via technology, students will need to have a greater sense of themselves as members of the global community. They will need language and literacy skills that enable them to compete successfully in an economy that is influenced by world events. Graduates will also need a deeper understanding of and appreciation for people of various cultures.
- Too many students, especially those of color, drop out of high school or fail to qualify for admission to or graduate from institutions of higher learning. Further, "the percentage of young adults ages 18 to 19 neither enrolled in school nor working was higher for those from poor families than for their peers from nonpoor families" (National Center for Education Statistics (NCES), 2016). All students must have opportunities to learn, access to quality teachers and teaching, and the academic support needed to increase the numbers of graduates who are college and career ready (Haynes, 2011). In other words, as acknowledged in the revised Position Statement by the International Reading Association's Commission on Adolescent Literacy, (2012):

  "Adolescents entering the adult world in the 21st century will read and write more than at any other time in human history. They will need advanced levels of literacy to perform their jobs, run their households, act as citizens, and conduct their personal lives. They will need literacy to cope with the flood of information they will find everywhere they turn. They will need literacy to feed their imaginations, so they can create the world of the future" (p. 3).

Shifts in Literacy Instruction
As mentioned previously, although literacy can be defined simply as the ability to read and write, it is much more than that. In the past decade, several key shifts have occurred in the ways that literacy is taught and learned in schools. These include:

- An emphasis on the interrelationships of all the language arts and the importance of integrating instruction to facilitate growth in all areas (e.g., developing oral language skills of young children to influence later reading achievement).
- The importance of literacy instruction from a child's early years through adulthood. This shift illustrates the importance of working with families or caregivers and preschools, and the need to support literacy learning for students in secondary schools.
- The value of reading both literary and informational texts from early years through secondary school. Exposure to informational text helps students develop the academic vocabulary and conceptual knowledge they need for later learning in the content areas.
- The importance of literacy as an important tool for learning in the disciplines (Shanahan & Shanahan, 2012; Moje, 2015).
- A focus on teaching students to effectively use a wide variety of digital tools for learning and communication and providing teachers with the professional learning experiences they need to use the tools of technology to better meet the needs of students (National Council of Teachers of English, 2013; Coiro, 2015).

The Science of Reading
Not only have there been shifts in how literacy is defined and taught, there have also been important scientific findings that have contributed to an understanding of reading development and acquisition. Given research in cognitive science and neuroscience, there has been significant progress made toward understanding the acquisition of reading skills, the brain bases of reading, the causes of reading difficulties, and effective interventions (Dehaene, 2013; Perfetti, 2013; Seidenberg, 2016; Vellutino,Tunmer, Jaccard, & Chen, 2007). The information gained from this research provides an important and defensible foundation for the design and delivery of effective instruction for students and especially for those who experience difficulty learning to read. As defined by Gough and Tunmer (1986) in their *Simple View of Reading*, reading comprehension can be considered the product of decoding or word recognition and linguistic or listening comprehension. Both factors are important to the development of reading proficiency. Key contributors to word recognition are: phonological awareness, decoding, and sight recognition. Language comprehension processes and skills include background knowledge, vocabulary, verbal reasoning, language structures, and literacy knowledge. While both word recognition and language comprehension account for variability in reading comprehension, unique contributions change over time with word recognition making the more significant impact on reading comprehension for emergent and novice readers. As word recognition abilities increase, language comprehension is the more significant contributor to reading comprehension. Kim (2017) conducted a study in which she combined the components of the *Simple View of Reading* (word reading and listening comprehension) with the component skills of text comprehension into a combined framework, i.e. the direct and indirect effects model of reading (DIER). In *Why the Simple View of Reading Is Not Simplistic: Unpacking Component*

Skills of Reading Using a Direct and Indirect Effect Model of Reading (DIER), Kim (2017) stated, "the present findings and the DIER model are also in line with the Reading Systems framework by Perfetti and his colleagues (Perfetti, 1999; Perfetti et al., 2005; Perfetti & Stafura, 2014), according to which, knowledge about orthographic system and linguistic system is necessary for reading comprehension, and both systems have its own processes, which interact and influence each other" (p. 326). Perfetti and Stafura (2013) in their *Reading Systems Framework* provided a general framework that describes the many components of reading and informs thinking about reading expertise and reading problems. In Guiding Principle 5, information about what teachers need to know and be able to do to teach literacy effectively is described. In Essential Element 1, additional information is provided about specific approaches or methods for teaching students to read, given these research findings.

The Pennsylvania State Literacy Plan can serve as a tool to promote effective literacy learning that will enable students to meet the demands of the 21st century. It highlights the importance of developing the skills of literacy, especially in the early grades where there needs to be a focus on oral language and foundational skills (Book Handling, Print Concepts, Phonological Awareness, Phonics and Word Recognition, and Fluency) as described in the PA Core Standards. In addition, it addresses an individual's ability to use literacy to function in society, achieve goals, and develop knowledge and potential. In the Pennsylvania State Literacy Plan, all the language arts—reading, writing, speaking, and listening—are considered essential capabilities of literate adults. Moreover, the plan addresses the need to prepare citizens who can successfully engage in a diverse, quickly changing world.

Teachers of content have a shared responsibility to understand how literacy affects learning of their disciplines and how they can use literacy instruction to strengthen students' learning in their classrooms. The Pennsylvania State Literacy Plan highlights the importance of helping students gain the competence with literacy that enables them to apply their skills in authentic situations, both in and out of school. As Schmoker (2011), indicated, "authentic literacy is integral to both what and how we teach" (p. 11). Literacy is, in fact, the "spine" that holds everything together (Phillips & Wong, 2010).

To meet the complex challenges expected of graduates of Pennsylvania schools, the Pennsylvania State Literacy Plan identifies Recommendations for Action for those involved with improving literacy learning of students.

Guiding Principle 2: Diversity

Diversity (e.g., linguistic, cultural, race and socioeconomic status) should be acknowledged, valued, and respected in our schools and classrooms. Students should have educational experiences that enable them to learn about their own culture as well as the culture of others, to make connections between what they know and what they are learning. By valuing and acknowledging diversity in our curriculum and instructional practices, student learning, motivation, and access to educational opportunities will be increased.

Where PA Stands

In 2014-15, there were 51,919 English learners in PA schools. In 2015-16, there were 52,689 students, 243 different languages reported, with Spanish being the most commonly represented language (32,308 students). In 2016-17 there were 59,674 students, 256 different languages reported, with Spanish being the most commonly represented language (37,530 students). In 2017-18 there were 65,991 students, 248 different languages reported, with Spanish remaining the most commonly represented language (41,370 students).

Pennsylvania Information Management System (PIMS)

According to Coleman, Negron, and Lipper (2011), diversity is a "multidimensional broadly inclusive concept that acknowledges and embraces the richness of human differences…the term 'diversity' is not code for race, ethnicity, or gender by themselves" (p. 20). Instead, it encompasses many different attributes that influence learning, including language, reading achievement and so forth (Bean & Ippolito, 2016). In addition to the diversity found in students, the diversity in teachers, staff, and the community has profound effects on the beliefs, perceptions, relationships, attitudes, and written/unwritten rules of the school and educational practices.

Increasingly, more classrooms are culturally and linguistically complex: they include students who represent many different cultural backgrounds, those who are second-language learners, or speak one or more languages. According to the National Clearinghouse for English Language Acquisition (2010), it is estimated that by 2025 approximately one of four students in the United States will be English learners.

In too many schools, students who live in poverty or children of color are affected not only by conditions within the school (e.g., lack of resources and services, inexperienced teachers), but also by out-of-school factors (e.g., family education, living conditions, income). Too often, educational practices are based on a deficit-based perspective that assume students arrive at school culturally deprived rather than understanding and appreciating the "funds of knowledge" (Long, et al., 2014) that they bring to the classroom. As Duncan-Andrade (2009) wrote in his article, *Note to Educators: Hope Required When Growing Roses in Concrete*, educators have the responsibility to connect academic rigor with students' lives, and to establish caring relationships with their students that encourage and promote student learning. Gay (2014) described the importance of culturally responsive teaching as a means of improving educational experiences for students; she identifies two pathways, one in which instruction "uses cultural knowledge about ethnically diverse students" to teach them effectively; the other pathway is

focused on providing all students with “more knowledge about the cultures, experiences, challenges, and accomplishments of diverse groups” (p. 357).

Language and culture shape learning styles and behaviors. Students of various cultural and linguistic backgrounds bring diverse cultural orientations to learning, unique to what they have experienced in their homes (Philips, 2003). Students influenced in more collectivist cultures may be more oriented toward collaboration, group interaction, and oral discourse, while students raised in individualistic cultures may be more oriented toward personal achievement, competition, and ownership (Trumbull, Rothstein-Fisch, & Greenfield, 2000). A multicultural education approach that explicitly values diversity and supports culturally contextualized teaching will help students access curriculum (Charity-Hudley & Mallinson, 2011; Gay, 2004; Gay, 2010; Gay, 2014). Immigrant students educated in their home countries may also bring with them the varied histories, knowledge, and experiences specific to that country and its education system. By using the rich “funds of knowledge” students bring to the classroom, educators can foster the attainment of new knowledge while validating the students’ home knowledge (Long, et al., 2014).

Valuing the language of the home is important to the success of students. Language is tied to culture and to identity. It is tied to family and rich histories. According to Fishman (2007), culture is expressed through language, and when language is lost, those things that represent a way of life, as well as values and human reality are also lost. In the classroom, native language can be utilized as a resource for clarification of difficult tasks and as a means of enriching the learning experience for all students. Specific information about language variation and language development of English Learners follows.

Language Variation

(e.g., African American English, Southern English Varieties, Chicano English). Research in the field of linguistics maintains that language variation is to be expected, and that while some educators may view non-standardized varieties of English as informal, mis-educated, or error-ridden, differences in non-standardized English varieties of English, such as African American English (AAE), are “not the same as language deficits, errors, mistakes or confusions. Non-standardized varieties of English are as rule-governed, patterned and predictable in their linguistic structure as are standardized varieties” (Charity-Hudley & Mallinson, 2011, p. 2). Yet, research indicates that listeners often rank speakers of standardized varieties as being smarter and of a higher status, while speakers of non-standardized varieties of English are often viewed as less intelligent, having less social status, and are often associated with more negative traits than standardized speakers of English (Lippi-Green, 1997). Non-standardized English speakers are also shown to perform lower on standardized tests (Charity-Hudley & Mallinson, 2011). Valuing and understanding the diverse linguistic experiences and skills of culturally and linguistically diverse students are the first steps to engaging students and supporting their success; additional preparation in understanding language variation and development is important for all educators in supporting the success of culturally and linguistically diverse students.

Development of English Learners

English Learners (ELs) must learn content and language simultaneously; thus, they have "double the work" (Short & Fitzsimmons, 2007). According to World-Class Instructional Design and Assessment, second language development occurs along a language development continuum ranging from entering (level 1) to bridging (level 5), each with specific linguistic characteristics. For ELs to progress in language development and content mastery, they must have access to meaningful language and concepts (Lau vs Nichols, 1974; Krashen, 2004; Vogt, 2014). Meaningful access to the curriculum requires that students have access to reading materials and content at their proficiency level, thereby providing multiple opportunities for success. Misperceptions of language variation, second language development, and cultural orientations to school can lead to detrimental experiences and lowered opportunity for students who are culturally and linguistically diverse, as evidenced by over-representation of African Americans and ELs in Special Education, lower track classes, and dropout rates (Coutinho & Oswald, 2006; NCES, 2016). This disparity has critical implications for educators who, to help eliminate the achievement gap, or as Darling-Hammond (2010) described, an "opportunity gap", must understand the importance of language and culture as they impact school interactions, literacy development, identity development, and academic achievement. When educators believe the language variation students bring to the classroom is wrong, their beliefs have negative effects on students' identity and learning and may suggest something is wrong with the students or their family (Delpit, 2006). At the same time, having an appreciation for, and understanding of language variation does not, "preclude the need for students to be taught Standard or Academic English, not as a replacement for their home, first, or indigenous languages, but as a complement to them" (Gay, 2010, p. 84). Smitherman (2006) summarized as follows:

"…I know of no one, not even the most radical minded linguist or educator (not even the kid herself!) who has ever argued that American youth, regardless of race/ethnicity, do not need to know the language of wider communication in the U.S." (aka "Standard English") (p. 142).

To value and acknowledge diversity in Pennsylvania schools, the Pennsylvania State Literacy Plan identifies Recommendations for Action for those involved with improving diversity learning of students.

Guiding Principle 3: High Expectations

There must be high expectations for all learners and a belief that all can gain literacy skills that prepare them to be future ready; that is, to be successful in college, career, and as citizens. Instruction must address the full range of learners and be differentiated to meet each child's needs; such instruction requires a well-integrated system connecting general, compensatory, gifted, and special education.

Foundational to this principle is the commitment to providing all students access to high quality literacy instruction that is age appropriate, evidence-based, and aligned to a progression of well-articulated, rigorous standards. In PA, as in the entire nation, expectations for students as identified in state standards have become more demanding; students are expected to participate in and be successful with high-level literacy tasks. For example, students are expected to respond to text-dependent questions and analyze texts from both literary and informational sources. Resources for such work can be found on www.education.pa.gov or www.pdesas.org. Further discussion can be found in Essential Element 1.

In addition to the emphasis on more rigorous standards, teachers are also facing another task, specifically of educating groups of students who continue to become increasingly diverse (Darling-Hammond, 2010). Consequently, formal instruction in literacy is often strongly impacted by economic disadvantage and language barriers, as well as a myriad of physical, mental, social, and emotional challenges often presented by many students in this diverse group.

Since the early 1970s, Section 504 of the Rehabilitation Act and the Education for All Handicapped Children Act (later transformed into the Individuals with Disabilities Education Act) has required that schools integrate students with disabilities into the mainstream of education as much as possible. In addition to students with disabilities, classrooms today include an increasing number of students from diverse cultural backgrounds (Darling-Hammond, 2010). Data from a governmental report (National Center for Educational Statistics, 2016) indicated that:

> "Between fall 2003 and fall 2013, the number of White students enrolled in public elementary and secondary schools decreased from 28.4 million to 25.2 million, and the percentage who were White decreased from 59 to 50 percent. In contrast, the number of Hispanic students enrolled increased from 9.0 million to 12.5 million, and the percentage who were Hispanic increased from 19 to 25 percent" (p.1).

Cultural differences displayed by students who speak another language or have home experiences different from those of their school peers are often incompatible with the existing school cultures and directly influence teaching and learning (Gay, 2014). Many of these same students face language barriers that further complicate learning to read and write in English. Additionally, socioeconomic disadvantage may affect the learning of a significant number of students. Although the United States does not necessarily have a greater proportion of socio-economically disadvantaged students than other advancing countries, "socio-economic disadvantage translates more directly to poor educational performance in the United States than is the case in many other countries" (OECD, 2010, p. 35). The result is an increasingly diverse population of students, many of whom face learning challenges and ALL of whom must achieve

the highest levels of literacy skills possible.

Moreover, ensuring high levels of literacy requires high literacy expectations for ALL students, from those at the low end of the spectrum to those at the high end. Bromberg & Theokas (2013) used the National Assessment of Educational Progress (NAEP) data to discuss findings across this spectrum. They found that although there is progress being made with low-achieving students, there is not the same rate of progress for students all along the distribution. They recommend that:

> "We continue— even accelerate — recent progress at the low end, working hard to make sure initially low-achieving students get the high-quality instruction and supports they need to meet standards. But if we want to close the gaps that have haunted us as a country for so long, we've got to make more and faster progress with students all along the achievement distribution. That includes high-achieving, low-income students, and students of color, who've made progress in recent years, but need to make much, much faster progress if they are to be proportionately represented at the advanced level of achievement" (p. 12).

As they emphatically state, there is a need to focus on closing the gap for all students, "building capacity to support low-performing students while challenging students who are ready to go further faster" (p.13).

Educators must believe that all students have potential and therefore can acquire a high level of literacy skills if they have appropriate instruction, support, encouragement, and adequate resources. Oakes (2003) referred to these expectations as a "college-going school culture" and contends that in such a culture:

> educators believe that all of their students can learn at very high levels. A school culture that expects all students to spend time and effort on academic subjects and emphasizes that the effort will pay off, fosters high levels of academic achievement. (p.2)

Teacher perceptions are not always accurate and at times underestimate the literacy capabilities of students from diverse backgrounds (Ready & Wright, 2011). Such students often lack confidence in their own abilities to read and write; therefore, they put forth very little effort. Conversely, students who are led to believe in their own abilities put forth more effort, which results in greater success. According to Mehan (2007), all other conditions for success flow from this culture of high expectations. Researchers who interviewed kindergarten through 12th grade students attending urban schools about their educational expectations highlight the importance of caring teachers with high academic expectations as one of the major themes influencing performance (Caruthers & Friend, 2016).

Unfortunately, simply believing in and conveying students' potential to acquire literacy skills is not enough. It is equally important that teachers understand and value learning differences in literacy acquisition. In addition to providing high quality literacy instruction, they must be prepared to intervene with instructional supports that enable students to meet the high expectations that are set for them. Teachers must recognize that background knowledge, motivation, and purpose play an important role in the literacy acquisition of all students,

particularly students with learning challenges.

Finally, high expectations and intervention strategies in the general education classroom often must be coupled with specialized supports from outside the regular classroom (Oakes, 2003). Well-prepared specialists must be available to assess specific literacy needs, recommend targeted interventions, and employ highly intensive instruction when required. A coordinated system of care and support must begin early and continue as the child progresses through school. The PA Multi-Tiered System of Support (MTSS) defines specific guidelines for providing coordinated support to students. See detailed information in Essential Element 5.

While early intervention is key to future success, it is also true that personalized literacy instruction for many students must continue throughout the grades. Plans for students need be no less robust at the high school level than they are in the early years. Once in place, ongoing monitoring and adjusting are necessary to ensure continued growth and avoid eventual plateaus or even digressions in performance that educators often come to expect.

In sum, teaching literacy skills to all students is an immeasurably complex task. For the growing numbers of students with learning challenges, this challenge begins with high expectations for each individual student coupled with an artful coordination of a tiered system of strategies and services. No one entity working in isolation can provide the necessary programming. For this reason, careful attention must be given to ensuring that instructional supports and services are woven into a cohesive and coherent plan—a plan that spans the grades and intentionally addresses significant transitions along the way. Policy makers, administrators, and teachers must share the commitment to understanding diversity and its impact on literacy acquisition, fostering high expectations for all students, and providing a concomitant system of personalized support for students with diverse literacy needs. This ever-increasing need calls for well-coordinated efforts that begin with teacher preparation and continues through ongoing professional development for practicing teachers and administrators.

To promote teaching of literacy skills in Pennsylvania schools, the Pennsylvania State Literacy Plan identifies Recommendations for Action for those involved with improving literacy instruction.

Guiding Principle 4: Evidence-Based Decision Making

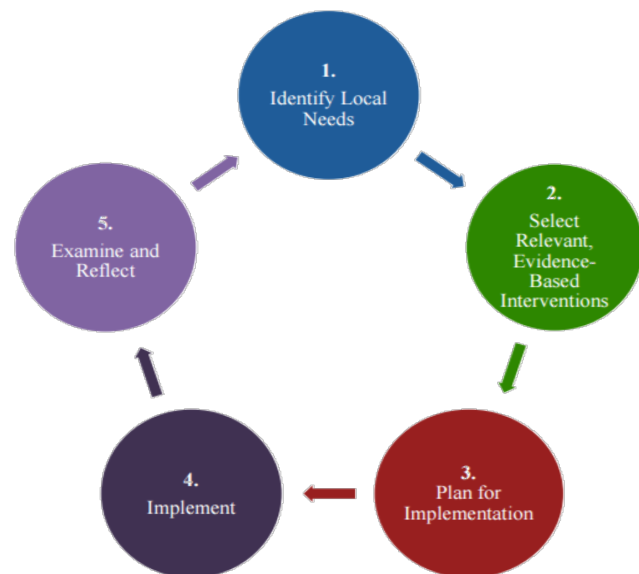
Decision making about literacy programs, practices, and policies must be evidence-based; that is, it must be grounded in reliable and valid research results and informed by experiential and contextual evidence. Evidence must come from multiple sources and provide information about the many factors that influence student learning.

Making decisions about educational programs, practices, and policies requires consideration of the following dimensions: the best available empirical evidence, experiential evidence from the field (professional wisdom), and evidence about the local context (Understanding Evidence: Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments, September 16, 2016) www2.ed.gov. Department of Education: Washington, D.C.)

Figure 3. Guidance for District Decision Making

The U.S. Department of Education (September 2016, p. 3) suggested the following five steps as guidance to states and districts involved in decision making (Figure 3):

1. Identify Local Needs
2. Select Relevant, evidence-based Interventions
3. Plan for Implementation
4. Implement
5. Examine and Reflect



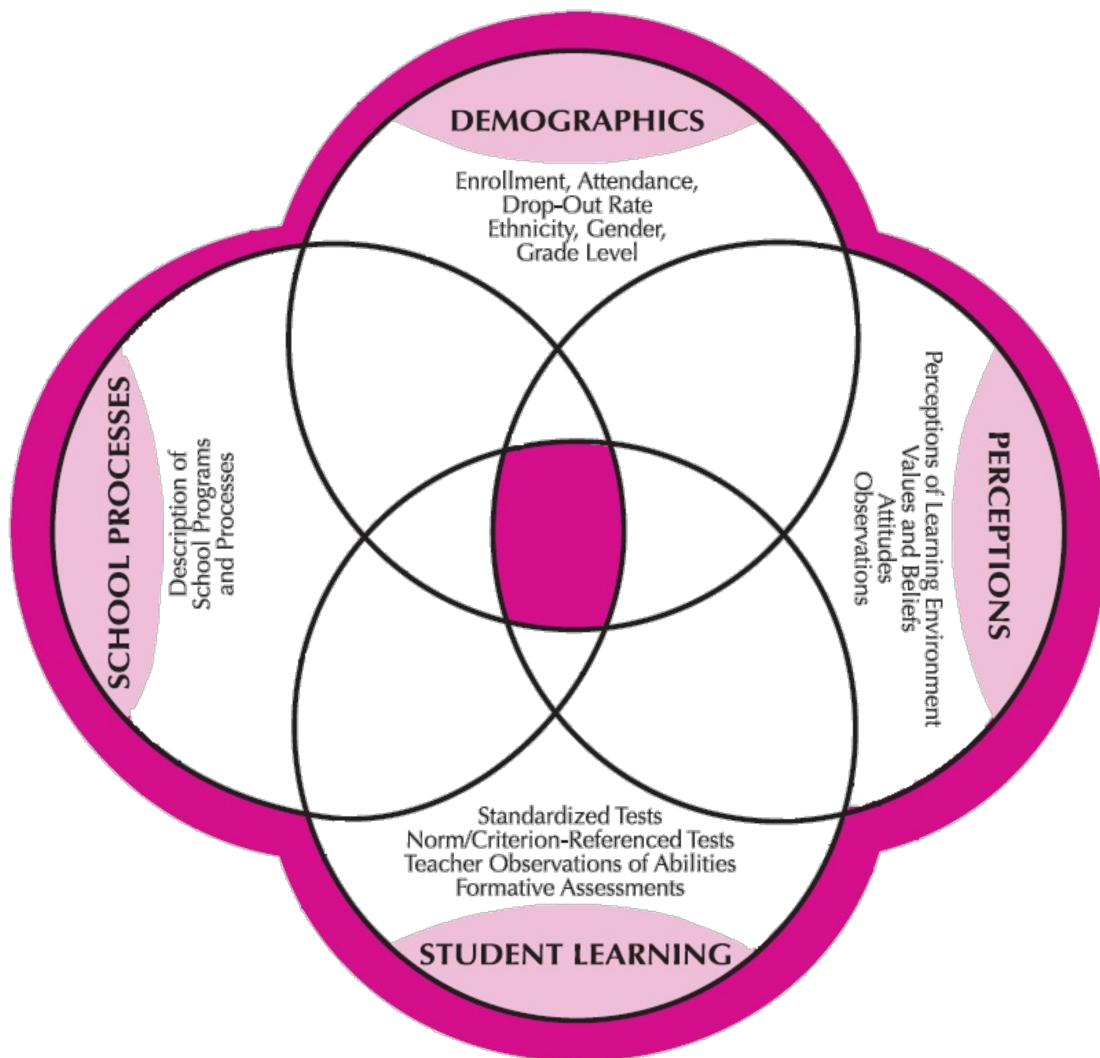
The Every Student Succeeds Act (ESSA, 2015) describes three levels of evidence-based interventions: those supported by strong evidence, moderate evidence, or promising evidence. A fourth level, in which the evidence demonstrates a rationale, is also described; specifically, any intervention in this category must be accompanied with ongoing evaluation efforts. A complete description of each of these levels is provided in the plan, “Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments” (September 2016). These definitions of evidence-based decision making provide more flexibility than the more narrowly defined “scientifically based research” definition of the No Child Left Behind (NCLB) legislation (Whitehurst, 2002).

Evidence-based decision making must occur at every level—the state, district central administration, literacy leaders, and classroom teachers all have roles in using evidence to support the decisions they make. Further, educators must be data literate; that is, they must have “the ability to collect, analyze, communicate, and use multiple measures of data to continuously improve all aspects of the learning organization, especially teaching and learning”

(Bernhardt, 2013, p. 5). As described in the Bernhardt framework, four categories of data can be collected that allow schools to assess their needs, inform a vision, and create a plan for improving literacy learning (See Figure 4). These categories include:

- Demographics – Who are the students we serve, their parents, our staff?
- Perceptions – What do our stakeholders think about our schools, its values, beliefs, attitudes, practices?
- School Processes – What is going on in our classrooms?
- Student Learning – How are our students doing?

Figure 4. Categories of Data (Bernhardt, 2013)



By analyzing the results provided by these data sources as well as the interactions between and among all four data sources, schools can make better decisions about how to improve student learning, especially literacy learning. Not only do schools need data about the four categories described above, but they need various types of data that can answer the questions being

asked. Observations, for example, can be useful in providing evidence about classroom practices or processes. Questionnaires and interviews are useful in determining perceptions of stakeholders. Types of data that can address the question about student learning may be summative, formative, benchmark, or diagnostic. School leaders who analyze these multiple measures will be better able to guide and support teaching staff as they plan both district and school plans, as well as plans for individual classrooms and students.

By looking at multiple measures, teachers can gain a more comprehensive and personalized profile of the literacy needs of the students they serve. Such a profile can lead to decision making that matches individual student needs to evidence-based literacy practices (International Reading Association, 2002). Once appropriate practices have been identified and employed, teachers must continue to gather relevant and specific assessment data that reflects the ongoing effectiveness of the practices. In doing so, teachers must answer crucial questions: How do I know if it's working? If so, what's next? If not, how can I remedy it? Continual monitoring and adjusting are essential to this process. This recursive process must include three essential elements: (a) collecting and analyzing assessment data to determine students' level of functioning and need; (b) matching student needs to evidence-based practices; and (c) monitoring progress and continually adjusting the match between need and evidence-based practices.

The success of this process requires several important considerations. Primarily, those responsible for planning and delivering instruction must not only have access to relevant data regarding their students, but they also must be "data literate." While schools today are often data-rich, responsible use of data requires guidance and instruction on the value, analysis, and interpretation of information gleaned from data. Therefore, carefully designed learning for teachers is essential, beginning with those in teacher preparation programs. It is in these programs that teachers must be prepared to think like scientists and begin to be reflective about their actions and observations. Therefore, specialized and contextually relevant professional learning about the interpretation and use of data must be provided for practicing teachers and administrators.

According to Stanovich and Stanovich (2003), "scientific thinking in practice is what characterizes reflective teachers – those who inquire into their own practice and who examine their own classrooms to find out what works best for them and their students" (p.4). Equally important to knowing how to interpret student assessment data is the understanding of what it means to employ "evidence-based practices" and where to find information on practices that have stood the test of rigorous research. As Stanovich and Stanovich (2003) indicated:

> *"One factor that has impeded teachers from being active and effective consumers of educational science has been a lack of orientation and training in how to understand the scientific process and how that process results in the cumulative growth of knowledge that leads to validated educational practice" (p. 5).*

The following are among the many resources that educators may use to obtain information about evidence-based practices:

- International Literacy Association
- National Reading Panel
- The Literacy Research Initiative (LRI)
- The Promising Practices Network
- Doing What Works
- National Center for Education Research (NCER)
- The What Works Clearinghouse
- The International Dyslexia Association
- Institute of Education Sciences
- IDEAS that work: Research in special education
- PA Department of Education ESSA
- All for Education

To acknowledge evidence-based decision-making in Pennsylvania schools, the Pennsylvania State Literacy Plan identifies Recommendations for Action for those involved with decision-making.

Guiding Principle 5: Professional Learning

Educators must be prepared to teach effectively in the schools of the 21st century. Practicing teachers will benefit from ongoing, job-embedded learning opportunities that promote lifelong learning and reflective teaching.

Quality teaching has been identified as the most significant variable associated with student learning (Darling-Hammond et al., 2009; Hanushek, 1992; Rivkin, Hanushek, & Kain, 2005). Yet, research findings indicate that the least qualified, least knowledgeable teachers are found in poorer school districts, often teaching students of color (Darling-Hammond, 2010). Given the importance of teacher expertise in all schools, new teachers, at all levels from pre-kindergarten to grade 12, must be prepared to be successful educators. Likewise, recognizing that new teachers are not finished products, but rather highly qualified novice educators, there must be opportunities in schools to help beginning educators grow professionally. At the same time, experienced or veteran teachers must also have the opportunity to learn--to continue to develop their knowledge and skill sets, to serve as models for those entering the profession, and to become teacher leaders in their schools. Moreover, given teacher turnover or attrition, job-embedded professional learning should be an integral part of every school's comprehensive planning. In other words, teachers must be given opportunities to self-reflect, to be lifelong learners who can work collaboratively with others to develop high level, educational experiences and learning outcomes for the students they serve.

Connor, Alberto, Compton, and O'Connor (2014) in a recent report, reviewed the results of IES-funded research that focused on ways to prevent and remediate reading difficulties in students with or at risk for reading disabilities. They found that teachers' delivery of evidence-based instruction was related to their specialized knowledge, beliefs, and consistent long-term implementation support. In other words, the disciplinary knowledge base of the teachers matters; when coupled with effective instruction, it was predictive of student gains in

foundational skills in the early grades. In this report, the researchers also found that teachers' beliefs in their ability to make a difference, and time for implementation, were important. Finally, as stated in the report, "although coaching is more expensive than providing workshops, it appears to be a critical component of effective professional development "(p. 55).

Preparing Preservice Teachers: Although much has been written about teacher education in general, research about the preparation of teachers for teaching reading had not been a priority of literacy researchers (Anders, Hoffman, & Duffy, 2000; Roller, 2001). In Risko et al.'s (2008) comprehensive review of empirical research about literacy teacher preparation, the following findings were highlighted: teacher education candidates need to have opportunities to apply what they are learning, see demonstrations of practice, and receive explicit explanations and examples of effective literacy instructional practices. Those learning to teach must be given opportunities to practice what they are learning in simulated and real classroom situations. In a recent International Literacy Association (ILA) white paper (ILA, 2016, p.4), two key recommendations were made that support and extend the findings of the Risko et al.'s (2008) work:

- **Address literacy at every level of study during coursework and clinical practice.** Specifically, practical experiences should be included at every stage, not just as a capstone student teaching experience. This requires teacher preparation programs to work as partners with school districts so that teacher candidates have opportunities to work in classrooms where there is high quality teaching. They also need experiences in varied situations (i.e., urban, rural, and suburban). Likewise, literacy instruction, where appropriate, should be embedded in courses addressing pedagogy and assessment (e.g., candidates taking a course on teaching science would be introduced to the notion of disciplinary literacy and the use of various strategies to improve how students learn the content).
- **Provide preservice teachers with the knowledge, skills, and dispositions to teach the 21st-century literacy strategies needed for all students to become effective readers and writers.** Given the potential value and impact of technology on the students' literacy learning, teacher candidates must be provided with experiences that help them to use technology effectively in designing and implementing learning experiences for the students they teach.

Lacina and Block (2011) studied six literacy teacher preparation programs identified as distinguished by ILA, to unpack the factors that were critical to the effectiveness of their programs. Three key factors were identified:

- Importance of relevant field experiences;
- Development of teacher candidates' abilities to teach and assess children through a wide variety of instructional strategies and assessment instruments; and
- Integration of literacy and language strategies throughout the curriculum.

As stated by Moats (1999, 2009), teaching reading *is* rocket science, and those responsible for preparing teachers have a great responsibility to develop programs that will produce highly qualified individuals who can work effectively with their students in ways that address the

diverse needs of students in 21st century classrooms. Indeed, a lack of knowledge of the mechanisms of reading acquisition has been a concern for several years (Moats, 2014). Although, the most recent National Council on Teacher Quality (2016) study revealed that undergraduate elementary teacher programs, showed positive signs of growth, especially regarding the teaching of reading; for example, more programs now include all five research-proven elements of reading instruction: phonemic awareness, phonics, fluency, vocabulary, and comprehension. The percentage of programs that require each element individually also has increased.

Moats (1999) suggested the following components as important in any core curriculum for preparing teachers: understanding reading psychology and development, understanding the structure of the English language, applying best practices in all aspects of reading instruction, and using validated, reliable, efficient assessments to inform classroom teaching.
The International Dyslexia Association has developed a list of Knowledge and Practice Standards for Teachers of Reading (2010) that outline the content knowledge necessary to teach reading and writing to students, including those who are at risk for reading difficulty, and practices of effective instruction. Likewise, the International Literacy Association's updated *Standards for Preparing Literacy Professionals*, released in January 2018, highlight the following areas as important for all literacy professionals: foundational knowledge, curriculum and instruction, assessment, diversity, knowledge about the learners and the literacy environment (print and digital), and the teacher as a learner.

In a recently released research advisory document published by ILA and National Council of Teachers of English (NCTE) (2017), four recommendations for high-quality teacher preparation programs were identified:

1. Development of a deep conceptual pedagogical and content knowledge base that is coherent across coursework and field experiences and highlights the importance of teaching diverse learners.
2. Opportunities for candidates to apply their knowledge and skills in authentic contexts that include structured guidance and monitoring of their work.
3. Continual teacher development that reinforces the importance of self-critique, reflection, on-going learning, and opportunities for networking.
4. Assessment at several points in the program: admissions, program monitoring, benchmarking, and the determination of teaching success.

Where PA Stands

Recognizing the importance of pre-service education, Pennsylvania has developed guidelines for institutions preparing teachers. These guidelines require that teacher candidates have additional coursework related to addressing the needs of English Learners and those students who might qualify for special education services. The guidelines incorporate the recent research findings about early literacy in the guidelines for Teachers of Young Children. Pennsylvania's General Standards and Specific Program Guidelines for State Approval of Professional Educator Programs. The Framework for Grades PreK-4 Program Guidelines

Professional Learning

As mentioned, the novice teacher arriving at the school is not a finished product. According to Snow, Griffin, and Burns (2005), learning to teach is a developmental process, with teacher development a progression through the stages of pre-service, apprentice, novice, experienced, and master teacher. Teachers at each of these stages must be actively engaged in learning and reflecting about their work. Indeed, the change in language from "professional development" to "professional learning" was made to signify the importance of teachers as agents of their own learning, with a major responsibility for directing their own growth (Calvert 2016). Professional learning, then, is the cornerstone for strengthening the capacity of educators to deliver effective literacy instruction for all. The path to sustainable literacy outcomes for all students rests on an investment in quality and shared professional learning based on both personal and system-wide goals. Professional learning must become a school's top priority, as schools redefine themselves as places of learning for both teachers and students (Bean & Swan Dagen, 2012; NCLE, 2013, 2014).

The shift in instructional practices in teaching literacy, especially as reflected in the demand for more rigorous, higher expectations for all students, has led to the need for increased attention for professional learning for teachers. In a 2012-2013 National Center for Literacy Education (NCLE) Report, *Remodeling Literacy Learning*: *Making Room for What Works*, the following findings were identified: teaching literacy is not just the job of the English teacher; collaboration is key to professional learning. It was also reported that districts aren't generally structured to provide support for such collaboration even though in some schools, there are grade level teams, data meetings, and academic teams. Making certain that those involved understand how to participate effectively in such teams, however, calls for a more systemic approach, requiring district support and leadership.

In a follow-up study (NCLE, 2013-2014) in which 3,000 teachers were surveyed about their efforts to implement instruction that addresses high level state standards, a majority indicated they were not prepared to implement those standards. The seven major findings of the study are summarized below.

- Nationwide, more teachers do not feel prepared to implement the new literacy standards, especially with high-need students.
- Teachers report that working with other educators is the most powerful form of preparation.
- Time for teachers to collaborate is brief and shrinking, and they aren't substantially involved in planning for implementation efforts.
- When teachers are significantly involved in renovating literacy instruction, positive changes occur.
- Purposeful professional work that draws on the talents of everyone is associated with progress in standards implementation.

- Teachers in all disciplines are actively engaged in shifting literacy practices and those who are collaborating are making the biggest shifts.
    - When given the opportunity, teachers are owning the change by designing appropriate lesson and materials.

The findings above as well as those of other researchers (Fixsen, Naoom, Blasé, Freedman, & Wallace, 2005; Jaquith, Mindich, Chung Weis, & Darling-Hammond, 2010; Mourshed, Chijioke, & Barber, 2010) strongly suggested that teachers would benefit from more effective professional learning experiences to support their instructional efforts. Such experiences, to be effective, must be job-embedded, ongoing, authentic, collaborative, and aligned to school and district goals (Dagen & Bean, 2014; Learning Forward, 2011). Current professional learning approaches encourage teacher engagement in formal and informal leadership roles, in which they facilitate the learning of their peers and collaborate with them and the administration to improve the school literacy program. They may lead or participate in data team meetings, design curriculum, or participate in problem-solving meetings to modify and adapt instruction for the students in their classrooms and the school. Such learning provides for a focus on developing a common language and vocabulary about literacy learning and enables the school to establish a vision or set of goals to which all can commit. The Learning Paths for literacy learning available to PA teachers provide the knowledge and understandings essential to implementing a local literacy plan.

Multiple pathways exist for developing and implementing such professional learning (e.g., book clubs or study groups, lesson studies, data meetings, classroom learning walks, and developing communities of practice focused on inquiry (Bean & Ippolito, 2016, p. 128-132). These are focused on teachers working together to solve problems specific to their context and students. In other words, the importance of social capital (Leana & Pil, 2006), that is, the ability for teachers to work together to enhance student learning is recognized as a key factor for school improvement. Further, such collaborative practices require that districts think "long-term," given this major shift in how professional learning is defined and operationalized. As stated in Calvert (2016), "Harnessing teachers who have operated as solo fliers into collaborative communities will not happen overnight" (p. 19). Below, two major approaches to collaborative, job-embedded professional learning are discussed; they include the development of professional learning communities and coaching.

Professional Learning Communities

Although there are many different definitions of professional learning communities (PLCs), Vescio, Ross, and Adams (2008) identified the following as essential characteristics of such learning groups: (1) collaboration, with opportunities for reflection and open dialogue about teaching and learning; (2) an emphasis on student learning; (3) teacher decision-making; and (4) opportunities for continuous teacher learning. To be effective, PLCs must be organized to address issues related to student learning, and not just as opportunities for teachers to meet. Effective PLCs require time in the school schedule for teachers to meet, support from district and school level administration, and effective facilitation with an emphasis on solving authentic tasks that relate to improving student literacy learning. DuFour, DuFour, & Eaker (2008) described ways in which schools can develop professional learning communities where

teachers not only recognize the importance of working collaboratively with their peers to support the learning of all students but understand how to participate effectively in professional learning communities.

Coaching

Another form of professional learning is that of coaching, defined by Bean and Ippolito (2016) as "a process of facilitated inquiry…. a set of coaching behaviors that support adult learning, collaboration, and design work, all in service of the continual improvement of literacy instruction in a school" (p. 5). Bean and Ippolito (2016) viewed coaching as a set of activities rather than a role. In other words, many educators within a school may coach (e.g., teacher peers, teacher leaders, reading specialists); districts will need to decide, given their goals, the strengths and needs of their teachers and students, as well as their resources, how to structure their coaching program (Steinbacher-Reed & Powers, 2011/2012). Districts might also investigate ways they can use technology in the implementation of their coaching program (Matsumura, Bickel, Zook-Howell, Correnti, & Walsh, 2016).

Coaching can be an effective tool for improving instruction and student learning, but it is a complex intervention and success will depend on multiple factors, including the quality of the coach, the school context, the content of the coaching and the amount of coaching (Bryk, Gomez Grunow, & LeMahieu, 2015). The following factors should be considered when discussing the possibility of coaching as a professional learning tool.

Factors to Consider when Implementing a Coaching Program

(Adapted from: Bean & Ippolito, 2016; Bryk, Gomez, Grunow, & LeMahieu, 2015)

Selecting a coach. Who would be a good coach – for a specific school or context? What does the coach know about literacy? About adult learning? About system change?

Allocation of time. How would coaches focus their time (working with individuals? With small groups?) With which teachers would they work?

Coach-principal relationships. How should they work together? In what ways can they work together to have an impact on student literacy learning school wide?

Activities of Coaching? What does good coaching look like—in this specific context? What is the content of coaching?

Professional learning for coaches. How will coaches learn to do the work of coaching and how will they be supported?

Coaching has had a major impact in Pennsylvania schools, given the statewide efforts of the Pennsylvania Institute for Instructional Coaching (PIIC). The PIIC website has many resources that districts can use to develop and implement an effective coaching program in its schools (piic.pacoaching.org).

Developing a professional learning plan that will create results requires districts to set strategic goals, based on a comprehensive needs assessment that identifies problems and needs, sets goals, identifies a plan of action, and a plan for monitoring and evaluating the effects of the professional learning plan (Bean & Ippolito, 2016; Risko & Vogt, 2016).

Where PA Stands

Pennsylvania has a system of robust supports that can be used by schools to guide systems change and transform teaching and learning to enhance student growth and achievement. With the adoption of its Standards Aligned System (the what) and Multi-Tiered System of Supports (MTSS-RtI) (the how), Pennsylvania is nicely poised to scale research-based literacy instruction, curriculum, and assessment practices to new and improved levels. However, we continue to need intensive, effective, and ongoing professional learning opportunities for teachers to enable them to understand how to use these systems as a means of enhancing assessment and instructional efforts. The goal is to provide the focused, intensive, and ongoing professional learning that will result in improved literacy outcomes for all students, regardless of race, class, or disability status.

The Pennsylvania State Literacy Plan identifies Recommendations for Action for professional learning to transform teaching and enhance student growth and achievement.

Guiding Principles References

Part III: Essential Elements

Essential Elements describe the basic components critical to developing and implementing an effective literacy plan. These essential elements are necessary for operationalizing the assumptions and beliefs identified in the Guiding Principles. In this section, we describe six essential elements, providing a rationale for each and then suggesting implications for practice.

1. Standards

Literacy programs (birth-grade 12) require a well-articulated, coherent set of goals based on PDE standards. Articulation is needed between all levels, but especially at important transition points, (i.e., pre-school to kindergarten; elementary school to middle school; and middle school to secondary school). Such programs also require an understanding that there is a reciprocal relationship among the language arts (reading, writing, speaking, and listening), and that each contributes to the learning of the others. Moreover, successful learning of complex information in the disciplines requires the meaningful integration of literacy experiences (e.g., reading, writing, speaking, listening).

2. Oral Language and Academic Discourse

Oral language is the foundation for learning and for literacy development. Speaking and listening are tools of communication that become the basis for the written word.

3. Assessment

An assessment system that addresses the dual purposes of assessment (i.e., accountability and informing decision-making) is a critical component of a district literacy plan. An effective assessment plan requires the inclusion of technically adequate information, multiple measures, and opportunities for educators to learn how to administer, analyze, interpret, and apply data results to inform instructional practices and improve student learning.

4. 21st Century Classrooms

Students in 21st century classrooms will need to be equipped with skills that go beyond what classrooms currently offer to meet future demands and address complex problems that can’t be anticipated or presently conceived. Classrooms must offer students opportunities to develop real-world problem-solving skills that enable them to think critically and creatively, work collaboratively with others, and analyze, interpret, and synthesize information. Additionally, teachers in 21st century classrooms must have the knowledge and skills that allow them to provide students with opportunities to grapple with new, challenging, and difficult information. Such difficult learning should occur in an environment that is engaging, fosters resiliency, and includes both print and digital resources.

5. Differentiated Instruction

Differentiated instruction is key to enhancing students’ ability to learn. Teachers must have the literacy knowledge and knowledge of students that enable them to plan instruction that accounts for the differences in students’ needs, interests, cultures, and experiential backgrounds.

6. Disciplinary Literacy
Learning information in the academic disciplines is enhanced when teachers provide students with supported experiences and opportunities to read, write, talk, and think deeply in service of content learning. This allows students to experience deep disciplinary literacy as a means of learning content.

Essential Element 1: Standards

Literacy programs (birth-grade 12) require a well-articulated, coherent set of goals based on PDE standards. Articulation is needed between all levels, but especially at important transition points, (i.e., pre-school to kindergarten; elementary school to middle school; and middle school to secondary school). Such programs also require an understanding that there is a reciprocal relationship among the language arts (reading, writing, speaking, and listening), and that each contributes to the learning of the others. Moreover, successful learning of complex information in the disciplines requires the meaningful integration of literacy experiences (e.g., reading, writing, speaking, listening).

Rationale

Importance of standards to guide curriculum and instruction. Research evidence has contributed to a deeper understanding of how to improve student learning and overall literacy achievement in schools (Levine & Lezotte, 1990, Scheerens & Bosker, 1997, Marzano, 2000; Bryk, Sebring, Allensworth, Luppesc, & Easton, 2010; Taylor, 2015). Although there are many factors that contribute to student learning (e.g., monitoring student work, parental involvement, and school climate), one of the factors highlighted in these various research reports is the importance of a “guaranteed and viable curriculum” (Marzano, 2003, p. 22). Essential goals and content for all students should be identified; moreover, these goals should enable all students to gain the necessary skills of “a literate person in the twenty-first century” (Common Core State Standards Initiative [CCSS], 2010, p. 3). Standards provide schools with necessary information for identifying what students need to know and be able to do at each grade level. These end-of-year expectations provide school districts with a defined cumulative progression of literacy skills.

The PA Learning Standards for Infants and Toddlers, PA Learning Standards for English Language Arts (Pre K to 5), PA Core Standards for English Language Arts (Grades 6-12), PA Core Standards for Reading in Science and Technical Subjects, and the PA Core Standards for Reading in History and Social Studies adopted by the Pennsylvania State Board of Education (SBE) provide critical resources for identifying increasingly challenging content relevant for developing the literacy curriculum. These standards provide key information about the importance of providing a rigorous curriculum with high expectations, including the use of complex materials in the classroom, especially informational texts, in both English language arts classrooms and in the academic disciplines.

“In a complex and sometimes even dangerous world, their ability to read will be crucial. Continual instruction beyond the early grades is needed.”

— International Reading Association (Moore et al., 1999, p. 3)

High levels of literacy are needed for adolescents to “achieve their potentials, reach their personal goals, and build a better society.” (ILA, 2012, p. 13)

Alignment and articulation

At the same time, individual districts and schools must take into consideration their local context—including teacher knowledge, student needs, district curriculum, systems, structures, processes and resources—to make decisions about how to meet or address the standards. By reviewing standards and discussing how they can be used to develop both curriculum and instructional practices, districts can develop a plan for literacy that is coherent and articulated across the grades. Too often, teachers in schools make independent decisions about how, and to what extent, material should be covered. As indicated by researchers who study school reform (Stevenson & Stigler, 1992; Taylor, 2015), such inconsistent practices create learning gaps for students. Some topics or skills are addressed by individual teachers and omitted by others; some teachers have different expectations about what students should learn, or student assignments in various classrooms differ in their level of challenge or difficulty. By using a well-articulated set of goals with a coherent set of instructional practices, districts and schools can create equal opportunities for access to a challenging literacy curriculum for all students.

An integrated model

As highlighted in the PA Core Standards (2014), the processes of communication are closely connected; thus, teachers can more effectively and efficiently develop reading, writing, speaking, and listening skills by taking advantage of these connections. Students can write about what they read; they can also discuss (speak and listen) with others their responses to various selections. At early levels, students can read what they have written and use these experiences for developing a sense of the alphabetic principle and the importance of reading as a meaning-making endeavor. Integration is essential, not only to promote learning of the language arts skills themselves, but also as a means of enhancing learning in the academic content fields.

In the following sections, the foci of instruction for Birth-age 5, Grades K-5, and Grades 6-12 for the English Language Arts, including Reading, Writing, Listening, Speaking, and Language are identified in **summary form**. In the implications sections, resources are identified, including specific standards documents adopted by the SBE, and additional ideas for instructional practice.

READING

SUMMARY

Reading: Focus of Instruction

Birth to Age 5

- Early development of essential competencies, listed below, enhances and enriches the development of "conventional literacy skills" in the years before formal schooling begins.
- Experiences with oral language, engagement in listening and speaking, development of print concepts, and book awareness provide the consistent repetitions of early concepts needed to become a reader.
- Phonological awareness is an important building block that leads to successful reading.
- Experiences that build world and word (vocabulary) knowledge of preschoolers serve as a fundamental building block.
- Beginning readers use a variety of information to acquire meaning from text.
- Learners benefit from opportunities with pictures, symbols, letter/sound correspondence (phonics), and familiar words.

SUMMARY

Reading: Focus of Instruction

Grades K-5

- The learning focus for K-5 students begins with the development of the foundational skills (See PA Core Standards, Foundational Skills K-5):
  book handling
  print concepts
  phonological awareness
  phonics and word recognition
  fluency
- At the same time, there must be an emphasis on the development of vocabulary and comprehension so that students see reading as a meaning-making process. "The foundational skills are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines" (Common Core State Standards (CCSS), 2010, p. 15).
- As beginning readers increase their proficiency in word recognition skills and develop strategies to use language comprehension skills to link prior knowledge to new information in books, leading to the ability to comprehend, evaluate and appreciate text.
- "To build a foundation for college and career readiness, students must read widely and deeply from among a broad range of high-quality, increasingly challenging literary and information texts" (CCSS, 2010, p. 10).

Grades K-5 continued

- Literacy demands change and intensify quickly after third grade. Upper elementary students are expected to learn new words, new facts, and new ideas from reading, as well as to interpret and summarize the texts they read. Combining literacy skills and content knowledge requires a new level of sophistication.
- Learning gradually shifts to deeper comprehension in the intermediate grades supplemented with instruction in word study and fluency as needed.
- Instruction should be differentiated. Struggling readers will need direct, explicit, and systematic instruction with foundational skills. Good readers will need less practice with foundational skills than struggling readers.
- The point is to teach students what they need to learn and not what they already know—to discern when specific children or activities warrant more or less attention.

SUMMARY

Reading: Focus of Instruction

Grades 6-12

- "The skills that students learn through fourth grade are absolutely critical to later success, but they are simply not enough. Adolescent literacy is a shifting landscape where the heights get higher, the inclines steeper, and the terrain rockier…" (Carnegie Counsel on Advancing Adolescent Literacy [CCAAL], 2010, p. 10).
- *Time to Act* (CCAAL, 2010) describes the changes students encounter as they transition to secondary grades:

    Texts become longer – Students need to develop reading stamina.
    Word complexity increases – Students need to develop technical and all-purpose academic vocabularies, with increasing demands on word recognition, pronunciation, fluency, and meaning-making.
    Sentence complexity increases – Students need to understand complex relationships among ideas signaled through connective works set in long and complicated sentences.
    Structural complexity increases – Students need to recognize and use text structure to identify several logical relationships between ideas.
    Graphic representations become more important – Students must synthesize information from graphs, charts, tables, illustrations, and equations, with written text to grasp the full meaning of content-area texts.
    Conceptual challenge increases – Students must synthesize from one task to another and from one set of concepts to another and build logical relationships across multiple aspects of a given conceptual domain with the information they glean from texts.
- The overarching goal is stated clearly in the final Reading Anchor Standard: "Read and comprehend complex literary and informational texts independently and proficiently" (CCSS, 2010, p. 10).
- Reading at the middle and high school level is characterized by increasing text complexity and focusing on informational text.
- Interacting with text through close reading, analysis, and interpretation is essential.

Grades 6-12 continued

- A deep reading of text should engage the reader in interacting with the text to discern not only the craft of the writer, but the connectivity to other texts and the ability to cite evidence to support a conclusion.

Implications for Reading

Reading Instruction

Given the importance of reading instruction in schools, teachers not only need to have an excellent understanding of what has been learned from evidence-based research, they must also be able to apply that knowledge to their teaching. The Report of the National Reading Panel (NICHD, 2000) provided important information about the most effective evidence-based methods for teaching the five essential components of reading instruction, including phonemic awareness, phonics, fluency, vocabulary, and comprehension (https://www.nichd.nih.gov). The panel also indicated that by applying what has been learned from scientific research to the classroom, reading failure can be reduced or avoided. Likewise, the IES Practice Guide Foundational Skills to Support Reading for Understanding in Kindergarten through 3rd Grade (Foorman, et al., 2016) emphasized the continued importance of developing critical skills such as awareness of speech sounds within words, decoding and word analysis, and the use of reading of connected text for accuracy, fluency, and comprehension. The Panel and the IES reports provide important information to those responsible for teaching students to read, especially in the early years.

Reading Instruction for Students at Risk

Teachers in schools are often faced with teaching students who have or are at risk for developing reading disabilities. The IES Report (Connor, et al., 2014, p. 59) makes several recommendations that should be helpful in planning and implementing reading instruction for those students, especially those at the elementary level. These include:

- Increase the intensity of the instruction in kindergarten and grade 1;
- Provide fluency interventions that focus on repeated reading of text, opportunities to practice reading in the classroom, and reading a range of text;
- Provide extensive opportunities to hear and use complex oral language;
- Have students participate in peer-assisted or collaborative learning;
- Provide differentiated instruction and interventions that target each individual student's profile (see Essential Element 5); and
- Remember that what is known about how typically developing readers learn to read also holds for students with low incidence disabilities.

Birth to Age 5

The Infant-Toddler and Pre-Kindergarten Learning Standards for Early Childhood provide parents and educators with the guidelines for content that can be taught prior to the kindergarten year.

Important implications for instruction include:

- Enhance the classroom environment to include environmental print and active learning centers that focus on language and literacy skills. Use this time for explicit and systematic one-on-one or small group instruction to meet the needs of diverse learners.
- Encourage a playful environment where language and literacy skill building is incorporated into daily routines, activities and transitions.
- Engage in genuine and meaningful conversations and ask questions to get children to think critically while expressing themselves.
- Provide young children with a great deal of teacher support in the form of modeled instruction. In reading, this includes the Read Aloud, where teachers or parents read a story to the child, thinking aloud to model their thought processes. Characteristics of effective shared reading include interactive reading activities such as discussion of vocabulary.
- Read to young children to expose learners to various skills and strategies that must be developed for successful reading. These include exposure to rich vocabulary, complex syntax and provide opportunity to build knowledge of text structures as well as background knowledge.
- Re-read familiar books and allow young learners to participate in the reading. This can help children to develop a positive disposition toward reading and literacy and provide guided practice as children build a repertoire of literacy skills and strategies.
- Provide access to a variety of books. Independent 'pretend reading' leads to practice with text reading. This can also enhance oral language and vocabulary development.
- Consult the Building Blocks of Literacy Learning Path as it provides teachers with valuable information regarding early literacy.

Grades K-5

The PA Core Standards for English Language Arts (Pre K-5) provide the content that needs to be addressed at each grade level. These standards are the expectations we should have for all students. Excellent literacy instruction in the primary grades is essential for preventing future reading difficulties.

Important implications for instruction include:

- Provide daily opportunities for students to engage in structured language and literacy learning tasks and routines that promote interactive play and inquiry. This includes direct, explicit, and developmentally sound instruction and relies on purposeful classroom arrangement that includes enriched learning centers and ample hands-on, active materials.
- Teach the foundational skills (print concepts, phonological awareness, phonics, and fluency) explicitly, and provide opportunities for students to apply what they are learning. PA Core Appendix A contains supplementary information that provides

significant and detailed information to support the teaching of phoneme-grapheme correspondences, the progression of phonological awareness, and orthography.

  - Develop essential word recognition skills and language processes/skills necessary for proficient reading.
  - Develop the language skills and processes necessary for comprehension using both direct and indirect instructional approaches.

- Coordinate and integrate the teaching of word recognition skills and comprehension skills and strategies.
- Provide explicit instruction that enables students to apply problem-solving, monitoring, and self-correcting strategies when they are reading. Such strategies may include: re-reading, previewing a text, asking questions, reading aloud, using story structure, using text aids, marking texts, using context, writing in response to reading, and discussing text with others (Dorn & Soffos, 2005, p. 42).
- Provide opportunities for students to read and discuss a variety of interesting and appropriate texts from multiple genres.
- Recognize that reading, writing, speaking, and listening are closely intertwined. Classroom practices should be planned so they emphasize these connections (e.g., writing in response to reading).
- Consult the Building Blocks of Literacy Learning Path as it provides valuable information regarding literacy acquisition.
- There are evidence-based practices that support students in the classroom and enable educators to effectively implement standards-based instruction. See the Multi-Tiered Systems of Support (MTSS-RtI).
- Refer to the Institute of Education Sciences' (IES) Improving Reading Comprehension in Kindergarten through 3rd Grade: A Practice Guide (Shanahan et al., 2010). Five specific recommendations include:
  - Teach students how to use reading comprehension strategies.
  - Teach students to identify and use the text's organizational structure.
  - Guide students through a focused, high-quality discussion on the meaning of text.
  - Select texts purposefully to support comprehension development.
  - Establish an engaging and motivating context in which to teach reading comprehension.
- Refer to the Institute of Education Sciences' (IES) Practice Guide Foundational Skills to support Reading for Understanding in Kindergarten through 3rd Grade (Foorman et al., 2016). Four specific recommendations include:
  - Teach students academic language skills, including the use of inferential and narrative language, and vocabulary knowledge.
  - Develop awareness of the segments of sounds in speech and how they link to letters.
  - Teach students to decode words, analyze word parts, and write and recognize words.
  - Ensure that each student reads connected text every day to support reading accuracy, fluency, and comprehension.

Grades 6-12

The PA Core Standards for English Language Arts, the PA Core Standards for Reading in Science and Technical Subjects and the PA Core Standards for Reading in History and Social Studies provide the content that needs to be addressed at each grade level. These standards are the expectations we should have for all students.

Important implications for instruction include:

- Expose students to a variety of texts for a variety of purposes, providing explicit explanations and guidance as needed so that learners can comprehend texts across the content areas.
- Teach specific strategies for navigating informational text across content areas.
- Increase text complexity to develop strategic readers with strong analytical skills.
- Provide instruction in the analysis and evaluation of a variety of texts to determine theme, style, likenesses, etc.
- Provide opportunities for students to examine text from a literary perspective to understand the craft of the writer.
- Refer to the Institute of Education Science's publication entitled Improving Adolescent Literacy: Effective Classroom and Intervention Practices: A Practice Guide (Kamil, Borman, Dole, Kral, Salinger, & Torgeson, 2008). This guide recommends that educators:
  - Provide explicit vocabulary instruction.
  - Provide direct and explicit comprehension strategy instruction.
  - Provide opportunities for extended discussion of text meaning and interpretation.
  - Increase student motivation and engagement in literacy learning.
  - Make available intensive individualized interventions for struggling readers that can be provided by qualified specialists.
- Refer to the Position Statement on Adolescent Literacy (International Literacy Association (ILA) 2012, p.2). Adolescents deserve:
  - Content area teachers who provide instruction in the multiple literacy strategies needed to meet the demands of the specific discipline.
  - A culture of literacy in their schools with a systematic and comprehensive programmatic approach to increasing literacy achievement for all.
  - Access to and instruction with multimodal, multiple texts.
  - Differentiated literacy instruction specific to their individual needs.
  - Opportunities to participate in oral communication when they engage in literacy activities.
  - Opportunities to use literacy in the pursuit of civic engagement.
  - Assessments that highlight their strengths and challenges.
  - Access to a wide variety of print and non-print materials.
- Refer to the Alliance for Excellent Education publication entitled: Advancing Adolescent Literacy: Pennsylvania's Keystones to Opportunity Comprehensive Literacy Program (Mariana Haynes, 2014). This report describes Pennsylvania's Striving Readers Comprehensive Literacy (SRCL) Grant program. The report

focuses on the design of instruction and interventions for students struggling to read and write in middle and high schools, including students with disabilities and English Learners.

WRITING

SUMMARY
Writing: Focus of Instruction

Birth to Age 5
- Preschool writing development is inextricably linked with the child's fine motor development. (See Guiding Principle 5)
- Beginning writers need encouragement and instruction in composing stories and text using pictures, scribbles, letter-like forms, and letters.
- Emergent writers may also write familiar words and label pictures.
- As children develop understanding of letter-sound correspondence, they may attempt to phonetically spell words.
- Preschoolers need opportunities to develop their ability to communicate in writing (both informational and narrative text).

SUMMARY
Writing: Focus of Instruction

Grades K-5
- Kindergarten students begin with pre-writing, and by the end of fifth grade, students are expected to experience writing narrative, persuasive, and informational text. The Pennsylvania Core standards for English Language Arts (2014) states the following:
- Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.
    - Informative or Explanatory
    - Opinion or Argumentative
    - Narrative
    - Response to Literature
    - Production and Distribution of Writing
    - Technology and Publication
    - Conducting Research
    - Credibility, Reliability, and Validity of Sources
    - Range of Writing
- Provide students with explicit instruction and opportunities to devote significant time and effort to writing, producing numerous pieces over short and extended periods throughout the year.
- The primary goal of instruction is to develop the students' ability to use writing as a way of offering and supporting opinions, demonstrating understanding of the subjects they are studying, and conveying real and imagined experiences and events.

Grades K-5 continued

- Students need support in learning to appreciate that a key purpose of writing is to communicate clearly to an external, sometimes unfamiliar, audience, and adapting the form and content of their writing to accomplish a task and purpose.
- Students need support to build knowledge on a subject through research projects and to respond analytically to literary and informational sources.

SUMMARY
Writing: Focus of Instruction

Grades 6-12

- Good writing skills are essential for effective communication.
- As stated in Graham and Perin (2007), "writing skill is a predictor of academic success and a basic requirement for participation in civic life and in the global economy" (p. 3).
- Students should have opportunities to write in persuasive, informative, and narrative modes, with guidance as needed.
- Students should write routinely over extended periods (time for research, reflection, and revision) and shorter periods (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
- Effective writers employ detail in their writing, sustain a focus, and produce well-organized writing suited to purpose. They are able to gather information, evaluate sources, and cite evidence.
- Writing should be used as a tool for learning, not just showing what was learned, in all disciplines.
- Writers need to be strategic in creating the writing appropriate to task, whether it be on-demand writing, or drafting and redrafting over time.
- Technology is one of the tools to employ to support the writing process.
- Students need opportunities to build knowledge on a subject through research projects, and to respond analytically to literary and informational sources.

Implications for Writing

Birth to Age 5

The Infant-Toddler and Pre-Kindergarten Learning Standards for Early Childhood provide parents and educators with the guidelines for content that can be taught prior to the kindergarten year.

Important implications for instruction include:

- Encourage children to experiment with writing.
- Incorporate writing opportunities across the curriculum and provide functional writing opportunities that are connected to daily classroom routines and activities (e.g., sign-in sheets, lunch counts).

- Model the act of writing for young children to foster an emerging understanding of what writers do. When adults write messages for children, learners begin to see that writing is "talk written down," — that our messages can be recorded and read back later.
- Oral language is the building block to writing: When children understand they can write what they say, they have endless opportunities for composition. When adults guide students in their writing approximations, children can gain new understandings about composition, concepts about print, and phonics.
- Spelling approximations provide young learners with essential learning opportunities. When children write letters to represent sounds, they are practicing and building phonics skills. This practice ultimately leads to increased fluency in writing, as it can lead to conventional spelling of high frequency words (Bear, Invernizzi, & Templeton 2007). Young children often develop this ability spontaneously; however, modeled instruction and guided practice enhance this, and all other, learning.
- Provide preschoolers with daily opportunities to explore writing materials and conventions in a purposeful and meaningful manner.

Grades K-5

The PA Core Standards for English Language Arts provide the content that needs to be addressed at each grade level. These standards are the expectations we should have for all students.

Important implications for instruction include:

- Provide opportunities for students to write through a variety of modalities and technologies including manually, graphically, spoken-dictation, artistically, and digitally to ensure all modalities are taken into consideration (e.g., visual, auditory, kinesthetic, and tactile).
- Support students writing efforts by teaching multiple strategies for developing and organizing a message, strategies for revising and editing, and methods for sharing to a specific audience.
- Provide students with systematic and explicit instruction in basic writing skills including handwriting, spelling, and grammar.
- Provide students with systematic and explicit instruction in quality of writing as appropriate per the individual student's instructional level.
- Allot time daily for students to write with guidance for a variety of purposes (e.g., quick writes, reader response, summarization).
- Model writing of narrative, informational, and opinion writing during course of the school year.
- Model essay writing to support text dependent analysis with both literary and informational texts as appropriate.
- Focus on the writing process as a means of producing and improving writing.
- Provide opportunities for research and the creation of short and long projects, employing technology as appropriate.

- Refer to the Institute of Education Sciences' (IES) Teaching Elementary School Students to be Effective Writers (Graham et al., 2012). Four specific recommendations include:
    - Provide daily time for students to write.
    - Teach students to use the writing process for a variety of purpose.
    - Teach students to become fluent with handwriting, spelling, sentence construction, typing, and word processing.
    - Create an engaged community of writers.

Grades 6-12

The PA Core Standards for English Language Arts, the PA Core Standards for Writing in Science and Technical Subjects, and the PA Core Standards for Writing in History and Social Studies provide the content that needs to be addressed at each grade level. These standards are the expectations we should have for all students.

Important implications for instruction include:

- Provide opportunities during literacy instruction as well as in all academic disciplines for students to write daily for a variety of purposes.
- Provide students with systematic and explicit instruction in writing skills, i.e., the conventions of language.
- Develop student writers through modeling and explicit instruction in narrative, informational, and argumentative writing.
- Model essay writing to support text dependent analysis with both literary and informational texts as appropriate.
- Focus on the writing process as a means of producing and improving writing.
- Provide opportunities for research and the creation of short and long projects, employing technology as appropriate.
- Refer to the Institute of Education Sciences' (IES) *Practice Guide Teaching Secondary Students to Write Effectively* (Graham et al., 2016). Three specific recommendations include:
    - Explicitly teach appropriate writing strategies using a Model-Practice-Reflect-instructional cycle.
    - Integrate writing and reading to emphasize key writing features.
    - Use assessments of student writing to inform instruction and feedback.

SPEAKING AND LISTENING

SUMMARY
Speaking and Listening: Focus of Instruction

Birth to Age 5

- Young children express themselves and their knowledge of the world through spoken language.

Birth to Age 5 continued

- The overarching goal is to ensure that learners can speak and listen, so that they can share ideas and understanding those of others.
- The primary goals for listening and speaking include teaching preschoolers how to converse about a topic, to convey understanding, and to ask questions to clarify meaning.
- Students need many opportunities to talk with others, such as their parents, teachers, other supportive adults, and peers.
- Early learners need support and scaffolding from adults to help them elaborate and expand on what they have said.
- Young children need experiences and guidance in how to listen to others.

SUMMARY
Speaking and Listening: Focus of Instruction

Grades K-5

- Speaking and listening are important prerequisites for learning to read and write; furthermore, they have intrinsic value as modes of communication.
- Students must have opportunities to take part in a variety of rich structured conversations with small groups, an individual partner, or the whole class.
- Students must be able to "contribute accurate, relevant information, respond to and develop what others have said, make comparisons and contrasts, and analyze and synthesize a multitude of ideas in various domains" (CCSS, 2010, p. 22).

SUMMARY
Speaking and Listening: Focus of Instruction

Grades 6-12

- Speaking and listening focuses on two areas: (a) comprehension and collaboration and (b) presentation of knowledge and ideas.
- Students need to become effective speakers and listeners whether engaged in one-on-one, small group, or whole class interactions.
- Listening attentively and critically, responding thoughtfully, and building upon the ideas of others creates effective communicators.
- Specific ideas from The PA Core Standards for English Language Arts (2014, pp. 27-30): Students need opportunities to participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
- Students must have many opportunities to participate in a variety of richly structured conversations as part of a whole class, in small groups, and with a partner.

Implications for Speaking and Listening

Birth to Age 5

Educators and parents of children from birth to age 5 can gather essential information from Pennsylvania's Infant-Toddler and Pre-Kindergarten learning standards to plan instruction. See the Essential Element of Oral Language in this document for additional information.

Important implications for instruction include:

- Participate in children's play and use specific comments and/or details to acknowledge their efforts and ideas.
- Create an environment that encourages children to be active conversationalists. Promote active listening and response of appropriate and sincere feedback that encourages greater dialogue. Allow for quality conversation to occur throughout the day in routines, activities, and transitions.
- Model positive speaking and listening skills. When children participate in oral language activities, they learn to apply the good speaking and listening skills that have been modeled.
- Plan opportunities to model effective conversational conventions, such as turn-taking, asking questions, and providing complete responses.
- Provide authentic oral language activities, such as "Show and Tell" or "Buzz Groups."
- Provide students with opportunities to share their own experiences.

Grades K-5

The PA Core Standards for English Language Arts provide the content that needs to be addressed at each grade level. These standards are the expectations we should have for all students.

Important implications for instruction include:

- Create an environment in which students have daily opportunities to practice speaking and listening skills during classroom discussions, in small groups, with partners and during child-directed activities. Students must be able to engage in collaborative communication and take part in discussions by adding relevant details, making accurate comparisons, and developing their own points using evidence.
- Instruct students on the importance of collaborating, being a good listener, supporting ideas with facts (depending on grade level), and using media in effective communication.
- Model effective turn-taking, collaboration, and listening skills. Provide guided practice in listening and speaking skills as well as feedback to students.
- Provide opportunities for students to engage in one-to-one, small group, and whole class conversations. This task can be accomplished through whole class discussion or center time activities.
- Provide students with opportunities to develop and ask their own questions about topics they are studying and texts they are reading.

Grades 6-12

The PA Core Standards for English Language Arts (Grades 6-12) provide the content that needs to be addressed at each grade level. These standards are the expectations we should have for all students.

Important implications for instruction include:

- Provide instruction on the importance of collaborating, being a good listener, supporting ideas with facts, and using media in effective communication.
- Model effective turn-taking, collaboration, and listening skills.
- Provide guided practice in listening and speaking that allows the teacher to provide feedback to students. This exercise ultimately leads to self-regulated learning.
- Provide opportunities for students to engage in one-to-one, small group, and whole class conversations throughout the school day.
- Provide students with opportunities to assume responsibility for their own small-group discussions; facilitate such discussions by providing guidelines.
- Provide opportunities for students to talk with each other about the texts that they are reading, especially in the academic disciplines. Such talk develops knowledge of academic language and conceptual understanding.
- Provide opportunities for students to discuss and make connections among multiple texts. Such discussions should include questions that are intratextual, intertextual, and extratextual (Hartman & Allison, 1996).

LANGUAGE

SUMMARY
Language: Focus of Instruction

Birth to Age 5

- A primary goal for young learners (birth through age 5) is to expose children to good models of effective language use. This exposure will help children to develop understanding prior to receiving explicit language instruction in kindergarten and beyond.
- Young learners need to understand that language is a tool for communication.
- The development of vocabulary is a key goal for the development of literacy and language in young children.
- Young children need many experiences and opportunities to use spoken language and
- gestures to convey a message.
- Emergent learners begin to approximate writing as a means of sharing their ideas, and "pretend read" in an effort to gain meaning from written text.

SUMMARY
Language: Focus of Instruction

Grades K-5

- Three focus areas comprise the language strand (CCSS, 2010):

  Conventions of Standard English;
  Knowledge of Language; and
  Vocabulary Acquisition and Use.
- Students must gain control over many conventions of standard English grammar, usage, and mechanics, as well as learn other ways to use language to convey meaning effectively.
- They must also be able to determine or clarify the meaning of grade-appropriate words encountered through listening, reading, and media use; come to appreciate that words have non-literal meanings, shadings of meaning, and relationships to other words; and expand their vocabulary while studying content.
- They must be able to use the structure of words and word parts to determine word meaning.

SUMMARY
Language: Focus of Instruction

Grades 6-12

- The language strand is comprised of three focus areas:

  Conventions of Standard English;
  Knowledge of Language; and
  Vocabulary Acquisition and Use.
- The conventions of standard English include grammar, usage, and mechanics, as well as the ability to use language to convey meaning effectively.
- Understanding how language functions in different contexts, making effective choices for meaning, and comprehending more completely when reading or listening are all key concepts for the knowledge of language.
- The area of vocabulary acquisition includes determining or clarifying the meaning of words through context clues, understanding word relationships and nuances in meanings, acquiring and using content specific words, and understanding the structure of words and word parts (morphology).

Implications for Language

Language learning is a precursor to literacy learning. As such, it requires that learners have opportunities to listen to and talk with adults and peers. Rich language learning in the home and in the classroom, is essential for developing the students’ vocabulary/concepts and for building the necessary foundation for literacy acquisition.

Birth to Age 5

The Infant-Toddler and Pre-Kindergarten Learning Standards for Early Childhood provide the content that needs to be addressed at this age level. These standards are the expectations we should have for all students.

Important implications for instruction include:

- Children need many opportunities to play with language as they acquire literacy skills. They should be immersed in oral language opportunities, including authentic conversations, and planned sharing experiences.
- Adults should demonstrate accurate conventions in speaking, acting as a model of standard language use.
- Children should also have opportunities to see their spoken language, and the speech of others, written down. This experience will facilitate the acquisition and development of early reading and writing skills. For example, students, either as individuals or as a group, can dictate messages that teachers can then write for them.
- Students should be immersed in books and other texts (including their own writing) so that they can practice reading the messages written by them and others. Teachers and/or parents should read a variety of books to young children and provide books for independent browsing and exploration.

Grades K-5

The PA Core Standards for English Language Arts provide the content that needs to be addressed at each grade level. These standards are the expectations we should have for all students.

Important implications for instruction include:

- Focus on the use of language as a tool for communication - as a means for writers to express themselves with style and clarity, as a means for speakers to express ideas clearly, and as a means for readers to understand the author's explicit and implicit message.
- Teach words in clusters as a means of facilitating a deeper understanding of word meaning (Beck, McKeown, & Kucan, 2008).
- Introduce new words within a context and provide friendly explanations that make understanding more concrete. Provide for a high frequency of encounters with the words (Beck, McKeown, & Kucan, 2008).
- Recognize that reading, writing, speaking, listening and language are closely intertwined. As a result of this relationship, many of the classroom implications are connected. There are research-based, evidence-based practices that support language use in the classroom.

- Support the language development of English Learners (ELs). See Best Practice for ELLS: Vocabulary Instruction and Pennsylvania English Language Proficiency Standards.

Grades 6-12

The PA Core Standards for English Language Arts, the PA Core Standards for Writing in Science and Technical Subjects, and the PA Core Standards for Writing in History and Social Studies provide the content that needs to be addressed at each grade level. These standards are the expectations we should have for all students.

Important implications for instruction include:

- Focus on the use of language as a tool for communication – as a means for writers to express themselves with style and clarity, as a means for speakers to express ideas clearly, and as a means for readers to understand the author's explicit and implicit message.
- Refer to the PA Core Standards for English Language Arts for further information.
- The extensive research base on vocabulary learning and teaching provides important guidelines that inform instruction (Harmon & Wood, 2008). This research summary highlights relevant studies that support several key understandings of vocabulary learning and teaching. Harmon and Wood (2008) described the following six key understandings for all teachers across age levels and content areas:
    - Word knowledge is important for learning;
    - Word knowledge is complex;
    - Metacognition is an important aspect of vocabulary learning;
    - Effective vocabulary instruction moves beyond the definitional level of word meanings; and
    - Vocabulary learning occurs implicitly in classrooms across disciplines.
- Vocabulary learning occurs through direct instruction as well as informal encounters with words.

Related Information from Common Core State Standards

In the sections below, we provide selected information from the CCSS (2010), addressing text complexity, foundational skills, and writing. Each of these sections describe relevant information that supports the PA Core Standards for English Language Arts. We conclude with a section that describes the alignment of CCSS Expectations and the National Assessment of Educational Progress (NAEP).

Text Complexity

Success in the workforce or in post-secondary education requires being able to independently read a high volume of complex texts. Various indicators show that many high school graduates are not prepared to do this task because they have not had experience with texts of the same complexity as they will encounter in colleges, technical schools, and the workplace. They have also not worked with the same volume of expository texts (as opposed to narrative texts) that they will encounter in post-secondary schools or the workplace. A study of American College

Testing (ACT) results showed that student success in college was not more closely linked to student ability to answer higher-order questions such as inferences but was instead linked to the ability to read high complexity text. Note that the PA Core Standards are designed to ensure that students have sufficient exposure to high complexity texts across text genres and content areas.

Three-part model to measure text complexity:

1. *Qualitative evaluation* of text is based on aspects of text best measured by human readers, text purpose, structure, language use, and knowledge demands.
2. *Quantitative evaluation* of text addresses text readability as measured by word length, word frequency, sentence length, and text cohesion. These factors are more effectively measured text formulas run by computer.
3. *Reader and task considerations* refer to variables specific to a reader such as motivation, prior knowledge, and prior experience. These factors are best measured by educators who know both the text and the student (CCSS, 2010).

CCSS Appendix A - Research Supporting Key Elements of the Standards in the CCSS contains samples of annotated texts. These examples include a sample of the text, the assigned grade level, text complexity band, an explanation based on the text's qualitative and quantitative evaluations, and a discussion of reader and task considerations. These examples show how the three-part text complexity model works in application to specific texts.

CCSS Appendix B – Text Exemplars. One of the most notable features of Appendix B is the provision of exemplar texts. Included are specific examples of texts that students should be able to master in specific grade bands. There is not an expectation that teachers use all or only the exemplar texts, but the exemplar texts provide clear examples of the nature and complexity that is expected of students in the different grade bands. Appendix B contains these exemplar texts, and it also includes sample performance tasks by grade band and genre. Appendix B includes the following types of exemplar texts:

Exemplars by Grade Bands

K-1 and 2-3	4-5	6-8 and 9-10 and 11-CCR
○ Stories ○ Poetry ○ Read-Aloud Stories ○ Read-Aloud Poetry ○ Informational Texts ○ Read-Aloud Informational Texts	○ Stories ○ Drama ○ Poetry ○ Informational Texts	○ Stories ○ Drama ○ Poetry ○ Informational: English Language Arts ○ Informational: History and Social Studies ○ Informational: Science, Math, and Technical Subjects

Reading Standards: Foundational Skills

Included with the CCSS (2010) Reading Standards for K-5 are foundational skills for K-5 students that focus on key aspects of learning to read. The foundational skills focus on print concepts, phonological awareness, phonics and word recognition, and fluency (CCSS, 2010). CCSS Appendix A also contains supplementary information that provides significant and detailed information to support the teaching of phoneme-grapheme correspondences, the progression of phonological awareness, and orthography (CCSS, 2010).

Writing – CCSS

The CCSS (2010) focus on three types of writing: argument, informational or explanatory, and narrative. An argument is a reasoned, logical text designed to demonstrate that a writer's proposition is valid. Informational or explanatory text is intended to describe or explain a topic. Its purpose is to clarify, while an argument text is intended to persuade. Narrative text conveys experience and uses time as a structure. Narrative texts can address content areas such as biographies in history and social studies, and accounts of experiments in science.

The CCSS (2010) place special emphasis on the writing of arguments based on substantive topics or issues. The ability to do this well is important for both college and career readiness. The CCSS (2010) point out that an argument is a text designed to make its point through logic and reasons as opposed to the emotional approaches that might be found in persuasive writing. Several studies highlight that a student's ability to write a logical, reasoned argument supported by relevant facts is key for academic success. The ability to write an argument is also critical for career success, since the work of many professions is to address issues through research, reflection, and decision-making and then sharing the results of that process with others. Knowing how to write a high-quality argument text will also prepare students to evaluate the argument texts created by others, and this is a skill that is vital in the information age (CCSS, 2010). In the PA Core Standards, there is a similar listing of types of writing: narrative, informative or explanatory, and opinion or argumentative.

<u>CCSS Appendix C - Student Writing Samples</u>.

Appendix C contains student writing samples from across the grade levels. These samples are annotated to demonstrate the criteria for quality writing at each grade level, and all samples meet the quality expected for the grade level. They are produced in different settings and include in-class work, on-demand assessments, and research projects. These samples are useful resources for making the CCSS writing standards clear and explicit, and they show what quality writing in the different writing types looks like across the grade levels.

Alignment of CCSS Expectations and National Assessment of Educational Progress (NAEP)

The CCSS' (2010) increased emphasis on the reading of informational texts and on the writing of informational texts, especially arguments, is aligned to the NAEP's increased emphasis on informational texts. Note the increasing emphasis on the use of informational texts according to the distribution of literary and informational passages by grade level (Reading Framework NAEP 2017, p. 11).

Grade	Literary	Informational
4	50%	50%
8	45%	55%
12	30%	70%

<u>Essential Element 1 References</u>

Essential Element 2: Oral Language and Academic Discourse

Oral language is the foundation for learning and for literacy development. Speaking and listening are tools of communication that become the basis for the written word.

Rationale

By listening and interacting with the adults in their environment, children learn all the components of our rule-ordered language system. From the individual sounds of language, to the meaning of words and word parts, to the various ways words are put together in sentences, as well as the rhythm and intonations of the language—young children integrate all the components of the communication system. It is these very structures that are the basis for written language and form a foundation for literacy development: *It is both from and through speech that children come to understand written language* (Adams, 1990). Infants emerge into a world full of sounds. Their growing brains are hard-wired to be particularly sensitive to the sounds of the language that their caregivers are using. This need is intrinsic and is necessary for infants to navigate the world and make sense of their experiences (Moats, 2010). By 10 months of age, infants are sensitized to, and can distinguish between, all the phonemes (speech sounds) in their own language and those in other languages (Gopnick, Meltzhoff, & Kuhl, 1999). As babies move from cooing to babbling, they recognize combinations of sounds, and typically between 12 and 18 months, they begin to use words. Between 24-36 months, young children learn how to put words together to make phrases and sentences.

Literacy is an achievement that relies on language proficiencies at many levels, from basic sounds to the complexities of text structures and literary devices. Language proficiency and reading achievement are highly correlated (Mehta, Foorman, Branum-Martin, & Taylor, 2005; Goodson, Layzer, Simon, & Dwyer, 2009). A young child’s language skills, including vocabulary and complex language, along with phonological awareness and letter knowledge, are the most important and unique predictors of reading ability (Snow, Burns, & Griffin, 1998; Goodson et al., 2009). The more children have experience with language and literacy before they begin formal schooling, the better equipped they are to succeed in reading (Snow et al., 1998). The school experience should enable children to refine and build on the language of their homes and communities.

Children come to school with marked differences in language and vocabulary. They come with language patterns that have been influenced by their culture and family. In their landmark study of young children just learning to talk, Hart and Risley (1995) found that the amount of “talkativeness” in families or caregivers distinguished students who were “language rich.” When the data were extrapolated, the difference in the number of words heard between an average 4-year-old child from a professional family and an average 4-year-old from a low-income family was 30 million words (Hart & Risley,1995). Hart and Risley (1995) found strong correlations between young children living in homes with verbal parents in both higher IQ and better vocabulary scores. In a later study, Hart and Risley (2003) found that vocabulary use at age three was predictive of measures of language skills at ages 9-10, as well as of reading comprehension scores in third grade.

Language continues to develop during the primary years. However, the gap between children with advanced language skills and restricted language skills grows wider during the elementary years. In the upper elementary grades, those who enter fourth grade with significant vocabulary deficits show increasing problems with reading comprehension, even if they have good reading (word identification) skills (Beimiller, 2005). As students get older, reading vocabulary measures correlate higher with reading comprehension than do measures of oral vocabulary (Tannenbaum, Torgeson, & Wagner, 2006). These measures consider both word-reading skills and the knowledge of word meanings.

English Learners

Although it is essential to understand the development of language for all students, those working with English Learners (ELs) need knowledge that is even more specialized. The ELs' proficiency in his or her first language has many implications for second language literacy development. Students who are literate and educated in their first language can better transfer linguistic knowledge and conceptual knowledge to second language learning. Students who read in their native language already have phonemic awareness and basic literacy skills, and therefore need to be taught only the forms that differ in the second language. They may benefit from the use of translated materials and bilingual dictionaries. Students who are not literate in their native language have a greater challenge, as they must learn to read in a language that they are unable to understand (i.e., ELs who are not proficient in their native language will have more difficulty learning to read English than will native English speakers). Language transfer impacts ELs in several ways and can be advantageous or problematic. ELs may transfer cognates and familiar grammatical structures. Yet, unfamiliar, or differing structures may cause errors in language use. To understand the impact of the first language(s), it is helpful to consider how similar the first language(s) is in comparison to English. Consider, for example, the different challenges for native speakers of Spanish, as opposed to Arabic.

Language transfer issues, coupled with developing proficiency in English and limited vocabulary, may result in the production of student errors such as: encoding and decoding errors, pronunciation errors, omissions in speaking and writing, awkward language use, etc. Students may struggle to retain and comprehend information. Some of these errors may mirror those seen in students with learning disabilities; however, they should not be confused as such because they are a normal part of second language development. Such issues can be alleviated through direct instruction in English, the use of graphic and mnemonic supports, and increased exposure and interaction with English (Kauffman, 2007). Moreover, as discussed by Vogt (2012), in addition to instruction with the five core reading elements, ELs will need extensive practice with oral language. This would include high-quality instruction in language patterns at the word, sentence, and discourse level. Instruction should include opportunities to converse with their peers in structured, small group discussions.

Factors Affecting Language Transfer

- Alphabet
- Letter Recognition
- Phonetic relationships (e.g., the letter p in Ukrainian sounds like /r/ in English)
- Lack of mutual sounds or sounds that don't exist

- Grammar structures, exceptions to typical grammar rules, or grammar patterns that don't exist in one of the languages (e.g., some languages do not have a past tense verb form)
- Language functions that are not mutual
- Cultural functions (e.g., indirect vs. direct communication styles, social hierarchy in language, etc.)
- Idioms or figurative language

Oral Academic Discourse

Although receptive and expressive oral language skills are emphasized at the preschool and primary grade levels, additional attention needs to be given to the development of more formal discourse required for success in classrooms, especially in the academic disciplines. As students mature, their ability to communicate effectively within the context of each discipline requires specific attention to oral academic discourse. According to Gutierrez (1995), "becoming a member of a discourse community and developing discourse competence requires having linguistic knowledge, as well as knowing how to act, talk, interpret, and think according to a particular cultural or social group" (pp. 23-24).

As discussed in the *Accountable Talk Sourcebook*:

> "There is an extensive research base on classroom discourse which examines the nature of classroom talk and the relationship between talk and learning in school. Researchers and experienced classroom teachers alike know that simply getting students to talk aloud or talk to one another does not necessarily lead to learning. What matters is what students are talking about and how they talk. Such talk uses evidence from the disciplines; it enhances student thinking and enables them to use evidence appropriate to both use and create knowledge. Such talk requires students to listen and learn from one another, to use accurate knowledge, and to be accountable to rigorous thinking." (Michaels et al., 2013, p.1)

The PA Core Standards in English Language Arts require students to be able to engage effectively in a variety of collaborative discussions based on grade-level topics, texts, and issues, as well as present their ideas and reasoning clearly and effectively (PDE, 2014). In other words, students are expected to understand a language different from everyday speech. This language of schooling, "must be developed across content fields, grade levels, and cultural populations….and is also needed for the multiple sources that students will encounter" (Horowitz, 2014, p.63).

Frey and Fisher (2011) emphasized several classroom practices associated with promoting classroom discourse. First, it is important that teachers establish a language purpose for their lessons. A language purpose is one in which the teacher identifies an objective for the students' use of content or social language (Hill & Flynn, 2006; Frey & Fisher, 2011; Soto-Hinman, 2011). In English language arts, for example, a teacher might establish a language objective for using specific academic vocabulary related to rhetorical devices in class discussion.

Teachers can also provide students with language frames to learn speaking and writing structures as well as academic vocabulary across the disciplines. Providing opportunities for students to produce language through speaking by utilizing the syntax of the discipline serves as a support for writing (Dougherty, Roberts & Billings, 2016; Fisher & Frey, 2014). Language frames in science may encourage conciseness and the use of past tense as in the following examples from Frey and Fisher (2011):

- *The purpose of this study was to…*
- *The results of the experiment were…*
- *The findings were significant because…*

Also, teachers can provide opportunities for students to engage in small group discussion using collaborative, higher-order tasks. Frey and Fisher (2011, p. 18) described a quality group task as one in which students have to "rely on one another," not one in which groups can divide the task amongst themselves and complete it without really having to engage in academic talk." In fact, higher-order tasks and questions are more likely to promote active academic conversations and discussion from students (Wolf, Crosson, & Resnick, 2005).

Implications

General

Oral language and vocabulary can be developed and enhanced in three key ways: (a) listening to the language and being engaged in conversations, (b) being read to, and (c) reading independently. Parents, caregivers, and teachers *at all levels* should:

- Talk to students, engage them in conversation;
- Model language patterns;
- Deliberately use rich vocabulary and discuss word meanings;
- Provide time for and encourage conversations between students;
- Read to students and talk about what is being read;
- Encourage wide and independent reading;
- Value and encourage students to use their home language; and
- Provide rich experiences for students that enable them to gain world knowledge.

Birth to Age 5

The amount of talk in the young child's life is critical for oral language development, intellectual growth, and reading development. As children learn to take turns in the dance of conversation, their language abilities grow even more. Practicing language is as important as hearing language.

- Link spoken words to concrete objects and experiences to enhance understanding.
- Talk, talk, talk to the infant, the baby, and the young child.
- Get close to the young child so that he or she can see facial expressions, watch lip movements, and hear the voice clearly.
- Imitate the sounds the baby is making and add new ones.
- Introduce play with sounds and nursery rhymes, finger plays, jingles, and songs.
- Confirm and clarify the child's attempts at using new words.

- Elaborate on what children say and extend their utterances.
- Describe shared experiences with new and rich vocabulary.
- Use varied vocabulary and words that are robust in meaning (e.g., “ferocious” dinosaurs, a group of children make a “commotion”). Children love big words! Mealtimes provide a wonderful opportunity for this type of conversation.
- Discuss the meaning of words.
- In early learning centers, use a curriculum that provides rich opportunities for talk between teacher and children.
- Read, read, and read some more to the child. Interact with the child around the text (Whitehurst, 1992).
- Spend some time each day with an individual child and talking with that child about topics of interest. Such time provides opportunities for assessing the child’s language and for fostering its growth.
- Foster strong relationships between home, daycare, and educational settings.
- See the Infant-Toddler and Pre-Kindergarten Learning Standards for Early Childhood (2014) for additional instructional implications.

Grades K-5

Oral language and vocabulary develop when teachers and parents:

- Talk to and with students, providing extended opportunity for discussion.
- Provide many opportunities for conversation between students. Use partnering, think-pair-share, small group, and whole class formats in the classroom.
- Foster word consciousness and teach students strategies for learning words on their own.
- Use explicit, robust vocabulary instruction, and be intentional about the words chosen (Beck, McKeown, & Kucan, 2002; Beck, McKeown, & Kucan, 2008).
- Create many opportunities for read alouds about a wide range of topics and include all genres.
- Foster discussion between children using open-ended questions about the text.
- Expect wide independent reading. Offer students opportunity to choose their own materials.
- Make available various genres of text, including narrative, informational, poetry, biographies, etc.
- Teach the importance of collaborating, being a good listener, and supporting ideas with facts.
- Develop a school-wide plan for vocabulary instruction across all domains (White & Kim, 2009).
- See the PA Core Standards (2014) for additional instructional implications.

Grades 6-12
Literacy demands intensify as secondary students are expected to learn new words, new facts, and new ideas from reading. Their literacy skills will enable them to learn new content; at the same time, the knowledge they gain from content will increase their literacy skills. Teachers in all content areas should:

- Use text-based collaborative learning that involves students interacting with one another around a variety of texts and topics.
- Include direct vocabulary instruction in language arts, as well as content area courses.
- Teach independent, word-learning strategies.
- Take advantage of the social interactions among students as a means of learning through discussions in the classroom.
- Provide opportunities for students to engage in one-to-one, small group, and whole class conversations. Content for the conversations can come from what is important in various domains.
- Teach the importance of collaborating, being a good listener, building on the ideas of others, and articulating ideas clearly, supporting those ideas with facts.
- Use active participation strategies so that all students are engaged in the classroom discourse.
- Use writing as a tool to help students think about and refine word choice, sentence structure, and pragmatics.
- Encourage wide, independent reading in a variety of genres.
- See PA Core Standards (2014) for additional instructional implications.

Essential Element 2 References

Essential Element 3: Assessment

An assessment system that addresses the dual purposes of assessment (i.e., accountability and informing decision-making) is a critical component of a district comprehensive literacy plan. An effective assessment plan requires the inclusion of technically adequate information, multiple measures, and provides opportunities for educators to learn how to administer, analyze, interpret, and apply data results to inform instructional practices and improve student learning.

Rationale

Evidence from effective school research indicates that the use of assessment results for identifying student, classroom, and school needs is highly related to school success (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; Marzano, 2003; Williams, 2010). Taylor, Pearson, Peterson, and Rodriguez (2005), who worked with multiple schools to improve literacy instruction, found that instructional practices and student learning were enhanced when teachers had a deeper understanding of how data could be used to improve literacy instruction.

Assessment has multiple purposes and multiple audiences. Teachers administer, analyze, and interpret results of both formal and informal assessment tools to assess student strengths and needs, and to plan, implement, and evaluate instruction. Administrators and teachers use classroom, grade level, and school results to make curricular decisions and to select materials for school-level use. School districts make decisions about long-term planning and resource allocation based on assessment results, which provides them with information about school strengths and needs. They also share building level and school level data with the community. Likewise, teachers share individual student data with families or caregivers to inform them about individual students. States and the federal government make decisions to inform policy related to school improvement and to determine what resources schools should receive. In other words, in addition to providing data for accountability purposes at the classroom, school, and district-wide levels, assessment results can provide information important for making instructional decisions for individuals and groups of students.

Given its multiple purposes, a strong multi-dimensional assessment system is imperative to developing and implementing an effective literacy program for all students at all levels. However, assessment is not beneficial unless it aligns closely with the goals and instruction of the school; therefore, the need to align assessments to concise and powerful standards that allow students, parents, and educators to gauge and monitor student performance (National Research Council, 1996; Hamilton, Halverson, Jackson, Mandinach, Supovitz, & Wayman, 2009). A well-aligned system of assessment that measures what is essential at specific grade levels and, at the same time, enables schools to look longitudinally at the achievement of students is an essential aspect of a comprehensive school plan. A comprehensive assessment system should include summative, formative, benchmark, and diagnostic tests, each of which is used for specific purposes. (See the Pennsylvania Standards Aligned System (SAS) Framework for more information.)

In developing a comprehensive assessment plan, there is a responsibility to consider many different types of data. As indicated in Guiding Principle 4, Bernhardt's (2013) framework identifies four types of data crucial for district decision-making which includes: demographic,

perceptual, program, and outcome data. The results of these types of data and the interactions between and among them can be analyzed and used to make decisions about programs, practices, and policies. The PA Literacy Needs Assessment identifies six requirements of a well-developed assessment plan.

Requirements of a Needs Assessment Plan (PA Literacy Needs Assessment, PDE)

1. District personnel provide leadership for literacy assessment.
2. District selects literacy assessment measures that are valid and reliable and provide information on the essential elements of literacy instruction.
3. District has developed capacity to gather and use data.
4. Assessments are administered in a timely manner and with standardized procedures.
5. Formative and summative evaluations are incorporated at all grade spans.
6. Data are reviewed regularly by administrators and teachers, and instruction and support are adjusted accordingly across the district.

A comprehensive assessment system prevents a reliance on testing in which a single test score determines student placement, educational policy, or teacher evaluation. The International Literacy Association (ILA) addresses the inherent problems with making decisions based on a single measure and acknowledges the importance of varied assessments for the purposeful collection of data to inform instruction (ILA, 2010). In a benchmark study, Valencia & Buly (2004) gave diagnostic tests to students who had failed the fourth-grade statewide reading assessment measure, assessing students' skills in word identification, meaning, and fluency. Most students did not need support in all three areas; rather, they more often had a specific category of weakness. According to these researchers, different instruction was needed for these various profiles of students. Moreover, Valencia & Buly (2004) cautioned educators from using the results of a single outcome measure to make instructional decisions about students. They found that assessments and instruction have a dynamic reciprocity in both measuring progress and providing informative data to shape effective and responsive instruction.

Morsy, Kieffer, & Snow (2010) recommended a system that includes standardized tests along with on-going formal and informal measures. An effective assessment framework identifies both strengths and needs and provides multiple sources of evidence to measure the influence of instruction. Additionally, appropriate interpretation and context of test data are imperative to improving teaching and learning (IRA & NCTE, 2007; ILA, 2010). A robust system, with thoughtful, appropriate interpretation, allows educators to determine the effectiveness of instruction in advancing student achievement to grade-level benchmarks. Pennsylvania Department of Education's Standards Aligned System (SAS) includes "Assessments" as one of the six areas essential for promoting student achievement, exemplifying the need for alignment among assessment, instruction, and clear standards. The Every Student Succeeds Act (ESSA) legislation (2015) provides states with more flexibility in developing assessment policies. Specifically, the legislation encourages the development of measures that: assess high-level skills, especially using technology; provide for accommodations for ELs and those with disabilities; eliminate redundancy in testing; and promote innovation and creativity. At the same

time, the legislation mandates the reporting of assessment data at specific grade levels and the disaggregation of data for subgroups.

One of the most important uses of assessment is its value in informing instruction. Literacy researchers have found that classroom-based assessments were systematically used on a regular basis in effective schools (Cunningham, 2006; Taylor, Pearson, Clark, & Walpole, 1999; Taylor, 2015). Educators in these schools used results to identify needs, group students, and make decisions about instruction. Teachers could talk with great insight about what students could and could not do in various components of literacy. The report, Using Student Achievement Data to Support Instructional Decision Making (Hamilton, Halverson, Jackson, Mandinach, Supovitz, & Wayman, 2009*)* provides a useful checklist for schools developing an assessment plan for using data to inform instruction. Another useful resource is the module, Using Data for Decision Making.

The systematic and thoughtful interpretation of assessment results can affect responsive, data-informed practice. In a position statement about assessment, the National Association for the Education of Young Children (NAEYC) and National Association of Early Childhood Specialists in State Departments of Education (NAECS/SCE) highlight the importance of reliable, valid, and fair assessments to improve student learning (2003). To that end, educators need to be knowledgeable and develop expertise about the purpose of a measurement, literacy development, and effective pedagogical practices.

There is overwhelming consensus among national professional organizations of the importance of literacy assessment (ILA, 2010; 2013; 2014; NAEYC & National Association of Early Childhood Specialists in State Departments of Education [NAECS/SDE], 2003). In 2009, NAEYC and IRA joined forces to publish a document, *Where We Stand: On Learning to Read and Write,* that addressed literacy assessments for early learners. According to these organizations, policies about assessment for young learners should emphasize more comprehensive assessment tools and responsive teaching. The NAEYC (2009) position statement highlighted the importance of such assessments for young English Learners (ELs). Below, some key ideas for assessing English Learners are provided.

The key to assessing ELs is to assess what they know, not what they do not know (English). Some things to consider are how ELs might show or demonstrate what they know, given that language structures and test formats may be barriers to students' abilities to understand the task or question, or to producing the answer. Some guiding ideas include:

- Assess what has been taught;
- Assess in the same way student was taught (e.g., visuals, manipulatives, scaffolds, graphic organizers, etc.);
- Design assessments to reflect the language proficiency of students;
- Allow for performance-based assessments, oral reports, poster presentations, and other assessment formats that reduce the language demand; and
- Test the concept, not necessarily language.

Implications
An effective assessment system must be congruent with and based on state standards, as well as the goals, curriculum, and instruction of a school or district. The Pennsylvania SAS provides a comprehensive approach for student achievement. The assessment portion of SAS encompasses elements of assessments for federal and state initiatives, as well as classroom-based assessments for Local Education Agencies (LEAs). The four types of assessments recommended are summative, formative, benchmark, and diagnostic. The following charts include definitions of each type of assessment and examples of such measures.

Types of Assessments

Summative Assessments seek to make an overall judgment of progress made at the end of a defined period of instruction. They occur at the end of a school level, grade, or course, or are administered at certain grades for purposes of state or local accountability. They are designed to produce clear data on student accomplishments at key points in the academic career of the student. They also provide accountability or outcome information about a school or district's performance.

Examples:

- Pennsylvania System of School Assessment (PSSA)
- Pennsylvania Alternate System of Assessment (PASA)
- Keystone End-of-Course Exams
- End-of-unit exams
- Final exams

Formative Assessments are classroom-based assessments that allow teachers to monitor and adjust their instructional practices to meet individual student needs. Teachers use formative assessment strategies during instruction to provide feedback to students. This feedback allows teachers to adjust ongoing teaching and learning to improve student achievement of intended instructional outcomes. Formative assessments can occur during lessons or observations of students in classrooms, or they can consist of more formalized instruments that also require qualitative analysis by teachers.

Examples:

- Running records, response logs, graphic organizers, curriculum-based measures, portfolios, projects
- Observational tools: thumbs-up, exit slips, questioning, discussion, think-pair-share

Benchmark Assessments are designed to provide feedback to both the teacher and the student about how the student is progressing toward demonstrating proficiency on state grade level standards. Well-designed benchmark assessments are standards-based assessments that measure the degree to which a student has mastered a given concept. These assessments measure concepts, skills, and/or applications. Benchmark assessments

are reported by referencing the standards, not the performance of other students. They also measure performance regularly, not only at a single moment in time.

Examples:

- Vendor Developed – 4Sight, Acuity, Assess2Know, DIBELS®Next, Acadience™ Reading, AimsWeb (R-CBM, MAZE and Early Literacy Assessments)
- District and School Developed – common assessments administered across a grade level with a common rubric that benchmarks achievement by referencing state standards

Diagnostic Assessments determine student strengths, weaknesses, knowledge, and skills. Administering diagnostic assessments permits the instructor to intervene at the point where students begin to struggle (such as in MTSS-RtI) or when they are performing below grade level expectations. Diagnostic assessments allow teachers to adjust the curriculum to meet the unique needs of all students.

Examples:

- GRADE, Classroom Diagnostic Tools (CDTs), CORE: Multiple Measures; Developmental Reading Assessment (DRA)

A Comprehensive Assessment System

A highly developed assessment system includes authentic reading and writing tasks, a balanced approach to using formal and informal assessments, classroom-based evidence that shows growth over time, and more involvement of students in the evaluation of their own work. Multiple assessment tools are used in system-wide assessment plans to ensure an accurate picture of student achievement. Such assessment practices are in line with 21st century learning skills and will contribute to the success of Pennsylvania students in a world that requires complex literacy skills and abilities.

A well-developed assessment system can contribute to school district and system improvement (See Appendix C for a resource for creating an Assessment and Analysis Plan). The adoption of a systemic approach enhances the use of assessment data to inform teaching and learning practices. This system should include assessment tools that are congruent with the district's goals and curriculum. Stakeholders can use the results of assessment data in a variety of ways. For example:

- Teachers can use assessments before, during, and after instruction to provide feedback and adjust ongoing teaching and learning to improve student achievement, and to provide appropriate challenges for all students at their instructional levels. Groups of teachers can meet in data teams or professional learning communities to discuss results of data and the implications for instructional decision making.
- Students can be asked to self-evaluate their work as a means of developing their knowledge and understanding of what they know and do not know.

- Parents and families or caregivers can be kept informed of plans for teaching and learning, and the progress being made by their children.
- School leaders can use the information for school-wide planning, to support teachers, and determine professional development needs.
- Pennsylvania school boards can use the results of assessments to assist in their decision-making for school improvement.

PA Assessment System

In 2010, the Pennsylvania State Board of Education determined that all LEAs should design an assessment system to do the following:

- Determine the degree to which students are achieving academic standards and their progress toward college and career readiness;
- Improve curriculum and instructional practices using assessment results grounded in both what students have learned and areas of need;
- Provide information requested by PDE regarding the achievement of academic standards; and
- Provide summary information, including results of assessments to the public.

To support districts in the development of their assessment system, Pennsylvania provides guidance, resources, and materials. The Bureau of Curriculum, Assessment, and Instruction is responsible for the development, administration, scoring, and reporting of the state's assessment system. State assessments include the following:

- Pennsylvania State System of Assessment (PSSA)
- Pennsylvania Alternate System of Assessment (PASA), for students with the most significant cognitive disabilities
- Keystones

The Bureau provides direction to schools and districts on assessment and accountability systems, evaluates school and student progress, and reports school performance. Other functions include the development of assessment anchors to better align curricula, instruction, and assessment practices throughout the state; coordination of test development, administration, and reporting; and providing technical assistance for statewide and local assessment systems.

Resources for assessment are also available on Pennsylvania's SAS website. For instance, the Classroom Diagnostic Tools for English Language Arts are available to every district in Pennsylvania at no cost. These tools can aid educators in identifying needs and strengths at the grade level, classroom level, and individual student level. On SAS, teachers can also create assessments through the "Assessment Builder," look for a variety of resources through the "Materials and Resources" tab and obtain information on the PSSA and Keystone Exams.

Essential Element 3 References

Essential Element 4: 21st Century Classrooms

Students in 21st century classrooms will need to be equipped with skills that go beyond what classrooms currently offer to meet future demands and address complex problems that can't be anticipated or presently conceived. Classrooms must offer students opportunities to develop real-world problem-solving skills that enable them to think critically and creatively, work collaboratively with others, and analyze, interpret, and synthesize information. Additionally, teachers in 21st century classrooms must have the knowledge and skills that allow them to provide students with opportunities to grapple with new, challenging, and difficult information. Such difficult learning should occur in an environment that is engaging, fosters resiliency, and includes both print and digital resources.

Rationale

Students who can think critically and communicate effectively must build on a base of core academic subject knowledge" (http://www.p21.org). *Twenty-first century skills* is a broad term, referring to knowledge, skills, work habits, and character traits needed to succeed as a student, a citizen, and in a chosen career. Students need to be provided with engaging materials that incorporate these elements in a meaningful way.

What is a 21st Century Classroom?

Technology and its many uses for teaching and learning comes to mind when visualizing a 21st century classroom—and certainly the integration of technology in schools is an integral feature of such classrooms. However, 21st century skills are much more than knowing how to navigate a computer. According to the U.S. Department of Educational Technology (USDOET), for students to be successful in society and the workplace of the 21st century, they need core content knowledge, life skills, and the ability to identify and create innovative ideas and tools that enable problem-solving (Shechtman, DeBarger, & Dornsife, et al., 2013). Lack of problem-solving skills can have an astoundingly negative impact on employment (Casner-Lotto & Barrington, 2006; Shechtman, DeBarger, & Dornsife, et al., 2013). Between 65% and 80% of employers identified the five most important 21st century skills as teamwork, leadership, written and oral communication, initiative, and problem-solving skills (Job Outlook, 2016). When reviewing this list, it is evident that both academic and non-academic skills are critical for life success.

Although 21st century classrooms can be defined somewhat differently by scholars and educators, the description below provides a comprehensive summary of what success in the 21st century might entail:

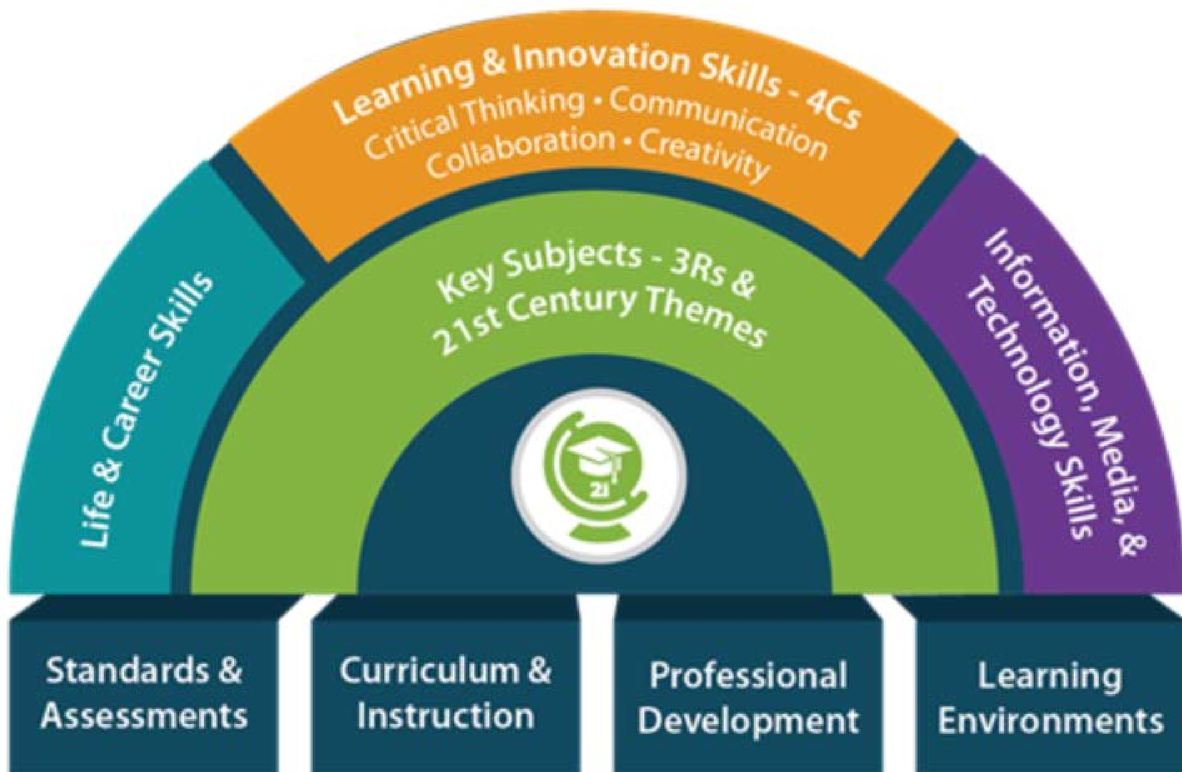
> Success in the 21st century requires knowing how to learn. Students today will likely have several careers in their lifetime. They must develop strong critical thinking and interpersonal communication skills to be successful in an increasingly fluid, interconnected, and complex world. Technology allows for 24/7 access to information, constant social interaction, and easily created and shared digital content. In this setting, educators can leverage technology to create an engaging and personalized environment to meet the emerging educational needs of this generation. No longer does learning

have to be one-size-fits-all or confined to the classroom. The opportunities afforded by technology should be used to re-imagine 21st century education, focusing on preparing students to be learners for life. Students demonstrate the three Rs, but also the three Cs: creativity, communication, and collaboration. They demonstrate digital literacy as well as civic responsibility. Virtual tools and open-source software create borderless learning territories for students of all ages, anytime and anywhere. (Karen Cator, Director of Educational Technology, U.S. Department of Education, Education Week, October 11, 2010).

Teachers in 21st Century Classrooms

The 21st century classroom also requires teachers who are facilitators and understand how to guide students in their pursuit of knowledge. These teachers recognize the need for student choice and engagement. They provide opportunities for students to work independently, in small groups, as well as in a large group. Effective teachers in 21st century classrooms also understand how to engage students and structure activities that help them develop resiliency. They understand how to orchestrate learning that promotes the 4Cs: critical thinking, communication, collaboration, and creativity. In the graphic below, we present a Framework for 21st Century Learning that describes the importance of these 4Cs and how they can influence teaching practices (http://www.p21.org).

Figure 5. 21st Century Learning



Although all the components in the graphic are critical for 21st century classrooms, this essential element is focused on “Learning and Innovation Skills-4Cs.”

Learning and Innovation Skills - 4Cs
Critical Thinking, Communication, Collaboration, and Creativity

Critical Thinking: Although there are numerous definitions of critical thinking, all encompass the importance of reflective, analytical, evaluative, and deliberative skills and characteristics. Explicit attention to the fostering of critical thinking skills and sub-skills, as well as dispositions, is essential at all levels of the K-12 curriculum. Activities that provide opportunities for critical thinking can be incorporated within all the content fields as well as during literacy instruction.

Communication: To support effective communication in the classroom, teachers must provide relevant and effective experiences that enable students in all content areas to use oral, written, and nonverbal communication skills for multiple purposes. Additionally, given the increase in digital communication using social media such as texting and Twitter, students need to be given opportunities to develop skills to use electronic interaction appropriately.

Collaboration: Twenty-first century classrooms are those in which the climate is conducive to collaborating. Collaboration is viewed as a process leading to desired individual and group outcomes, such as successful problem-solving and enhanced intellectual development. Collaboration can be developed within any content area or academic discipline (e.g. small group discussion, research, collaborative inquiry).

Creativity: Creativity, like communication and collaboration, can be cultivated, but it requires a classroom that is amenable to promoting creativity. Practices that promote creativity include: explicitly teaching for creative thinking, providing students with choice and exploratory learning, encouraging students’ intrinsic motivation, and providing opportunities for students to use their imagination and exhibit divergent thinking.

Communicating and collaborating effectively while thinking creatively and critically are essential for success in the 21st century. For students to develop these skills, they must be in classrooms that support their development. The environment in such classrooms offers opportunities for students to take calculated risks, as well as multiple opportunities to talk, listen, read, and write. The 4Cs support students in developing the initiative and ability to solve complex problems in multiple ways. As mentioned previously, 21st century classrooms are also ones in which students are engaged and in which they have been able to develop the resiliency that enables them to *stick-to* a task.

Student Engagement and Academic Resiliency in 21st Century Classrooms
Both engagement and academic resiliency are essential for developing students’ intrinsic motivation to learn, for continuing with assigned tasks, and ultimately for developing literate students. When students are motivated to learn, they develop the stamina to continue to learn

and become productive citizens (Duckworth, 2016; Hoerr, 2017; Kallick & Zmuda, 2017). Both engagement and academic resilience are discussed below.

Student Engagement: "In education, student engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education" (edglossary.org/student-engagement). Effective literacy programs focus on developing students who are engaged, interested, and motivated to read and write.

In fact, Guthrie (2004) found that more highly engaged readers from homes with fewer materials or educational advantages routinely out-performed less engaged readers from more advantaged home environments. Reading motivation predicts both the amount of reading and reading comprehension (Guthrie, Wigfield, Metsala, & Cox, 1999). According to Guthrie (as cited in Allington, 2009), the relationship between engaged reading and comprehension was stronger than any other relationship identified on the National Assessment of Educational Progress. Research consistently shows that more access to books results in more reading, and that students who read more become better readers, writers, and show improvements in vocabulary and grammar (Krashen, 2004). Engaged learners work in a motivated way; they employ whatever skills and strategies they have with effort, persistence, and an expectation of success (Duckworth, 2017; Guthrie & Wigfield, 1997; Hoerr, 2017). Purposeful reading that is intrinsically motivated will help develop engaged readers. Furthermore, engagement in reading has helped students overcome obstacles, such as low family income and a less varied educational background (Seligman, 2011).

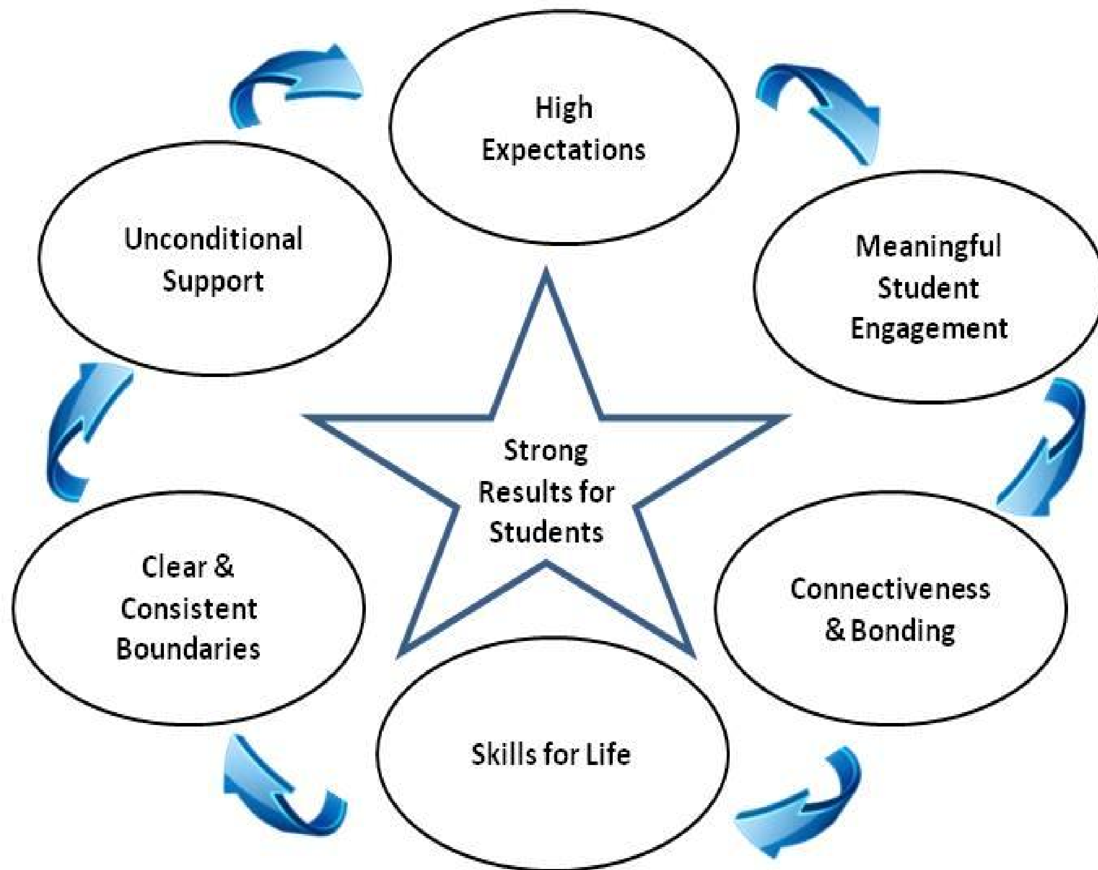
Academic Resiliency: Academic resiliency is also a critical factor that influences literacy development. Academic resiliency refers to a student's ability to persist, even in the face of multiple academic difficulties (McTigue, Washburn, & Liew, 2009). Resilient students are those driven by their own goal of mastery. The *Resiliency Wheel* (Henderson, Bernard, & Sharp, 2000, p. 8) diagrams a way that schools and all youth-serving organizations can show young people how to successfully meet the stresses and challenges in life (see Figure 6). Henderson, Bernard, and Sharp (2000) suggested that schools and youth organizations should:

- Provide care and support;
- Set and communicate high and realistic expectations;
- Provide opportunities for meaningful participation;
- Increase bonding or connectedness;
- Set clear and consistent boundaries; and
- Teach life skills.

Just as Henderson et al.'s (2000) six factors work for enhancing a student's personal resiliency, the same factors support academic resiliency. Teachers who provide effective literacy instruction work with students to set high, yet realistic, reading goals and engage

in meaningful literary experiences. Their lessons set clear and consistent boundaries, and the teachers provide unconditional support to all learners.

Figure 6: The Resiliency Wheel



**Adapted from N. Henderson and M. Milstein, Resiliency in Schools, 2003. p.12)*

In summary, the 21st century classroom is one in which students are engaged in meaningful tasks that require inquiry and problem solving; they work collaboratively and have opportunities to communicate both orally and in writing, using both digital and print resources. Teachers understand how to provide structured support and facilitate student learning. They understand how to engage students in ways that promote resiliency.

Implications

Below are implications related to developing 21st century classrooms. They include ideas for developing the types of classrooms that promote the 4Cs, engagement, and academic resiliency. They also provide suggestions for teachers about the use of the internet in the classrooms.

1. Building relationships with students that demonstrate an appreciation for and understanding of individual differences and interests.

The strategies located below emphasize the importance of building relationships to enhance students' resiliency. Additionally, strong, caring relationships are critical for developing risk-free classrooms in which there is critical thinking, communication, collaboration, and creativity (the 4Cs of 21st Century Classrooms).

Strategies for Developing Relationships

- Provide a caring relationship with students by supporting, respecting, validating, showing compassion, and modeling resiliency.
- Remind students that making mistakes is part of the learning process and that a growth mindset is critical to lifelong learning.
- Stress high expectations and achievement by believing in students' innate capacities.
- Provide student-centered instruction, structure for growth and risk, and focus on strengths.
- Give students power and responsibility in interactive groups, e.g. making choices, solving problems, expressing opinion, and reflecting (Goodwin, 2007).
- Use technology as a tool for building engagement.

2. Developing classrooms that Emphasize the 4Cs of Critical Thinking, Communication, Collaboration, and Creativity

General Ideas:

- Ask high-level questions and open-ended questions that require students to think critically and creatively. Likewise, encourage students to ask questions that require high level thinking. Provide opportunities for students to respond to questions in multiple ways. Such responses can be generated without technological tools, but multimedia authoring enables students to create products that reflect their uniqueness, interests, and individuality.
- Encourage and support students to use technological tools to write reports or essays (think pieces) that solve problems; let them share their solutions in creative ways, using formats such as digital stories, eBooks, virtual museums, video journals, news broadcasts, and interactive games.
- Have students work together to collaborate on specific reports or documents. Students can work together using GoogleDocs, Pixie, Frames, Share, etc.
- Provide opportunities for students to participate in truly collaborative project work. (Adapted from The 21st century classroom – where the 3 R's meet the 4 C's!. Posted by Melinda Kolk on 3/30/2011.)

3. Using the Internet in the Classroom: Ideas for Teachers

- **Become familiar with technology use:** Teachers have the responsibility to become familiar and comfortable with technology, especially with the internet, as a means of learning. They, however, need to be aware of its limitations as well as its potential for learning. www.iste.org

- **Model appropriate online correspondence:** Share your own online interactions with students. When relevant and appropriate, talk about how you are learning from others. Introduce students to learners who are passionate about the subjects they are studying.
- **Model and provide opportunities to practice appropriate internet interactions (Netiquette):**
    - Some suggestions for supporting internet literacy include:
        - When typing, **never** write in all capital letters as it can be considered shouting.
        - Don't plagiarize information or pictures. Always use citations when sharing others' information.
        - Don't gossip and keep personal information personal. Ensure that correspondence is factual.
        - Use discretion. Remember that anything you put on the internet can be there forever.
        - Post only conversations you are willing to have in person. If not, don't post it.
- **Share student work:** Create a classroom website where you can regularly publish student work. As much as possible, make sharing a natural part of the learning process, publishing interesting student blog posts, videos, or other quality artifacts that students create. Find ways to encourage discussion and interactions from readers online. With younger students, moderate those interactions. With older students, share strategies for moderating and vetting to help them become responsible for monitoring and responding to comments on their own. Have discussions on what appropriate interactions look like and how to validate participant's identity. Help students learn how to respond to comments appropriately.

4. Using Read-alouds as a Means of Engaging and Motivating Students to Read
Read-alouds can be used at all levels; they provide students with opportunities to learn as well as enjoyment as they listen to a fluent reader.

Why read-alouds:

- Read-alouds are risk free: Language and literacy can be enjoyed without risk.
- Read-alouds build mental models that help students develop as self-motivated readers. These models can provide perspectives in addition to or in place of textbooks.
- Read-alouds set the stage for learning to read and reading to learn. They help students with several critical reading components: reading motivation, word knowledge, syntax, story grammar, genre knowledge, authors' intentions, readers' choices, and understanding. (Allen, 2000, p. 45-47)

Effective read-alouds generally have the following characteristics:

- Books appropriate to students' interests and matched to students' developmental, emotional, and social levels;
- Selections that have been previewed and practiced by the teacher;

- An established, clear purpose for the read-aloud;
- Fluent oral reading is modeled; reading is animated, with appropriate expression and prosody; and the reader stops periodically to thoughtfully question the students to focus them on specifics of the text; and
- Connected to independent reading and writing.

For more information, see Interactive read-alouds: Is there a common set of instructional practices? 2004 International Reading Association (pp. 8–17, doi:10.1598/RT.58.1.1)

Birth to Age 5

Research in early literacy emphasizes that the natural mastery of skills for children birth to age five is through the enjoyment of print resources, the importance of positive interactions between young children and adults, and the critical role of literacy-rich experiences. These positive interactions play a critical role in developing play-based literacy and language experiences. When children have positive interactions with print resources, they are developing good feelings about reading, which motivates them to continue seeking books and other literacy materials as they grow. The emotional bonds between young children and their families or caregivers, other adults, and peers influence children's motivation and potential to learn (Snow, Burns, & Griffin, 1998). Children can:

- Choose a favorite book;
- Ask adults to read to them; or
- Pretend to read.

If children are engaged and enjoying themselves, they are learning. Children benefit by experiences such as:

- Purposeful and playful exposure to a variety of printed materials;
- Hearing quality literature read daily; and
- Participating in discussion about the pictures in books. These discussions provide opportunities for children to think creatively and critically, and to learn from others.

It is through positive, meaningful relationships and experiences that children gain confidence in their ability to explore and learn from the world around them. When families or caregivers and other adults share stories, songs, and books with children, they not only model literacy skills but also give children the message early; learning to read and write is important. Exposure to books and stories that have interesting content, rich vocabulary, and detailed illustrations is imperative for helping young children build oral language and vocabulary.

Children benefit from experiences in which adults:

- Model rich spoken language;
- Provide opportunities for children to experiment and play with the sounds that words make through rhymes, nonsense words, poems, music, and chants;
- Read books that contain rich language (rhyme, repetition, and rhythm); and
- Encourage children to use new vocabulary words when discussing pictures or real

objects.

In the classroom, teachers should provide:

- Access to high-quality and large quantities of literature in a variety of formats;
- Learning centers for children to engage with each other, and with words and pictures; and
- Classroom libraries where learners can independently interact with quality books (www.ala.org).

In a world of interactive media, children are comfortable with using digital devices, and these tools have a powerful influence on student engagement with literacy. In its position statement regarding technology in education (NAEYC, 2011), NAEYC recommends that early childhood educators recognize the importance of technology and digital media as valuable tools to be used intentionally with children. These tools extend and support students' authentic and active engagement with others around them. They recommend that educators:

- Allow children to explore digital materials in the context of human interactions, with an adult as mediator and co-player.
- Use shared technology time as an opportunity to talk with children, use new vocabulary, and model appropriate use, as with shared book reading.

Grades K-5

According to the Pennsylvania Literacy Framework:

> "A relationship exists between young children's motivation to learn and their perception that adults care about them as individuals and their learning. Caring is one element that appears to most strongly influence whether children enjoy school (Lumsden,1999). This suggests that caring environments with clear, high expectations are the underpinnings of motivation. The nature of students' relationships with teachers is central to what makes school appealing or distasteful, inviting or uninviting." (PDE, 2014, p. 2.15-2.16)

When students understand that with appropriately leveled texts and many reading opportunities, they can improve their reading proficiencies, students will successfully engage in the work and practice needed to become better readers. Students become engaged when they know teachers care about them, what they are learning matters, and they possess the skills necessary to meet a given challenge. Teachers can impact student motivation in a positive manner that provides opportunities for communication, collaboration, creative, and critical thinking as follows (adapted from Fillman & Guthrie as cited in Allington, 2009, pp.155-156):

- Relate materials to their own lives;
- Listen to all opinions and voice their opinions as well;
- Encourage students to choose what they read (learn) much of the time;
- Allow students to finish if they are reading (or writing) something of self-interest;
- Help students to find their own ways of learning to read;
- Encourage students to talk with others about what they are reading and writing; and
- Ask students questions that require them to think critically and creatively.

The most powerful way to engage students in reading, foster voluntary reading, and promote high level thinking is to provide easy access to an assortment of interesting and appropriately difficult text in a variety of formats, including audio and digital. In addition, teachers and school librarians must provide opportunities to choose some of the books that will yield "high-success reading experiences are characterized by accurate, fluent reading with good understanding of the text that was read" (Allington, 2006, p. 98).

Effective teachers:

- Model literacy and self-efficacy in the classroom (McTigue et al., 2009);
- Observe all students carefully to know which struggle with engaging in academic activities (Kelley & Clausen-Grace, 2009);
- Employ a predictable classroom structure that includes built-in written and oral responses to help students remain engaged in learning (Kelly & Clausen-Grace, 2009);
- Provide students with desirable reading materials for independent reading, and encourage students to set goals with specificity, proximity, and difficulty in mind (McTigue et al., 2009); and
- Provide specific and accurate feedback that emphasizes student effort (McTigue et al., 2009).

In addition to many experiences with reading, students should have opportunities to write as an integral part of literacy instruction. Given the importance of writing as a means of helping students become critical and creative thinkers, the following sample activities are suggested.

- Provide opportunities for students to reflect in writing before discussing. Lemov (2010) described the technique of "Everybody Writes" in which all students respond to a question by reflecting in writing; they then use those reflections as the class participates in a discussion.
- Metacognitive logs and double entry journals are used to support students in taking notes (what they see or read) and making notes (interpreting what they have seen or read).
- Quick writes are used to increase writing fluency and activate thinking.
- Graphic organizers are a visual display that demonstrate relationships between facts, concepts, or ideas. A graphic organizer guides the learner's thinking as they fill in and build upon a visual map or diagram.
- Structured note taking helps students take notes more effectively and assists them in recalling and retaining information that is essential.
- Marking text is an active reading strategy that asks students to identify information in the text that is relevant to the reading purpose.
- Readers' strategies list
- RAFT Writing Strategy
- Response journals provide learners with an opportunity to record their personal thoughts, emotions, ideas, questions, reflections, connections, and new learning on what they hear, view, read, write, discuss, and think. See this article for more information.
- Summarizing teaches students how to discern the most important ideas in a text, how to

ignore relevant information, and how to integrate the central ideas in a meaningful way.
- Digital storytelling is the practice of combining narrative with digital content, including images, sound, and video, to create a short movie.
- Online writing, such as blogs and class websites, are regularly updated websites or web pages, typically run by an individual or small group, that are written in an informal or conversational style.

Grades 6-12

Research on adolescent literacy suggests that readers must be actively involved in reading (Hayes-Jacobs, 2006; Schoenbach, Greenleaf, & Murphy, 2012). Without engagement and active participation, students will learn and retain little. According to Schoenbach, Greenleaf, and Murphy (2012, p. 19):

> "Reading is not a straightforward process of lifting the words off the page. It is a complex process of problem solving in which the reader works to make sense of a text not just from the words and sentences on the page but from the ideas, memories, and knowledge evoked by those words and sentences."

Reading in secondary classrooms should be interactive, engaging students on both a social and personal dimension, whether discussions occur in the classroom or in online web-based discussions. Motivated readers set reading purposes and goals, take stances as readers, acknowledge their personal connections, and respond to texts and situations (Schoenbach et al., 2012). Understanding that reading occurs on a continuum and that some readers may be good at one type of reading, and not as good at another type of reading, enables students to see themselves as "readers" and to tolerate their frustration by recognizing and building upon their reading strengths (Shoenbach et al., 2012). In classrooms that support academic literacy, student engagement, and the 4 Cs:

- Teachers model reading and thinking strategies with text (think-alouds, talking to the text, good reader strategies list).
- Teachers provide students with opportunities to work through difficult text using a variety of strategies.
- Classroom routines revolve around collaborative problem solving and dialogue about texts in a socially safe and supported environment.
- Students of all levels have opportunities for success.

Many of the ideas mentioned above in the Grades K-5 section (p. 98) about embedding writing into instruction are also appropriate at the secondary level. Moreover, at the secondary level, students must have experiences in all the disciplines to experience the 4Cs of communication, collaboration, creative, and critical thinking. Specific ideas for each of the academic disciplines are provided in Essential Element 6.

Essential Element 4 References

Essential Element 5: Differentiated Instruction

Differentiated instruction is key to enhancing students' ability to learn. Teachers must have the literacy knowledge and knowledge of students that enable them to plan instruction that accounts for the differences in students' needs, interests, cultures, and experiential backgrounds.

Rationale

Contemporary literacy classrooms are filled with students who have increasingly diverse languages, learning styles, cultural backgrounds, and various experiences. These differences create an increased demand for more differentiated opportunities for literacy development. Faced with the challenge of meeting the needs of all students, educators have a responsibility to recognize and understand the varying differences among students in their classrooms. They also need to employ a variety of "differentiated" instructional practices that maximize the literacy potential of each student. Such differentiated instruction provides all students with greater access to content in both the language arts and the other disciplines. According to Hall, Strangman, and Meyer (2003, p.3):

> "To differentiate instruction is to recognize students' varying background knowledge, readiness, language, preferences in learning and interests; and to react responsively. Differentiated instruction is a process to teaching and learning for students of differing abilities in the same class. The intent of differentiating instruction is to maximize each student's growth and individual success by meeting each student where he or she is and assisting in the learning process."

Proponents of differentiation purport that its principles and guidelines are grounded in years of educational research and have roots in theories of learning, such as Vygotsky's (1978) Zone of Proximal Development. In addition to its alignment as an applied practice with learning theory, multiple intelligences, and current neuroscience research, the rationale for differentiation rests upon its ability to address learner variance (Lawrence-Brown, 2004; Tomlinson, 2003; Tomlinson & Kalbfleisch, 1998; Tuttle, 2000). Furthermore, other practices central to differentiation have been validated, including effective management procedures, instructional grouping, and student engagement (Ellis & Worthington, 1994; Ankrum, 2016).

Differentiated instruction is an awareness of and active response to students' various needs. Teachers can address the various needs of the learners in their classrooms by using different materials or approaches, grouping flexibly, and varying assessments. Differentiation does not mean that teachers develop separate lessons for each student, nor does it mean that they expect less from some students. Teachers can immerse students more deeply in a topic or concept, depending upon their current proficiency.

Differentiation is an active response to the various needs of the students in the classroom. Differentiation often requires systemic curriculum adaptations which transcend individual classrooms and require alignment of these practices across classrooms. Mesmer, Jones, Catherwood, and Lester (2012) identified four principles of differentiated instruction: knowledge of literacy development of students, effective literacy assessment, small group instruction, and organizing the classroom in ways that maximizes the potential for differentiation. Instruction

must be aligned to a coherent set of learning outcomes, indicating what students should know and be able to do. Also, quality assessments that accurately describe student needs, learning differences, and language diversity must be used to inform instructional decisions. (See below for a discussion of various dimensions that can be taken into consideration when planning for differentiated reading instruction).

Dimensions of Reading Instruction

Content: With respect to differentiating *content* (the knowledge and skills taught relative to phonological awareness, phonics, fluency, vocabulary, and comprehension), some students may be working on retelling, other students may be summarizing important information from a text. Teachers can differentiate content and instructional focus using teacher led groups.

Instructional Delivery: *Instructional delivery* may be differentiated relative to explicitness through modeling, systematic instruction with appropriate scaffolding and pacing, and provision of immediate corrective feedback to students with sufficient opportunities to respond.

Time: *Time* may also be differentiated relative to how much is spent on the other dimensions. For example, how much time is spent on vocabulary? How much time is spent in small group instruction versus whole group instruction across a week? Do students have opportunities to interact and work independently?

Grouping: *Grouping* may be differentiated relative to number of grouping formats utilized in the classroom including whole group, homogeneous small group, partners, heterogeneous, mixed ability small group, independent and one to one.

Materials: *Selecting materials* for specific students and purposes is often a challenge. Materials should be evidence-based and adjusted to meet the needs of students.

Learning Environment: The dimensions of reading instruction are differentiated within a positive and safe *learning environment* that has clearly defined and consistently enforced rules and expectations.

Key Variables to Consider

The following variables, adapted from Rock, Gregg, Ellis, and Gable (2008), suggest ways that differentiation can be operationalized in the classroom:

Teacher Variables

- Teachers are aware of misconceptions about differentiating instruction;
- Teachers have adequate knowledge, resources, and support toward change;
- There are reasonable plans for implementing, monitoring, and evaluating change;
- Teachers are aware of their own preferences and biases; and
- School and classroom cultures value diversity and are positive and respectful.

Content Variables

- Standards for each content area are clear, available, and organized;
- An adjusted pacing guide is created; and
- Student surveys are used to inform decisions about differing levels of task completion

within a lesson or unit.

Learner Variables

- Readiness, interests, preferences, strengths, and learning needs are considered;
- Group dynamics are evaluated (e.g., competitive vs. cooperative);
- Needs for enrichment, supplementation and/or remediation are identified; and
- Individualized Education Plans (IEP's) are considered.

Instructional Variables

- Varied models of instruction are used (e.g., direct, strategic, constructivist, etc.);
- Multiple learning experiences, activities, and assignments are used to support lessons and units;
- A safe, positive, and inviting learning climate is established;
- Instructional formats are varied (whole class, small group, one-to-one tutoring);
- Flexible grouping is used (e.g., heterogeneous, homogeneous, cross-age, between-class, within-class);
- Sound lesson structure is evident (beginning, middle, end);
- Visual supports are provided (e.g., graphic organizers, multimedia presentations, video, models, real objects, photographs, diagrams, handouts, posters, whiteboards, outlines, pictures. etc.) are used in instruction;
- Instructional pace is varied (brisk vs. slow);
- High rate of opportunities for correct student responding (opportunities to respond) is evident;
- Frequent, immediate, and instructive feedback is provided;
- Accommodations and modifications are offered based on student need;
- Assistive technology is used and encouraged;
- Text materials of varying difficulty are offered; and
- Manipulative materials are readily available.

Assessment Variables

- A continuum of assessment measures is utilized;
- Multi-method assessments are administered to the group or class to determine the students' mastery of subject-specific content and individual strengths and needs;
- Teacher assessments (self, peer) are used to guide reflection and improve classroom practice; and
- Student assessments (peer, self) are used to offer support and feedback to all learners.

Implications

The following section includes a description of Personalized Learning, Universal Design for Learning (UDL), and Multi-Tiered System of Support (MTSS) in PA. Personalized Learning, UDL, and MTSS are systemic approaches to differentiated learning based upon individual

needs and learner variability. These frameworks are important to all grade levels and should relate to the goals and foci identified for specific grade ranges (See Essential Element 1). Each of these discussions provide information about how differentiation can be implemented in schools. For Essential Element 5, the implications identified as "general" address all age groups; thus, there are no specific recommendations for the specific grade levels.

Personalized Learning: Beyond Differentiation

One of the differences between differentiated and personalized learning is that in classrooms where there is an emphasis on personalized instruction, students have more control or voice in selecting their learning pathways. Like differentiated instruction, personalized learning addresses the needs of students, but in addition, it relies to a great deal on students' personal interests and their curiosity (Basye, 2016). In personalized learning, the student is involved in the creation of learning activities with the intent of increasing student engagement and helping them learn how to learn. Teachers implementing personalized learning in their classrooms are facilitators rather than lecturers. Personalized learning then is a student-centered construct, in which the teacher facilitates instructional practices that allow for students to develop voice, to co-create, be involved in social construction, and self-discovery (Zmuda and Kallick, 2017). Because personalized learning requires that teachers take into consideration students' interests, preferences, needs, and pace, adaptive technology can be an important resource for implementation (Basye, 2016). At the same time, personalized instruction represents more than "a narrow strategy of computer-based instruction with limited opportunities for human interaction and personal ownership of the learning process" (Coiro, 2016, p.7). Grant and Basye (2014) described four concepts of personalized learning:

- **Learning is Personal:** Personalized learning recognizes that students engage in different ways and in different places. Students benefit from individually paced, targeted learning tasks that formatively assess existing skills and knowledge and that address the student's needs and interests.
- **Learning is Competency-Based:** Students move ahead when they have demonstrated mastery of content, not when they've reached a certain birthday or undergone the required hours in a classroom.
- **Learning Happens Anytime, Anywhere:** Learning takes place beyond the traditional school day and even the school year. The school's walls are permeable—learning is not restricted to the classroom.
- **Students Take Ownership Over Their Learning:** Student-centered learning engages students in their own success and incorporates their interests and skills into the learning process. Students support one another's progress and celebrate success.

Coiro (2016) identified four sets of instructional practices important for implementing personalized learning in classrooms. These principles can be taken into consideration by teachers involved in personalized learning as a means of differentiation.

1. Building a culture of personal inquiry in which students have opportunities to select topics in which they are interested. Provide students with multiple texts, tools, and people (both online and offline) as a means of engaging them in their own learning.

2. Provide students with opportunities to talk. Collaborative discussions can lead to multiple pathways for developing knowledge and for sharing that knowledge. Engage students in both face-to-face and online conversations with opportunities for them to develop presentation skills, and to become involved in argumentation and negotiation.
3. Encourage digital creation. Provide many opportunities for students to create original products and to make connections to different aspects of their lives (school, home, and community).
4. "Make space for students to participate and matter" (Coiro, p. 7). Students should be actively involved in experiences that develop academic achievement, reflection, and civic engagement. This kind of participation helps them assert their autonomy and ownership of learning.

The following books provide specific information about how educators might involve their students in personalized learning.

Bray, B.A. & McClaskey, K.A. (2017). *How to Personalize Learning: A practical guide for getting started and going deeper.* California: Corwin Press.
The authors discuss how to build classrooms that support personalized learning using the Universal Design for Learning (UDL) framework. Also included are: tools and templates to get started and go deeper, lesson and project examples that show how teachers can change instructional practice, and links to electronic versions of tools, templates, activities, and checklists.

Kallick, B. & Zmuda, A. (2017). *Students at the center: Personalized learning with habits of mind.* Alexandria, VA: Association of Supervision and Curriculum Development.
The authors map out a transformative model of personalization that puts students at the center and asks them to employ the set of dispositions for engagement and learning known as the Habits of Mind. They share the perspectives of educators engaged in this work and highlight the habits that empower students to pursue aspirations, investigate problems, design solutions, chase curiosities, and create performances. They also provide tools and recommendations for adjusting classroom practices to facilitate learning that is self-directed, dynamic, sometimes messy, and always meaningful.

McGarvey, B. & Schwahn, C. (2012) Inevitable: Mass Customized Learning. Createspace Independent Publishing Platform
Inevitable: Mass Customizing Learning (MCL) describes a detailed vision of how schools can change from the present outdated Industrial Age, assembly line structure to a mass customized learning structure with the capacity to meet the individual learning needs of every learner.

For more information on personalized learning, see the following links. Several of these links include specific ideas about ways that school districts, including several in Pennsylvania, have involved students in personalized learning.

- 10 Quick Ideas for Getting Started with Personalized Learning

- The Whole Child Blog: The Power of Personalized Learning
- Alliance for Excellent Education
- ESSA Fact Sheet: Personalized Learning
- Personalizing the Learning Experience: The Changing Role of the Learner
- Personalized Learning: The Latest Buzz in Classroom Instruction
- SAS
- The Apollo School: What 21st Century Learning Looks Like

In the 21st century classroom, with its many technological tools, teachers can deliver effective differentiated and personalized instruction. They can use approaches to meet the needs of students, and at the same time, provide opportunities for student choice and control of their own learning.

Universal Design for Learning (UDL)
Universal Design for Learning (UDL) is an educational framework for applying universal design principles to learning environments with a goal toward greater accessibility for all students, including students with disabilities. The purpose of UDL is to adapt curricula to accommodate learner variations in expression, recognition, and engagement (www.udlcenter.org).

UDL is an approach for designing curriculum and instruction that ensures all students can be successful. Adapted from the concept of *Universal Design* found in architecture, universally designed environments have features that minimize or remove barriers and allow access for all possible users (NCUDL, 2011). Similarly, UDL "builds flexible features into curriculum thereby removing barriers and inviting engagement for the widest range of students, while maintaining high standards" (NCUDL, 2011, p.1).

The term "*universal design for learning"* is a scientifically valid framework for guiding educational practice that:

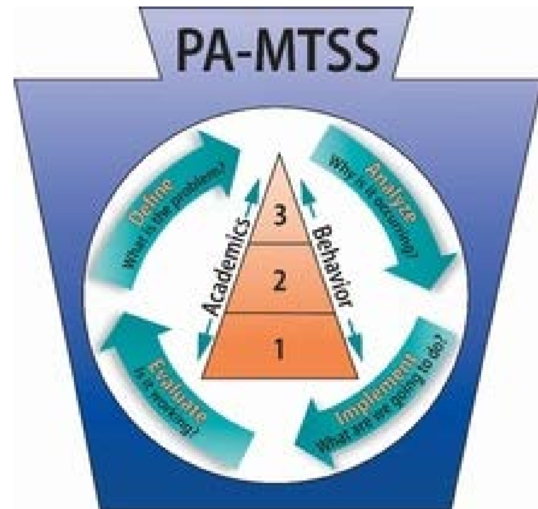
- Provides flexibility in the presentation of information, in student response options to demonstrate knowledge and skills, and in student engagement.
- Reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students, including students with disabilities and students who are limited English proficient (CAST, 2011).

In addition, there are three primary principles that organize the guidelines for UDL implementation:

- Provision of multiple means of representation or the "what" of learning, since there is not one means of representation that is optimal for all learners.
- Provision of multiple means of action and expression or the "how" of learning, since there is not one means of action and expression that will be optimal for all learners.
- Provision of multiple means of engagement or the "why" of learning, since there is not one means of engagement that will be optimal for all learners in all contexts (CAST, 2011).

To facilitate the development of expert learners, who are distinguished by their resourcefulness, knowledge, goal-directed behavior and motivation, primary UDL curricular components that include goals, methods, materials and assessments are utilized. For more information on UDL guidelines, see:

- Center for Applied Special Technology (CAST)
- National Center on Universal Design for Learning
- PA Standards Aligned System: Universal Design for Learning



Multi-Tiered Systems of Support (MTSS-RtI) Response to Instruction and Intervention (RtI)

Effective reading instruction and the implementation of evidence-based practices lie at the very heart of Multi-Tiered System of Supports (MTSS). Pennsylvania's MTSS is defined as a comprehensive system of supports that in the commonwealth includes standards-aligned, culturally responsive, and high-quality core instruction, universal screening, data-based decision making, tiered services and supports, family engagement, central or building level leadership, RtI/SLD determination and professional learning. Simply put, PA-MTSS represents a broad set of evidence-based practices that may be implemented across a system to include Academics and Behavior within a recursive and systematic problem-solving process. PA-MTSS is relatively synonymous with RtI and is intended to help all students meet with continuous academic and behavioral success.

RtI in MTSS includes the practice of providing high-quality instruction and intervention matched to student need, monitoring progress frequently to make decisions about changes in instruction or goals, and applying student response data to important educational decisions. When this process is adopted, systematic and systemic decision making is applied in general, remedial, and special education, creating a well-integrated system of instruction and intervention that is guided by student outcome data (Batsche et al., 2005). For the past several years, Pennsylvania Training and Technical Assistance Network (PaTTAN) has provided coordinated

training and technical assistance in an effort to support the adoption and sound implementation of the Response to Instruction and Intervention (RtI) framework. PA leaders recognize that standards-aligned core instruction lies at the heart of RtI and is fundamental to technically adequate implementation and sustainable practices.

Educators need to establish connections between both UDL and MTSS. Both are systems which focus on a solid core of practices, including supplemental interventions and strategies that build upon this core. Furthermore, when the components of quality literacy instruction are efficiently and effectively organized and delivered within a comprehensive service delivery framework, progression toward systems alignment and better outcomes is possible.

The intent of multi-tiered systems of support is to use student performance data to allocate instructional resources to improve learning for all students using the most effective, efficient, and equitable means possible. The sound integration and scaling of MTSS framework components over time holds significant promise for transforming current systems and ultimately sustaining the following outcomes:

- Shared leadership for student learning facilitated by strong principal leadership and ongoing, job-embedded professional learning.
- Rapid cycles of improvement relative to teaching and learning.
- Data-informed decision-making that leads to knowledgeable curricular, assessment, and instructional improvements.
- Implementation of research-based instruction using a continuum of reliable and valid data sources.
- Improved and sustainable student learning outcomes.

The following checklist, adapted from Gersten, et al. (*Assisting Students Struggling with Reading: Response to Intervention (RtI) and Multi-Tier Intervention in the Primary Grades*, 2008), may be helpful to school leaders addressing differentiation of literacy instruction. RtI is a component of MTSS that stresses literacy content. For a review of the complete checklist, please visit www.readingrockets.org.

1. All students are screened for potential reading problems at the beginning of the year and again in the middle of the year, and the progress of students who are at elevated risk for developing reading disabilities is regularly monitored.
2. Differentiated reading instruction is provided for all students based on assessments of students' current reading levels (Tier 1).
3. Intensive, systematic instruction is provided for up to three foundational reading skills in small groups to students who score below the benchmark score on universal screening. Typically, these groups meet between three and five times a week for 20 to 40 minutes (Tier 2).
4. The progress of students receiving Tier 2 support is monitored at least once a month. These data are used to determine whether students still require intervention. For those students still making insufficient progress, school wide teams should design a Tier 3 intervention plan.

5. Intensive instruction (Tier 3), provided daily, promotes the development of the various components of reading proficiency to students who show minimal progress after reasonable time in Tier 2 small group instruction.

MTSS and UDL are both systematic and systemic roadmaps for organizing differentiated practices so that student needs are met as efficiently and effectively as possible through:

- Alignment of instructional foci to Pennsylvania Core Standards within and across tiered supports;
- Analysis and synthesis of data across multiple sources;
- Creation of flexible instructional groups;
- Evaluation of effectiveness of classroom instruction;
- Refinement of instructional practices matched to student need;
- Identification and monitoring of individual students in need of intensive differentiated instruction and intervention; and
- Establishment of structures that support ongoing, differentiated professional learning relative to student needs and systems level outcomes.

For more information on MTSS, see:

- Center on Instruction
- National Center on Response to Intervention
- Pennsylvania Training and Technical Assistance Network
- RtI Action Network
- Intervention Resources at PDE SAS

Essential Element 5 References

Essential Element 6: Disciplinary Literacy

Learning information in the academic disciplines is enhanced when teachers provide students with supported experiences and opportunities to read, write, talk, and think deeply in service of content learning. This allows students to experience deep disciplinary literacy as a means of learning content.

Rationale

According to the 2015 National Assessment of Educational Progress (NAEP) results, while science scores for students in fourth and eighth grades have increased, twelfth grade science scores have stagnated (National Center for Education Statistics, 2015). Moreover, twelfth grade literacy scores have not changed much since the early 1970s (National Center for Education Statistics, 2013). Yet, demands for higher literacy levels for jobs, civic engagement, science and health, and for academic success have increased (Shanahan & Shanahan, 2008; Ippolito, Lawrence, & Zaller, 2013). The NAEP data suggest that students may have developed general literacy skills, "but not the specialized strategies, vocabulary and knowledge base required for understanding complex discipline specific texts" (Lee & Spratley, 2010, p. 2).

Although some general comprehension strategies (e.g., summarizing, predicting, and visualizing) and heuristics (such as study guides), for understanding texts are useful across disciplines (Heller & Greenleaf, 2007; Chauvin & Theodore, 2015), every academic discipline tends to use literacy differently to construct knowledge and to communicate that knowledge (Shanahan & Shanahan, 2014). What counts as evidence for reasoning, and what is important to specify, differs from discipline to discipline. The student who can read a physics text with understanding may not be able to comprehend and interpret the themes in Macbeth. "The differences among the texts of different disciplines result in unique challenges for readers" (Shanahan & Shanahan, 2008, p. 53).

The PA Core Standards acknowledge the importance of *disciplinary literacy*, that is, the discrete ways reading and writing are used in specific disciplines (Chauvin & Theodore, 2015) by including literacy standards for English Language Arts and Literacy in History, Science, and Technical Subjects. The standards also acknowledge that content area teachers can most effectively help students develop disciplinary literacy because they best know and understand the importance and use of literacy within their disciplines. According to Fang and Coatoam (2013, p. 628), disciplinary literacy:

> "Is grounded in the beliefs that (a) school subjects are disciplinary discourses recontextualized for educational purposes, (b) disciplines differ not just in content, but also in the ways this content is produced, communicated, evaluated, and renovated, (c) disciplinary practices such as reading and writing are best learned and taught within each discipline, and (d) being literate in a discipline means having an understanding of both disciplinary content and disciplinary habits of mind (i.e., ways of reading, writing, viewing, speaking, thinking, reasoning, and critiquing)."

Disciplinary literacy goes far beyond using a "set of strategies or tools brought into the disciplines to improve reading and writing of subject-matter texts" (Moje, 2008, p. 99); it is using

literacy in the service of understanding the discipline itself. “To develop complex knowledge in any discipline, students need opportunities to read, reason, investigate, speak, and write about the overarching concepts within that discipline” (McConachie, et al., 2006, p.1). Disciplinary literacy, using literacy as it is used in the discipline, is necessary if students are going to be proficient in both the content and the means of communicating it.

Implications

Content area literacy is different from disciplinary literacy. “Content area reading *prescribes* study techniques and reading approaches that can help someone to comprehend or to remember text better (with little regard to type of text), whereas, disciplinary literacy emphasizes the description of unique uses and implications of literacy use within the various disciplines” (Shanahan & Shanahan, 2012, p. 8). At the same time, specific content-area literacy strategies such as “summarizing, predicting, and visualizing” can enhance student learning (Chauvin & Theodore, 2015). Thus, content area literacy strategies can assist students with making meaning from text and should certainly be used. However, disciplinary literacy instruction deepens student thinking and learning within each discipline. This movement toward disciplinary literacy is an important one that results in many significant implications for instruction.

Chauvin and Theodore (2015, p. 4) suggested that teachers beginning to use literacy strategies within their content area, take into consideration the following three principles: “(1) the content objective guides the lesson, (2) the text selection reflects the content, and (3) the literacy strategy is selected as a tool to help students access the discipline-specific text more effectively and efficiently.” They also suggested that the approach to content instruction should emphasize the skills for 21st century literacy: critical thinking, communication, collaboration, and creativity (See Essential Element 4). In other words, the emphasis in content area learning should not only be on understanding content, but also on teaching “students how to think and how to learn” (Chauvin & Theodore, 2015, p. 3).

Because of the emphasis on disciplinary learning in the middle and high school, this section begins with implications for teaching at the secondary level and follows with implications for elementary and preschool.

Grades 6-12

Each of the core disciplines is discussed below with guidance focused on both reading and writing.

Disciplinary Literacy in English Language Arts (ELA)

While the authors of the Common Core State Standards (CCSS) defined students’ literacy development as a responsibility that cuts across all content areas and technical subjects, they also cited “the unique, time-honored place of ELA teachers in developing students’ literacy skills” (Common Core State Standards [CCSS], 2010 p. 4). Similarly, within the discipline of ELA, literature (stories, drama, and poetry), has held a time-honored place. With the increasing emphasis on career and college readiness as students move through the grades, the CCSS support NAEP in requesting that all teachers, including ELA teachers, incorporate more informational texts into their instruction. For ELA teachers, this request means giving more attention to literary nonfiction (e.g., essays, speeches, biographies, and autobiographies, among

others) than has generally been the case to help students meet the changing literacy demands of an information-rich world. In addition to becoming more skilled at handling this sub-genre of informational text (i.e., literary nonfiction), students are expected to work with texts of increasing complexity and with multiple texts simultaneously. In the PA Core Standards for English Language Arts for Grades 6-12, students are expected to "integrate information presented in different media or formats as well as in words, to develop a coherent understanding of a topic or issue" (Standard CC.1.2.6.G, p. 6).

Writing in English Language Arts

According to Applebee and Langer (2013), typical writing instruction in the ELA classroom focuses on preparing students for high-stakes testing. Yet, to prepare students to be future ready, students in ELA should engage in writing for a variety of audiences and purposes through a range of writing products. In the PA Core Standards for English Language Arts, students are expected to write across a variety of text types including opinion or argumentative, informative or explanatory, and narrative. Academic writing products in English language arts may include literary analysis, rhetorical analysis, research paper, argument, definition essay, evaluation, causal paper, narrative, proposal, and annotated bibliography (Olson, 2014). In addition, the PA Core Standards state that students should be able to "use technology, including the internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information, and to display information flexibly and dynamically" (CC.1.4.9-10.U, p. 25). There are several characteristics of effective writing instruction that enable students and teachers to meet the demands of the more rigorous standards (Applebee & Langer, 2013). These characteristics include:

- Curricular cohesion;
- An emphasis on authentic discussion practices promoting student inquiry;
- Opportunities for students to collaborate around complex tasks;
- Explicit instruction in writing strategies; and
- A process writing approach that recognizes that writing is recursive and rhetorical.

As teachers who traditionally distinguish themselves by the amount of explicit attention they give to reading and writing, ELA teachers are in a unique position to take up the disciplinary literacy charge outlined for them by the PA Core Standards. Specifically, ELA teachers will need to give increasing attention to supporting students in learning how to:

- Grapple with complex texts including essays, speeches, and biographies, among others, and tasks related to those texts in ways authentic to the discipline.
    - Literacy Design Collaborative Module
- Understand, analyze, and use literary nonfiction and other informational texts (including non-print) that reflect the ways knowledge is mediated in contemporary culture.
- Make significant links between the disciplinary ways of reading, writing, and thinking in the classroom and their literacy practices in their out-of-school time.
- Move from literal comprehension to higher-order thinking skills such as analysis and interpretation of single texts of multiple genres, and to synthesize meaning across several texts to complete reading and writing tasks as part of their normal instruction.

- Literacy Design Collaborative Module: American Dream: Reality, Promise or Illusion?

Again, ELA teachers are in a unique position because their main professional organization, National Council for Teachers of English (NCTE) has outlined standards related to these skills, as well as ways to address them in a variety of other documents, such as:

- http://www.ncte.org/positions/21stcenturyliteracy
- http://www.ncte.org/positions/literacy
- http://www.ncte.org/positions/standards

Disciplinary Literacy in Math

Mathematicians read and write to participate in problem solving. The difference is that the type of text read, and the form of writing, is unique. Reading and writing in mathematics often occurs simultaneously and requires one to move fluidly between different representations of the work, such as:

- Diagrams
- Language
- Symbols
- Real world context
- Concrete models

Mathematical text is complex. It contains more concepts per sentence and paragraph than other types of text. It uses symbols and numbers and may not travel in typical left-to-right fashion. It often has accompanying graphics (graphs or diagrams), which must be understood to make meaning complete. Vocabulary words used often have unique meanings in mathematics. Readers of mathematics approach mathematics text as a puzzle to be solved, investigate for patterns and relationships, and scrutinize how math is reported in real-word applications (Lent, 2016). In addition, mathematics readers have to pay attention to small words such as *the, and, is,* or *any*, which can often be skipped over while reading other types of text (Kenney, Hancewicz, & Heuer, 2005).

According to Shanahan, Shanahan, and Misischia (2011), readers of mathematics typically:

- Engage in intensive rereading of text to determine correctness and whether an error is present.
- Focus on the texts and representations themselves, not the author of the text.
- Examine mathematical text and consider whether the content can be reconciled with previous knowledge or an example.
- Use text structure to identify problems and solutions.
- Value mathematical equations and prose equally.

In addition to reading in mathematics, the PA Core Standards for Mathematical Practice encourage vibrant, interactive classroom environments where students are engaged in

discussions about mathematics that not only help students to construct content knowledge, but also support student learning (Wagganer, 2015). Specifically, PA Core Standards for Mathematical Practice (2014, p.2) ask students to, “make sense of problems and persevere in solving them.” Classroom communities that encourage collaborative sense-making are also those that encourage students to engage in mathematical talk. In these classrooms with active math talk communities, students have frequent opportunities to articulate their own mathematical reasoning and hear and learn from their classmates’ reasoning.

According to Wagganer (2015), teachers can build math talk classroom communities by discussing why mathematical discussions are critical to the learning process, teaching active listening and responding with supportive feedback, providing math talk sentence stems, and supporting students to be able to both explain and justify their reasoning. Rawding and Wills (2012) offered math talk stems such as “I agree with ___ because…,” “I have a different perspective than ___ because…,” or “I chose this method because…”

Writing in Mathematics

Although writing in mathematics is complex, providing students with opportunities to write can improve their understanding of mathematical concepts (Applebee & Langer, 2013). Writing in mathematics can take various forms including: journal entries where students document what they are learning and doing in mathematics, explanations on how to solve a problem, and essays on how to prove something mathematically (Urquhart, 2009). In the PA Core Standards for Mathematical Practice, students must also be able to “construct viable arguments and critique the reasoning of others.”

Writing:

- Involves producing the same forms of text: mathematical language, symbols and numbers, and graphics;
- Is not just about what was done to solve the problem, but why it was done using sound mathematical reasoning; and
- Must communicate with precision.

Effective practices for the teaching of writing in mathematics include (Applebee & Langer, 2013):

- Asking students to provide written justification for when a mathematical statement is true, or a conclusion is accurate;
- Encouraging regular written communication of mathematical ideas through various representations including graphs, diagrams, and written prose;
- Including various types of authentic, real-world writing tasks where students can demonstrate their understanding of mathematical principles; and
- Providing students with mentor text and rubrics that clarify writing expectations in mathematics.

These unique qualities of reading and writing in mathematics are reflected in the PA Core Standards for Mathematical Practice.

Other useful resources include:

- Disciplinary Literacy in Mathematics (2017)
- Promoting Mathematical Argumentation (2016)
- Integrating Writing in Mathematics (2011)
- Construct Viable Arguments in Mathematics (2017)
- Mathematics Assessment Project
- Math Design Collaborative

Disciplinary Literacy in Science

Science literacy instruction in the various disciplines of science (e.g., biological sciences, environmental sciences, physical sciences, etc.) should engage students in making sense of scientific texts as a form of scientific inquiry. "When science literacy is conceptualized as a form of inquiry, reading and writing activities can be used to advance scientific inquiry, rather than substitute for it" (Pearson, Moje, & Greenleaf, 2010, p. 459). Initial learning experiences in the sciences should include hands-on investigations, experiments, and field experiences, so students can then engage in reading, writing, speaking and listening in order to make sense of and document their inquiry process and findings. In fact, the skills that help make sense of scientific phenomena are consistent, if not identical, to those needed to formulate meaning during reading. A shared skill set includes:

- Predicting and hypothesizing;
- Sequencing events;
- Observing and noting details;
- Questioning;
- Visualizing;
- Making sense of data;
- Compare and contrast;
- Linking cause and effect;
- Making inferences;
- Drawing conclusions;
- Constructing arguments based on evidence;
- Determining meaning of vocabulary; and
- Communicating ideas.

"Reading in science requires an understanding of academic language, knowledge of the protocols and style of science writing, and the development of critical thinking skills for examining ideas, data, and evidence" (Grant, Fisher, & Lapp, 2015, p. 53). When this instruction is done well, it creates a reciprocal relationship between scientific understanding and literacy. One informs the other, resulting in positive impacts in both science, and reading and writing. Conversely, minimizing or ignoring the need to address literacy within the discipline of science is to create a dependency on the teacher for all background knowledge, which places the learner in a passive role and undermines the ways in which the discipline of science occurs.

Scientific reading:

- Is densely packed with a high proportion of discipline-specific and technical words; and
- Often includes elaborate charts and diagrams which illustrate text concepts.

Readers of science read to:

- Search for answers to relevant questions;
- Clarify their understanding of a scientific principle or phenomenon;
- Verify or augment their understanding of a scientific phenomenon;
- Understand how a scientific phenomenon is important in a theoretical or practical sense; and
- Validate descriptions of experiments and interpretations of results.

Readers of science attend to:

- Precise definitions of technical terms which denote both concepts and processes;
- Images, charts, and graphs to illustrate the text;
- Descriptions of experiments and results;
- Explanations of scientific phenomenon;
- Surprising results that which reveal misconceptions; and
- Source validity.

Writing in Science

Traditionally, writing in science has been limited to copying notes and writing lab reports; however, writing is used as a tool to communicate scientific thinking and research within a scientific community (Lent, 2016). “A writer of science must be able to ask questions, seek answers, and make connections to other knowledge” (Grant, Fisher, & Lapp, 2015, p. 109). A Pennsylvania scientist working for Eurofins recently stated, “if you didn’t write it, it never happened” (M. Rodak, personal communication, November 16, 2016). According to Grant, Fisher & Lapp, 2015, p. 109),

> “To help students comprehend the nature of science in a way that allows them to be able to write about the content, teachers need to present problem-based activities that allow collaboration, discussion, and the generation of ideas. Such activities will provide students with material from which they may compose science-based writings.”

According to Olson (2014), academic writing products in the laboratory sciences include lab reports, poster presentations, research papers, arguments, research proposals, journal articles, or literature reviews. In engineering, academic writing products include research reports, lab reports, progress reports, article critiques, memos, technical descriptions, annotated bibliographies, and proposals (Olson, 2014). Teachers who use writing as a tool for thinking also incorporate interactive scientific journals where students can document observations, collect data, chart processes, or draw illustrations (Lent, 2016).

Scientific writing has the following characteristics (Lent, 2016):

- Technical and precise vocabulary;
- Accuracy and brevity versus elaboration or craft;
- Passive voice; and
- Language in conjunction with numeric data, illustrations, or charts.

References for teachers include:

- How Students Learn: Science in the Classroom (2005)
- Taking Science to School: Learning and Teaching Science in Grades K-8 (2007)
- Clarifying Literacy in Science (2017)
- Literacy for Science: Exploring the Intersection of the Next Generation Science Standards and Common Core for ELA Standards (2014)
- Talk Science Primer (2012)
- Vocabulary: The Language of Science (2017)
- Literacy Design Collaborative Lessons for Science (2017)

Disciplinary Literacy in Social Studies

While all academic disciplines depend heavily on the development of strong literacy skills, the social studies (comprising the content areas of civics and government, economics, geography, and history) require continuous skill development in reading and writing connected text and visual images (such as political cartoons, photographs, and maps).

Literacy in social studies includes the ability to:

- Learn to access information effectively and efficiently;
- Interpret primary and secondary sources;
- Evaluate the credibility of sources;
- Establish a context in time, culture, place, etc. (chronological thinking, folklore, societal norms);
- Focus on cause and effect (the idea, purpose, motivation, intent, and delivery);
- Understand advanced geographic information systems;
- Access and understand U.S. Supreme Court decisions; and
- Critique different market economies.

The literacy skills required to search, manage, and discern the credibility, reliability, and validity of historical sources are dependent upon careful practice, and guided experience. Historical thinking is at its core a search for accuracy in interpretation of ideas and events from the people who were witnesses or participants. Readers of history approach text as an investigation (curious, inquisitive, and probing) to discover the authenticity, credibility, and validity of the source. Primary and secondary sources are read with application of background knowledge related to time, place, and societal norms for the time. Sources are evaluated and interpreted for the idea, purpose, motivation, intent, and delivery of their construction.

Common disciplinary reading practices used in social studies include the following:

- Sourcing - a consideration of where information comes from, who the authors are, and the type of document;

- Contextualization - a consideration of when a text was written and associated influences; and
- Corroboration - a consideration of agreements and disagreements across multiple texts (Shanahan, Shanahan, & Misischia, 2011; Wineburg, Martin, & Monte-Sano, 2013).

Writing in Social Studies

According to the National Council for the Social Studies (NCSS) (2016, p. 182), "challenging social studies instruction makes use of regular writing and the analysis of various types of documents, such as primary and secondary sources, graphs, charts, and data banks." Products from writing in the Social Studies can become evidence of student understanding of the concepts in the PA Core Standards. They can write about topics and concepts that align to the PA Core Standards for History, Civics and Government, Economics, and Geography. Academic writing in the social studies can include the response paper, historiographical essay, research paper, argument, article critique, timeline, interview, news article, and speech (Olson, 2014; Lent, 2016). Students can create such products to demonstrate continuity and change, contributions of individuals and groups, principles of government, physical characteristics of places and regions, comparisons of economic systems or international relationships.

According to Applebee and Langer (2013), effective practices that contribute to the successful teaching of writing in social studies include:

- Inviting students to develop discipline-based interpretations of issues or events by investigating the original contexts that surrounded an issue or event, as well as those contexts in which it was written about over time;
- Engaging students in writing tasks that require analysis and synthesis of available information, including sourcing, contextualization, and corroboration of primary and secondary sources;
- Requiring a wide variety of writing tasks for various audiences and purposes; and
- Providing students with rubrics that clarify expectations for various types of writing in history and social studies.

Evidence-based writing instruction emphasizes the importance of writing to construct knowledge, as well as to communicate it (Hotchkiss & Hougen, 2012). The PA Core Standards for Writing in History and Social Studies require that students engage in both informational, explanatory, and argumentative writing. Informational and explanatory writing can include reports of past events that highlight actions, ideas, people, and locations. Explanatory writing requires students to analyze and synthesize information about complex historical ideas or events and provides a description of the results using comparison-contrast and cause-effect text structures. Argumentative writing requires students to analyze and synthesize information to construct logical arguments with reason and supporting evidence, such as examining court cases or preparing for a debate and civil discourse.

References for teachers include:

- Teaching for Historical Literacy (2012)
- Library of Congress Teacher Resources

- Library of Congress: Using Primary Sources
- Reading Like a Historian Videos:
    - Corroboration
    - Contextualization
    - Sourcing

- National Council for the Social Studies C3 Literacy Collaborative Series (2017):
    - Reading Informational Text
    - Argument Writing
    - Communicating Conclusions and Taking Informed Action
- Historical Thinking Chart
- Facing History Mini-Tasks: Literacy Design Collaborative Lesson Collection

The following information compares literacy across four disciplines, indicating challenges and providing recommendations to enhance literacy instruction.

Disciplinary Literacy

English Language Arts:

Overview: Disciplinary literacy in ELA engages students in oral and written exchanges of ideas around challenging texts. It is characterized by the type of inquiry, analysis, and interpretation used by experts in fields, including language and literature studies, among others.

Specific Literacy Skills

- Read, write, and talk about texts including both literary and informational works to understand their meaning, craft, and structure.
- Draw inferences and cite textual evidence to support analysis and interpretation.
- Integrate knowledge and ideas within single texts, as well as across texts of increasing complexity.
- Produce original written works of various text types including argumentative, informative or explanatory, narrative, and text dependent analysis.
- Research to build and present knowledge.
- Draw evidence to support analysis, reflection, and research when writing.

Challenges

- Traditional discourse patterns in classrooms are characterized by: closed-ended questions focusing on the recall of information, an atomistic approach to analysis and interpretation of texts, a predominant

focus on canonical literary fiction, and a focus on writing primarily as product.

Recommendations

- Include more informational texts as students move through the grades; apprentice students in interpretive tasks that span ideas across entire texts and multiple texts by single or multiple authors; engage students with challenging texts.

Mathematics:

Overview: Math literacy instruction is embedded in the solving of problems from the concrete to the abstract.

Specific Literacy Skills

- Define and use discipline-specific words
- Make sense of charts, diagrams, and symbols to solve problems
- Contextualize and define mathematical symbols

Challenges

- Reread for correctness and to find errors
- Unlike common language, words in mathematics must be used with precision
- For example, “the” is very different from “a”

Recommendations

- Read to make sense of the solutions of others. Write solutions in multiple representations
- Diminish focus on the “one right answer” and increase focus on communicating solutions precisely, including why the solution is valid

Science:

Overview: Science literacy instruction is a form of scientific inquiry that models the way the larger scientific community builds background knowledge prior to developing new research questions and investigations.

Specific Literacy Skills

- Gain knowledge from challenging texts that often make extensive use of elaborate diagrams and data to convey information and illustrate concepts.
- Describe experiments, talk, and write about results.
- Define and use discipline- specific words.
- Ask questions as they read about what is new.
- Question (orally and in writing) the facts, design of experiments and interpretations of results.

Challenges

- The primary challenge is the density of scientific text.
- Each sentence is packed with a high proportion of technical and specialized vocabulary.
- Science reading is like learning a foreign language for some students.

Recommendations

- Incorporate regular opportunities for reading and writing as an aspect of a scientific inquiry
- Use high leverage practices for teaching vocabulary
- Apprentice students in the skills to make sense of complex diagrams and charts

Social Studies:

Overview: Social studies literacy (history, economics, geography, and civics) includes the ability to analyze oral and written communication in understanding the past through scrutiny of primary and secondary sources. It requires knowledge and analysis of economic laws, human behavior, individual rights, and the common good of society.

Specific Literacy Skills

History

- Analyze, evaluate, and differentiate primary and secondary sources.
- Question authenticity of author or source.
- Look for evidence of bias within text and within self.
- Based on historical evidence, create historical explanations or interpretations.
- Use names, dates, and other facts as anchors to assist in making historical interpretations.

Economics

- Use economic laws and data to analyze economic behavior and make predictions of economic activity.
- Use data to explain vital concepts and trends.

Civics

- Read, research, write, and discuss documents, events, and cases that shape citizenship, government policy, and societal norms.

Geography

- Employ data, research, and readings in analysis of human-environmental interactions.

Challenges

- Traditional textbooks tend to present information as authoritative, whereas historical reasoning requires interpretation and analysis.

- Therefore, it is important for teachers to incorporate materials for all disciplines from outside the realm of traditional textbook publishing companies.
- Teachers should emphasize the development of 21st century learning skills and redesign educational experiences to emphasize literacy as well as strict content.

Recommendations

- Incorporate experiences and "real world" sources that enhance the development of literacy skills and relevancy to the lives of students.
- Use primary and secondary source documents with emphasis on recognizing biases in sources, comparing evidence, situating evidence in context, and accounting for different perspectives, multiple causes, and results.

Grades K-5

Disciplinary literacy is most often thought of as appropriate for secondary students and teachers; however, the foundation for disciplinary literacy is developed from the very beginning. Children develop concepts and vocabulary that are crucial to understanding disciplines in the early years before they begin formal education. Elementary students have rich opportunities to develop disciplinary language and conceptual foundations for more intensive study in the secondary years.

In primary and intermediate grades, children can begin to develop the vocabulary and the conceptual thinking necessary for success in disciplinary literacy. Interactive, informational book read-alouds in the elementary grades can lead to understanding vocabulary and comprehension of concepts associated with science and social studies. Read-alouds with narratives can lay the foundation for understanding literature. According to CCSS (2010), informational texts should have a prominent place in elementary classrooms, accounting for fifty percent of classroom reading. For some children, these texts provide an entry to literacy that narratives do not. For all children, these texts provide background knowledge for a later focus on disciplinary literacy.

There are several ways that elementary teachers can prepare students for disciplinary reading including helping students to read a wide range of text types, providing students with opportunities to integrate information from multiple sources on a single topic, and teaching content-specific vocabulary within text. According to Shanahan and Shanahan (2014, p. 637), in the elementary grades, "we should teach students the way reading in various fields differs rather than only expecting students to apply the same general lens across everything they read." In the primary grades, few differences exist between informational subject-area texts, but as students enter the upper elementary grades, the differences start to become more apparent. Students in the intermediate grades should be exposed to a wide range of text types in the study of each discipline, and teachers can help students begin to distinguish the differences between text types, purposes, and structure within a content area, and from one content area to another (Fang & Coatoam, 2013; Shanahan & Shanahan, 2014).

The PA Core Standards for English Language Arts (K-5) also emphasize the reading of multiple text types by encouraging the integration of knowledge and ideas both within and across different types of text. For example, in the PA Core Standards (grades K-5), students are asked to examine how information in words as well as via illustrations and visuals contributes to the meaning of a single text (CC.1.2.G). By Grade 5, the same standard, CC.1.2.5.G, asks students to, "draw information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or solve a problem efficiently." This future-ready skill of synthesizing information from multiple texts is reinforced in the PA Core Standards for Reading in ELA, History and Social Studies, and Science and Technical Subjects (Grades 6-12). The progression of this standard across grade levels is one illustrative example of the increasing expectations for students in the elementary grades to transition from learning to read to reading to learn in the disciplines.

Students in Grades K-5 should have opportunities to:

- Become familiar with text structures found in both narratives and in informational text;
- Recognize that narratives have a beginning, middle, and end;
- Recognize that most informational books do not have to be read cover-to-cover;
- Learn about settings, characters, problems, events, and resolutions;
- Understand character motivation, a very important element in more complex narratives;
    - pdesas.org
- Experience description, cause and effect, problem and solution, compare and contrast, and generalization and examples in nonfiction texts, as well as expository text structures that will be important in social studies, science, and math;
- Develop academic vocabulary. (This task is particularly important for English Learners and for students who find learning to read and write more difficult);
- Be introduced to morphology because much of the discipline-specific vocabulary in science is built on Latin and Greek roots: seismograph, magnitude, dermatitis;
- Practice using graphs, tables, charts, and illustrations to extend understanding of informational books;
- Learn to use book supports (such as tables of contents, indexes, and glossaries) and internet searching strategies to prepare for the more complex tasks they will face in the disciplines;
    - pdesas.org
- Learn to make sense of information gathered from diverse sources by identifying misconceptions, main and supporting ideas, conflicting information, and point of view or bias; and
    - Literacy Design Collaborative Module 5th Grade Social Studies:
- Practice writing different kinds of informational texts: persuasive texts, reports, recounts, and procedural texts.

Birth – Age 5

Although disciplinary literacy is emphasized at the secondary level, the foundation for understanding the disciplines can be laid in the early preschool years.

- Parents, caregivers, child care centers, and libraries can introduce young children to the concepts and the vocabulary of disciplines through direct experience with items (such as living and nonliving) and through reading “concept” books with children. These books can introduce children to vocabulary and ideas that can later inform disciplinary understanding.
- Concrete experiences with real items (such as examining vegetables or experimenting with things that float) help children to develop vocabulary and beginning disciplinary concepts.
- Interactive read-alouds are an effective way to engage young children with disciplinary ideas and vocabulary. Encouraging children to point out illustrations of various items, such as animals, vehicles, colors, articles of clothing, and parts of the body helps them internalize the vocabulary necessary for these areas and form conceptual categories. Read-alouds also introduce children to informational and narrative “book language.”
    - www.cybils.com
    - www.readingrockets.org
- Asking children to group items according to function, color, sound, etc. can prepare children to organize their knowledge and develop categories, a very important thinking skill for later learning.
- Having children talk about their observations of the world around them helps them to be better observers and encourages them to use vocabulary.
- Read-alouds and discussion of academic vocabulary prepare children to meet the demands of disciplinary literacy as they continue through elementary and secondary school.

Essential Element 6 References

Part IV: Implementing the Plan

Developing a local literacy plan is important, but implementation is critical, and may be more difficult than development, given it often involves transformational change and adaptive challenges (Daft & Lane, 2011). For successful implementation to occur, teachers should be involved in the design of the initiative, provided with adequate professional learning, and receive recognition for their efforts. Further, in any implementation effort, local districts will need to shape the ways in which an initiative unfolds; in other words, context makes a difference. As indicated by McLaughlin (1990, p. 12), "local expertise, capacity, and sophistication in project implementation, as well as local motivation and management style," will affect the ways in which implementation occurs. Implementation is not a short-term effort, often requiring three to five years for full implementation and sustainability. Bean, Dole, Nelson, Belcastro, and Zigmond (2015), in a study of Reading First in two states, found the following factors to be important in sustainability: principal leadership and support, ongoing professional learning experiences and support for teachers, adaptation depending on context, use of data to inform instruction, and stability in students and staff. An essential aspect of implementation and sustainability is ongoing monitoring and evaluating as a means of making appropriate modifications or adaptations (Bean & Ippolito, 2016).

Part IV contains three sections. Section A lists six specific action areas and recommendations to aid LEAs in developing and implementing an effective local literacy plan. The six action areas in Section A correlate to the categories in the PA State Literacy Needs Assessment. Section B provides a summary of each guiding principle, including guidance for the various entities that support literacy education. Section C provides resources for those involved in developing, implementing, or evaluating a local literacy plan.

Implementation Plan References

Section A. PA/PDE Resources: A Call to Action

Section A lists six specific action areas and recommendations to aid districts/charter schools in developing and implementing an effective local literacy plan.

The six action areas in Section A correlate to the categories in the needs assessment.

Action Area #1: Standards and Goals

PDE provides:

- PA Learning Standards from birth to grade 12; and
- Standards Aligned System (SAS) that integrates standards with instruction and assessment available on website.

Recommendations to districts and charter schools:

- Align curriculum to PA Early Learning and PA Core Standards;
- Increase rigor in meeting PA Core Standards with commitment to high expectations for all students; and
- Utilize SAS to provide professional learning and technical assistance to increase knowledge and use of available resources, including curriculum mapping tool, curriculum frameworks, assessment tools, instructional resources, and transition documents.

Action Area #2: Assessment

PDE provides:

- PA System of School Assessment (PSSA), Literature Keystone Exam, and Classroom Diagnostic Tool (CDT);
- PA Value Added Assessment System and eMetric, and Future Ready PA Index;
- Ongoing work to develop appropriate assessments for pre-school children; and
- SAS Assessment Builder.

Recommendations to districts and charter schools:

- Construct a relevant, coherent, and systemic plan of assessment.
- Develop professional learning to assist schools in making better use of formative assessment for instructional decision making.
- Support teachers in accessing and using longitudinal assessment data.
- Deliver professional learning for teachers and administrators that focuses on:
  - Deeper understanding of the purpose of assessment; and
  - Valid interpretation and use of assessment data.
- Employ available assessment tools, for example, SAS Assessment Builder, Item and Scoring Samplers, and Assessment Anchors and Eligible Content .

Action Area #3: Instruction and Intervention

PDE provides:

- Standards Aligned System (SAS): Standards, Assessments, Curriculum Framework, Instruction, Materials & Resources, and Safe and Supportive Schools;
- Regulations, guidance, materials, and resources for educators regarding curriculum, assessment, and instruction ;
- Multi-Tiered Systems of Support (MTSS) and Response to Instruction and Intervention (RtI);
- Literacy staff development (birth-grade 12) provided by Intermediate Units (IUs) and Pennsylvania Training and Technical Assistance Network (PaTTAN);
- Partnership with the Annenberg Foundation and PDE provides the Pennsylvania Institute for Instructional Coaching (PIIC); and
- Initiatives for increasing effectiveness of literacy instruction, for example, LETRS, Literacy Design Collaborative, PIIC, Reading Apprenticeship, TDA Cadre of Experts.

Recommendations to districts and charter schools:

- Encourage the use of SAS to access materials and resources focused on a standards-aligned system.
- Provide quality resources in the areas of reading, writing, speaking, listening, including disciplinary literacy.
- Deliver professional learning that builds teachers' and administrators' knowledge of evidence-based, rigorous instruction.
- Improve teaching of disciplinary literacy through systemic and school-wide professional learning (not focused on individual teachers).
- Utilize teacher-librarians help to strengthen classroom teacher effectiveness through lesson planning assistance, discovery of new classroom materials, and value-added expertise designed to maximize digital tools and resources.
- Collaborate with librarians to shape a dynamic 21st century learning environment and innovative methods for encouraging curiosity and closing the achievement gap.

Action Area #4: Professional Learning

PDE provides:

- Certification statutes and regulations;
- Continuing Professional Education (Act 48 and Act 45); and
- Pennsylvania approved teacher induction programs.

Recommendations to districts and charter schools:

- Use Guiding Principles and Essential Elements of the PaSLP to inform development of the local literacy plan.
- Focus on emergent literacy and how it can be enhanced in early childhood programs and in homes.

- Continue development of instructional literacy skills (Pre-K – 12) to ensure a continuum of literacy achievement.

Action Area #5: Leadership

PDE provides:

- State Literacy Leadership Team that serves as an advisory committee for the development of the PaSLP;
- Professional learning to support literacy leadership (PA Inspired Leadership);
- Instructional Coach Endorsement;
- Pennsylvania Institute of Instructional Coaching (PIIC);
- Director of Early Childhood Programs Credential;
- School Improvement Plan; and
- Office of Commonwealth Libraries (OCL).

Recommendations to districts and charter schools:

- Ensure a rigorous curriculum aligned to standards.
- Expand professional learning for administrators related to quality literacy curriculum, instruction, and assessment (recognizing and supporting quality literacy practices).
- Provide professional learning for teachers and other informal leaders in schools to build an understanding of the importance of schools as communities of learning.

Action Area #6: Utilizing Partnerships

PDE provides:

- Resources for parents and other community agencies (available on PDE/SAS/OCDEL websites); and
- Partnerships between PDE, schools, parents, public libraries, businesses, and community agencies that support educational work.

Recommendations to districts and charter schools:

- Strengthen partnerships with higher education institutions, PDE, public libraries, and the business community.
- Strengthen partnerships with pre-schools and early childhood communities.
- Engage families or caregivers in literacy activities to promote literacy in the home setting.
- Build knowledge and understanding of college and university faculty about components of the local literacy plan.
- Utilize the library system's programming such as Storytime learning, summer reading and activities, and extended hours past the regular school calendar.

Section B. Recommendations for Action

Section B provides a summary of each guiding principle, including guidance for the various entities that support literacy education.

Guiding Principle 1 – Literacy as a Critical Foundation for All Learning

Regional Support Agencies:

- Promote professional learning activities that deepen educators' understanding of the Pennsylvania State Literacy Plan, PA Core Standards, and available resources at the state level.
- Provide professional learning opportunities that assist teachers in developing and implementing the very best literacy instruction for students in PA schools.
- Continue to improve the quality resources that are available for schools in the areas of literacy.

Districts and Charter Schools:

- Develop literacy programs based on a needs assessment process; programs are coherent, aligned vertically and horizontally, and shared by all.
- Provide educators with professional learning experiences that develop their knowledge of evidence-based, rigorous instruction.
- Work with families or caregivers, early learning providers, caretakers, and communities to reinforce the importance of their roles in building language and literacy skills.
- Continue to sustain and build new partnerships with businesses, universities/colleges, community organizations.

Early Learning Providers:

- Seek opportunities to work with schools and families or caregivers to promote early language and literacy learning
- Provide young learners with the experiences, world knowledge, and dispositions needed to be successful literacy learners

Families or Caregivers:

- Provide children with the experiences, world knowledge, and dispositions needed to be successful literacy learners.

Community Agencies (e.g., libraries or community centers):

- Promote literacy for all constituents.
- Seek opportunities to partner with schools and families or caregivers to promote literacy learning.

Teacher Preparation Institutions:

- Provide instruction on the Pennsylvania State Literacy Plan, the PA Learning Standards for Early Childhood, PA Core Standards that guide education in PA schools.
- Establish partnerships with districts, charter schools, and early learning providers.

Guiding Principle 2 – Diversity

Regional Support Entities:

- Produce and disseminate materials and resources useful in developing curricular and instructional approaches to address the needs of diverse learners.

Districts and Charter Schools:

- Provide professional learning experiences to develop awareness and appreciation for diversity that exists in schools.
- Provide professional learning to develop culturally responsive curriculum and instruction that addresses the diverse needs of their students.
- Ensure that students have access to experiences that value their cultural diversity and experiences.

Early Learning Providers:

- Provide professional learning experiences to develop awareness and appreciation for diversity that exists in schools.
- Provide professional learning to develop culturally responsive curriculum and instruction that addresses the diverse needs of their students.
- Ensure that students have access to experiences that value their cultural diversity and experiences.
- Include information about family background and culture in transition materials sent to schools.

Families or Caregivers:

- Share cultural experiences through participation in various school events.
- Continue to explain and model pride in culture and language.

Community Agencies (libraries, community centers, businesses):

- Provide opportunities for families or caregivers to share their cultural experiences and orientations.
- Develop programs at libraries and other institutions that support literacy learning of families or caregivers (e.g., teaching English to immigrants who are English learners).

Teacher Preparation Programs:

- Develop programs that help teacher candidates understand diversity as a strength in schools.
- Build each candidate's knowledge about culturally responsive curriculum, materials, and instructional approaches.
- Create experiences for teacher candidates to become aware of diverse literature and authors.
- Place pre-service teachers in field practica that are culturally, linguistically, and/or socioeconomically diverse.

Guiding Principle 3 – High Expectations

Regional Support Entities:

- Produce and disseminate materials and resources to support an understanding of the relationship between high expectations and student learning.

- Provide resources and learning experiences to develop a deeper understanding of assessments and how to interpret and use results to set high expectations for learners.
- Organize professional learning experiences that support the efforts of districts to develop well-articulated literacy programs that show evidence of alignment and coherence between general and compensatory programs. The Multi-Tiered System of Support (MTSS) provides a valuable resource for state-wide professional learning experiences.

Districts and Charter Schools:

- Produce and disseminate materials and resources to support an understanding of the relationship between high expectations and student learning.
- Provide professional learning experiences for teachers focused on the need for high expectations for all students and that illustrate the relationship between having high expectations and student success with literacy learning.
- Develop a culture in the district and its schools that demonstrates a belief that *all students can learn*.

Early Learning Providers:

- Share data about students' strengths and needs in transition materials to receiving schools.
- Provide professional learning experiences for teachers focused on the need for high expectations for all students and that illustrate the relationship between having high expectations and student success with language and literacy learning.

Families or Caregivers:

- Reinforce the strengths that your children possess.
- Communicate on a regular basis with the school to help them understand the unique capabilities of your children.

Community Agencies (libraries, community centers, businesses):

- Consult the PDE website and OCDEL for specific ideas about how to work with families or caregivers and schools to enhance the notion of high expectations for all students.

Teacher Preparation Programs:

- Develop programs that help teacher candidates understand the importance of high expectations in helping students achieve high literacy success.
- Place pre-service teachers with cooperating teachers who model and demonstrate high expectations for all students.

Guiding Principle 4 – Evidence-Based Decision Making

Regional Support Entities:

- Provide resources and professional learning experiences that inform educators about evidence-based decision making.
- Base decisions about literacy learning and teaching on the results of evidence.

- Assist in developing assessment policies that provide opportunities for obtaining data based on high level standards that include accommodations for ELs and those with disabilities.

Districts and Charter Schools:

- Use an evidence-based framework (e.g. Bernhardt's Multiple Measures Model, 2013), to design a comprehensive and seamless assessment system for the district.
- Use the results of data to inform decisions about instructional strategies and interventions.
- Provide professional learning experiences for educators to develop an understanding of evidence-based decision-making for literacy instruction.
- Provide opportunities for teachers to understand data and instructional implications.
- Include all stakeholders when obtaining data for decision-making.

Early Learning Providers:

- Engage families or caregivers in data-informed dialogue to target and inform instructional decisions.
- Share data about students with districts and charter schools to assist them in making instructional decisions.

Families or Caregivers:

- Examine the data (e.g., report cards, test scores, evaluations) provided by other entities.
- Engage in conversations with children about the results of the assessment measures to support literacy growth.

Community Agencies (libraries, community agencies, businesses):

- Volunteer to support schools in their efforts to improve student literacy learning.

Teacher Preparation Programs:

- Develop programs for teacher candidates that enable them to understand the technical aspects of data collection, analyzing and interpreting data, and applying conclusions to instructional practice.
- Provide experiences that develop teacher candidates' understanding of evidence-based interventions.

Guiding Principle 5 – Professional Learning

Regional Support Entities:

- Provide school districts with the resources and supports they need to implement effective professional learning experiences for teachers in their schools.
- Encourage the use of 21st century strategies and technologies to design professional learning experiences.
- Work closely with professional organizations (e.g., Keystone State Reading Association, Learning Forward PA) to develop professional learning experiences for teachers.

Districts and Charter Schools:

- Develop a literacy leadership team to assist in the development of literacy program goals.
- Implement a needs assessment tool to determine school literacy professional learning needs.
- Develop common language and knowledge about literacy instruction and assessment (e.g., Learning Paths).
- Design a system-wide approach to professional learning to meet school and district literacy goals and provide multiple points of entry to meet various levels of knowledge.
- Provide the structure (time) and resources (personnel, materials) necessary for professional learning.
- Employ 21st century strategies and technologies to facilitate the implementation of professional learning activities.
- Include early learning educators in joint professional learning activities as a means of strengthening the alignment of literacy practices.

Early Learning Providers:

- Include district or charter school staff in joint professional learning activities to strengthen the alignment of developmentally appropriate language and literacy practices.
- Provide the structure (time) and resources (personnel, materials) necessary for professional learning.

Families and Community Agencies:

- Support the efforts of school districts to employ highly qualified teachers and literacy professionals.

Teacher Preparation Programs:

- Design programs that meet or exceed the standards set by the state and professional literacy organizations.
- Familiarize teacher candidates with the PaSLP, its guiding principles and essential elements.
- Introduce those in administrator and leadership programs with the contents of the PaSLP.

Section C. LEA Literacy Needs Assessment and Literacy Plan

Pennsylvania believes that literacy is the key for opportunity and success. The Pennsylvania State Literacy Plan (PaSLP) was designed to serve as a basis for professional learning that will assist districts and charter schools in developing a comprehensive, aligned, and coherent LEA Literacy Plan.

The Complete PA Literacy Needs Assessment (Complete PaLNA) calls for LEAs to establish a Literacy Planning Team with representation from each of the grade spans (birth-age 5, K-5, 6-8, and 9-12). After completing the assessment individually, the planning team will convene to discuss findings and establish consensus on the areas of strength and areas of need. This in-depth analysis will provide LEAs with the information needed to identify specific needs within a component or grade span, or identify any needs existing across the continuum. Results may show a consistent need in a single grade span (ex: 9-12) or a consistent need within a component spanning across all areas (ex: transition). These findings will allow the LEA to identify priority areas for growth and intervention, when writing or revisiting their Local Literacy Plan.

The team may select to use the Partial PA Literacy Needs Assessment (Partial PaLNA) to assess a single grade span and component(s) instead of assessing all grade spans and components within the Complete PaLNA. Each team member completes the selected grade span and component(s) individually prior to meeting as a group. During the group meeting, members are encouraged to share their perspective to help the group reach consensus on each item. If a group is unable to reach consensus on an item, this may indicate that the strategies and actions are *emerging* but not in place consistently.

This in-depth analysis will provide LEAs with the information needed to identify specific needs within a component or a grade span, or identify any needs existing across the continuum. Results may show a consistent need in a single grade span (e.g. 9-12) or a consistent need within a component spanning across all grade spans (e.g. transition). These findings will allow the LEA to identify priority areas for growth and intervention in their LEA Literacy Plan.

The PA Literacy Needs Assessment, Literacy Plan Template and additional resources can be accessed at www.education.pa.gov or www.pdesas.org.

Appendixes

Appendix A: Building Upon Keystones to Opportunity (2011-2017)

Pennsylvania's Vision for Sustainable Growth in Reading Achievement

Keystones to Opportunity (KtO), the original project was framed around three main goals:

1. **To improve literacy learning outcomes** and dramatically increase reading achievement among students in danger of academic failure from birth through grade 12 in Pennsylvania.
2. **To create a culture of data-informed decision making** by supporting implementation of Bernhardt's Multiple Measures Data logic model at the state, regional, and local levels.
3. **To infuse digital technology and Universal Design for Learning** (UDL), by providing teachers with examples of how technology tools can provide multiple pathways to express and represent information, as well as creative options for developing literacy persistence, stamina, and motivation.

The 2019 plan sustains the momentum and intent of KtO as districts create a viable literacy plan for the 21st century. One of the important outcomes of the KtO grant was a focus on "demystifying" literacy for all stakeholders. The *Literacy is for Life* initiative provided literacy resources sharing a consistent and urgent message across Pennsylvania school districts, intermediate units, charter schools, and early learning centers conducted with families or caregivers, teachers, and students in our state.

Literacy is for Life
In June 2015, as part of a comprehensive effort to improve literacy for all PA citizens, the PA Department of Education approved and supported the *Literacy is for Life* initiative. The initiative, based on research, identified specific issues relate to literacy in Pennsylvania:

- The percentage of Pennsylvanians who struggle with literacy has remained unchanged since 1992.
- Many people contend that their literacy knowledge is "good enough."
- Seventy-five percent of the jobs in Pennsylvania require schooling beyond high school.

The Literacy is for Life initiative provided literacy resources that shared a consistent and urgent message across PA school districts, intermediate units, charter schools, early childhood providers, parents, students, and community agencies. The resources can be accessed at www.education.pa.gov. Resources include printable posters that promote literacy, infographics to visually share facts and statistics, and examples of literacy apps and websites.

Innovative Projects to Improve Literacy Instruction and Learning

Many school districts across PA are involved in efforts to improve literacy outcomes for their students. For example, as mentioned previously, schools participating in the KtO grant had opportunities during the five years of the grant to focus on specific projects that helped them achieve their goals. They could apply for Innovation Incentive Awards that addressed the following goals: Increasing Literacy Outcomes Birth-Age 5 throughout the KtO Grant; Increasing Literacy Outcomes at the Elementary Level throughout the KtO Grant; Increasing Literacy Outcomes at the Middle School Level throughout the KtO Grant; Increasing Literacy Outcomes at the High School Level throughout the KtO Grant; Increasing Literacy Outcomes Birth-Grade 12 throughout the KtO Grant. The videos developed by finalists for the award illustrate initiatives undertaken by their districts to achieve literacy goals. They can be accessed via the following links:

Innovative Incentive Awards 2014
Innovative Incentive Awards 2015
Innovative Incentive Awards 2016
Innovative Incentive Awards 2017

Professional Learning Opportunities

www.eduplanet21.com/paslp

Building Blocks of Literacy
Literacy is a critical foundation for all learning and serves as a "keystone" for opportunity and success. Ensuring student success requires much more than effective literacy materials for reading and writing. This Learning Path will focus on the key skills and components of literacy development every child needs to be successful.
Statutory Areas: Birth - Middle School Teachers, Reading, ELL, and Special Education Teachers.

Close Reading
In this Learning Path, you will explore the components of close reading within the classroom and the importance of effective close reading in all grades and disciplines. You will have the opportunity to define and explore the steps of close reading and create an action plan for your classroom. *Statutory Areas: Applies to all statutory areas.*

Family Literacy and Family Engagement
New federal regulations and guidelines emphasize the importance of active parental involvement in students' academic learning through regular and meaningful two-way communication with the school. This Learning Path provides practical, research-based strategies and best practices for encouraging parents to become full partners in their child(ren)'s education.
Statutory Areas: Applies to all statutory areas.

Literacy Design Collaborative
Literacy Design Collaborative is a national community of educators providing a teacher-designed and research-proven framework, online tools, and resources for creating literacy-rich assignments and courses across content areas. This Learning Path will provide the knowledge and supports needed for the successful development of an LDC task.
Statutory Areas: Elementary - High School Teachers, Reading, ELL, and Special Education Teachers.

Navigating Content with English Learners (ELs)
For English Learners (ELs) to become successful students, they need to learn grade-level content as well as the English language skills needed to access that content. This Learning Path will provide opportunities for educators to examine the best pathways, tools, and strategies to use to ensure the success of our English Learners.
Statutory Areas: Applies to all statutory areas.

Reading Apprenticeship
This Learning Path will focus on the Reading Apprenticeship Framework, how the dimensions work together to support and improve students' literacy, and how the framework aligns to the PA State Literacy Plan.
Statutory Areas: Middle - High School Teachers, Reading, ELL, and Special Education Teachers.

Successful Transitions Along the Literacy Continuum Research suggests that children who make a smooth transition and experience early school success tend to maintain higher levels of social competence and academic achievement. The content provided in this Learning Path reviews Transitions Across the Literacy Continuum. The primary goal of transition planning is to ensure that all students have opportunities to experience academic excellence and a strong sense of well-being.
Statutory Areas: Applies to all statutory areas.

Supporting Learners with Special Needs
There must be high expectations for all learners and a belief that all are capable of gaining literacy skills that will enable them to be successful as adults. This Learning Path will provide participants the opportunity to learn how to more effectively meet the needs of all students including those with disabilities.
Statutory Areas: Applies to all statutory areas.

Universal Design for Learning and Digital Technology
Universal Design for Learning (UDL) is a framework enabling teachers to address all learners by meeting their diverse needs and abilities through three principles that are based on brain research. This Learning Path will provide the opportunity to develop a common understanding of UDL and how to ensure that the learning activities in your classroom are accessible to all learners.
Statutory Areas: Applies to all statutory areas.

Using Data for Literacy Decision-Making
What do you need to know to be able to use Victoria Bernhardt's multi-measure data model? This Learning Path will introduce you to the four types of data—demographics, perceptions, student learning, and school/district processes—and how analyzing them in combination will provide you with a powerful look at how your school/district is performing. *Statutory Areas: Applies to all statutory areas.*

Appendix C: Assessment Plan

Using Student Outcome Data for Decision Making

To develop a comprehensive literacy plan, districts must use multiple sources of data as a means of setting goals and establishing action plans. The information provided by Bernhardt (2014) as well as that in the module (Using Data for Decision Making) provide comprehensive information about the ways in which districts can use such information to guide their work. The report released by the Institute of Science (Hamilton, et al., 2009) about using data for decision making, is also a valuable resource. In this appendix, the focus is twofold: first, there is a section describing important ideas about identifying specific student outcome assessment tools; second, a strategy for leading a structured data analysis meeting with a group of teachers is described.

Districts, schools, and classrooms generate large amounts of data daily. Students are often asked to demonstrate what they have learned through classroom-based assessments, district assessments, or on state assessments, but how often are the results of those assessments used to guide instruction for students? Generating data does not guarantee that the information is used or even reviewed. To make informed decisions about the educational opportunities available to students, educators should purposefully select assessments and deliberately use the data. Facilitating the concerted generation and analysis of data can be accomplished by implementing an assessment plan which describes assessments and their application, uses a data cycle for conceptualizing the data analysis process, and provides a structured forum for data analysis.

Developing an Assessment Plan to Obtain Student Outcome Information

It is easy to identify the assessments given in any school, but it is more difficult to determine why those assessments are given and how the results are used. Therefore, it is beneficial to think about creating an assessment plan that considers the purpose for assessments, as well as a description of how those results are to be used.

Determining What Needs to be Assessed

To turn data into actionable information, deliberate and purposeful planning needs to occur prior to test administration. First, determine what needs to be assessed. As it is said, often what is assessed is what is taught. Identifying the instructional goals can clarify the content that needs to be assessed. When prioritizing content for assessments, consider district and state standards as well as grade-level and content specific big ideas.

Selecting Appropriate Assessments: (Excerpt of a 7th grade-level assessment plan)

Assessment	Purpose	Use of Data	Date of Administration	Taken By
PSSA	State assessment	Alignment of programs and curriculum	March - April	All students
GRADE	Diagnostic assessment	Monitor progress of groups within curriculum and programs	September, January, May	All students
CDT	Diagnostic assessment	Identify individual strengths and needs; flexible groups	September, December; May	All students

After the goals and content have been identified, tests and other assessment measures should be identified. It may be helpful to create a chart of the assessments given at each grade-level with their purpose for administration and a brief synopsis of how the data will be used. The charts can provide a visual representation of all of the assessments students will take in any given grade. The charts can also serve as tools for ensuring that the data are used in the intended manner and to avoid duplication of assessments (see chart below) Three important considerations are:

- Making certain the assessments are aligned with goals and outcomes and that the important outcomes are being measured;
- Reducing or eliminating redundancy in measures; and
- Determining whether the assessments provide for a longitudinal look at outcomes (tracking students over time).

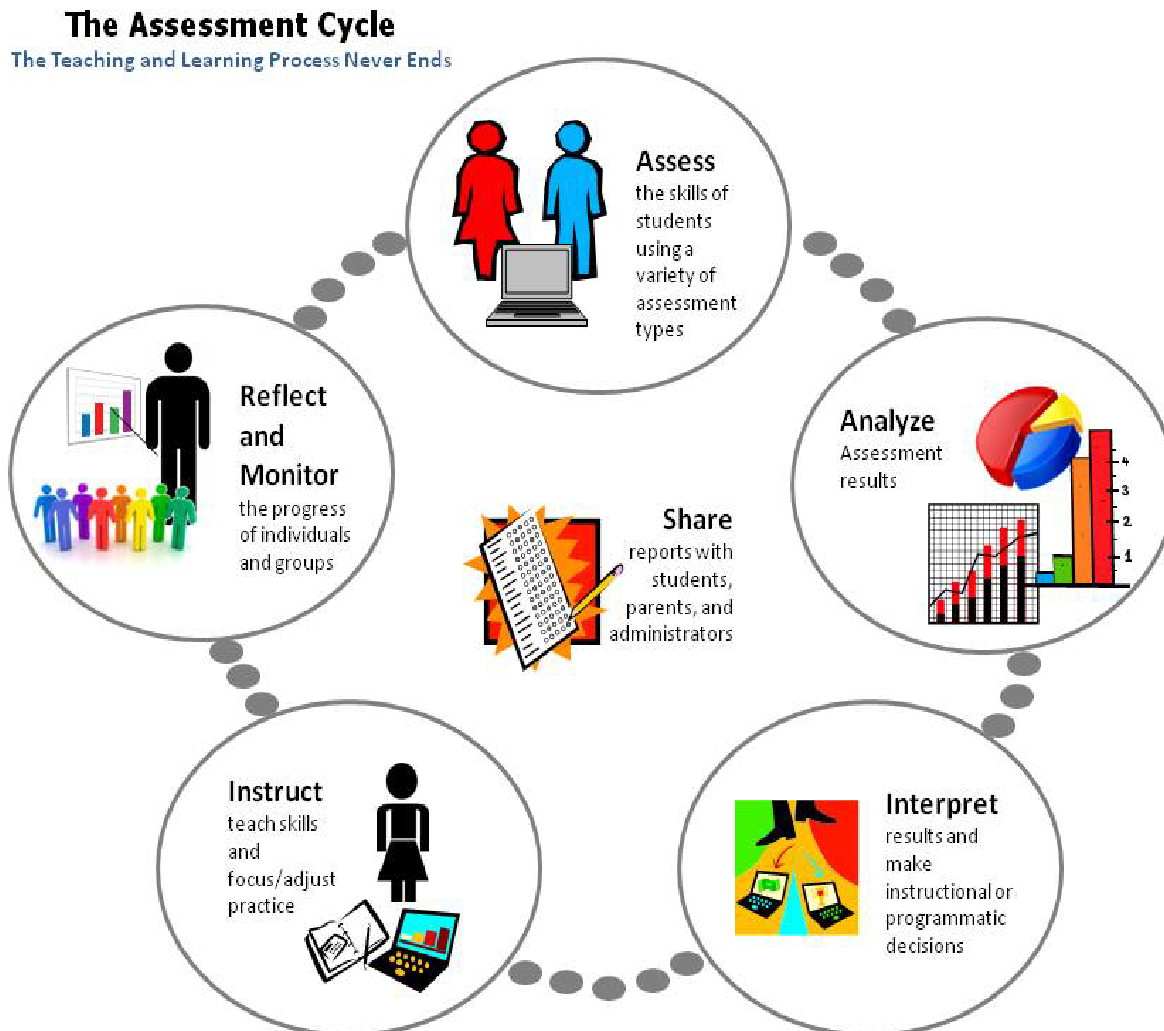
Aligning Assessments and Instructional Priorities

If an assessment is given and the results are not used, the use of that assessment tool should be further examined. *Is it because the results are not communicated in a timely manner? Is it because there is not a clear understanding of how to interpret the results? Is it because there are other assessments that generate the same information?* Each of those answers leads to a different solution. The development of an assessment plan provides a mechanism to check that instructional priorities are assessed and that the assessments are used for making decisions. If something is important enough to assess, the results should be used.

The Assessment Cycle

As indicated in the graphic below, only if assessment data are carefully analyzed, and then used for instructional decision making, can they be instrumental in improving teaching and learning. Each of the stages of the assessment cycle is discussed in Figure 7 below.

Figure 7. Stages of an Assessment Cycle



Assess: As mentioned above, schools should have a well-articulated plan that describes the assessment tools that will be used at various grade levels across the district. Various assessment tools, (progress monitoring, benchmark) or results of observations, or other formative data can be used on a regular basis to make important decisions about classroom instruction, grouping, and materials. Recommendations may be made to administer additional assessments, perhaps to specific students (e.g., students who may be struggling with literacy learning). Other data may also be used during this cycle, as a means of taking a broader look at why students may be successful or having difficulties; for example, as mentioned by Bernhardt (2014), data about student demographics, classroom processes, perceptions, as well as student outcome data can provide important information.

Analyze: Analyzing data requires that it be organized in ways that make it easy to understand and interpret. Schools can identify specific professionals (e.g., data analysts, literacy coaches, psychologists) to put the data into charts or graphs, perhaps by grade level or

literacy category (e.g., comprehension, vocabulary). Such organization is important as it provides teachers reviewing it to be able to make important interpretations easily and effectively. During this analysis phase, assessment results can be examined to look for patterns and trends.

Interpret: The information gained from interpretation is used to inform instruction. Generally, this interpretation is made by teachers who can identify areas of strength and academic need. Teachers may also present other data (from classroom observations or informal measures) that can be used to validate current results and conclusions. They can make plans about how to use those results to plan instruction. They may also consider the need for additional assessments for specific students, including careful observations in the classroom or additional formative assessments. Interpretation generally occurs during a data team meeting described in the following section.

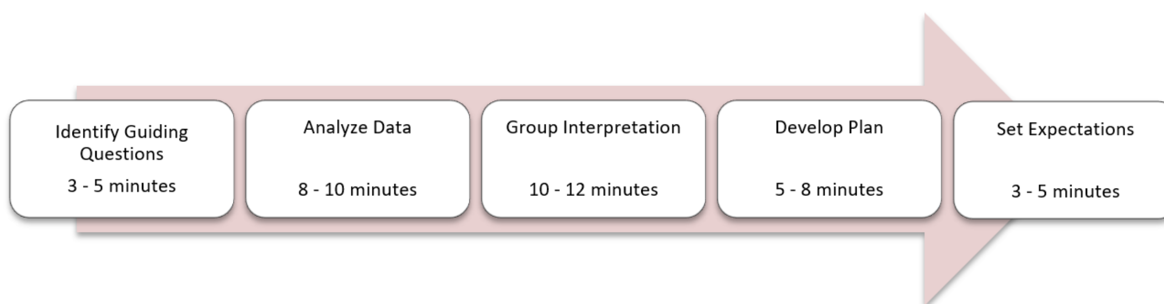
Instruct: During this part of the assessment cycle, teachers are to apply the results of the interpretation to their instruction. They may make changes in instructional strategies, materials, and so forth. Students may be reassigned to other teachers or groups. Regardless, what is important is that teachers implement the plan that they decided on during the data team meeting.

Reflect and Monitor: As teachers are instructing, they should be thinking about how the changes in instructional or grouping practices have affected students. Have they had a positive effect? No effect? Negative effect? In other words, they must monitor their own instructional practices and observe students' reactions and responses to them. During this period, they can take notes so that they can share their reflections at the next data team meeting. During this period, they can also think about what additional assessments may be necessary to help them plan and teach more effectively.

Data Team Meetings

The process described in this section can be useful to team leaders, coaches, literacy specialists, and others who guide teachers in the analysis and interpretation of both formal and informal data sources. Groups of educators collaborate to develop a plan to address identified needs and to support or enhance identified strengths. During the meeting, the bulk of the time should be devoted to group analysis and interpretation, and plan development. Groups should allocate enough time for developing instructional plans; in other words, they will need to limit the time they spend on reviewing the data. At the end of each meeting, expectations should be set for the following meeting. Some data teams find it helpful to assign roles during each meeting (e.g., data compiler or guide, timekeeper, recorder, and meeting leader. In Figure 8 below, a possible data meeting timeline is described followed by descriptive information about each segment of the meeting.

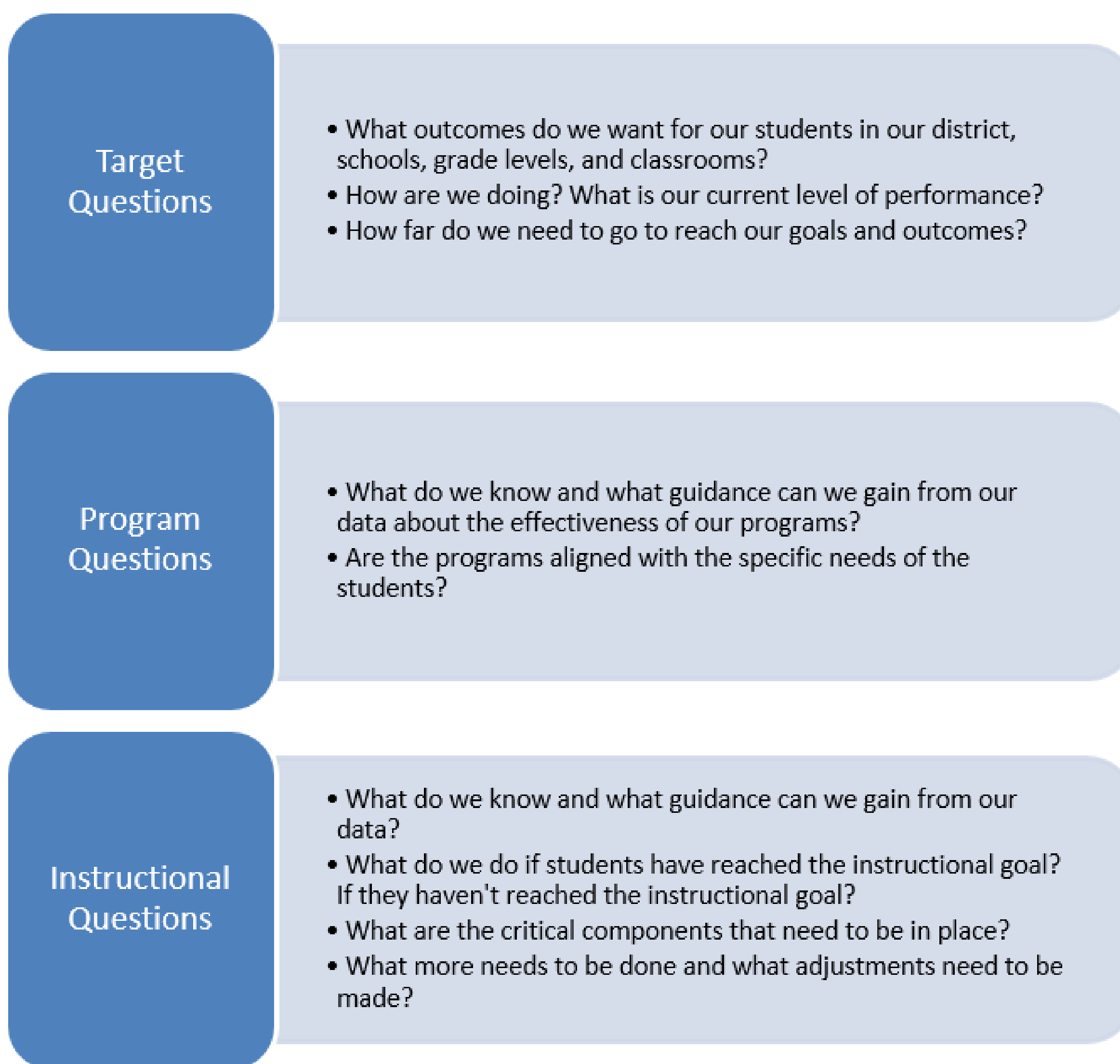
Figure 8. Data Team Meeting Timeline



Identify Guiding Questions (3-5 minutes): Guiding questions are used to set a goal for the meeting; they provide the purpose for looking at data. As such, they also establish the context from which to view the data and provide a focus for the meeting. Using guiding questions enables participants to look for specific data trends, identify areas of strength and need, or to establish parameters for discussing programmatic or curricular feedback.

When developing guiding questions, there are several ways to focus the data analysis. For example, questions can address achievement targets, outcome goals, or instructional implications. Each data analysis session should have a clear guiding question to keep the meeting on target. The guiding question should be selected prior to or at the beginning of the meeting and then briefly explained so participants understand its importance. It may be helpful to post the guiding question so that it remains the focus for the entire session. See Figure 9 for examples of sample guiding questions.

Figure 9. Data Team Meeting Sample Guiding Questions



Analyze Data (8-10 minutes): Prior to the meeting, data should be selected and packaged for the review (see assessment cycle above). Participants should each be provided with a copy of the data to review in the context of the guiding question. Every participant should be comfortable with the data and able to interpret the report prior to the meeting so that the focus of the meeting remains on the discussion of what the data mean for instruction.

During the review phase, the discussion focuses on the data. Because conjecture and hypothesizing occur during the interpretation phase, every effort should be made to keep the discussion focused on what is seen within the data. When making statements, participants should be encouraged to reference the data. If the discussion veers off-topic, the moderator can refocus the group by bringing the discussion back to the guiding question or by probing statements further by asking participants to “point to the data” they are discussing.

Group Interpretation (10-12 minutes): In the interpretation phase, members discuss the trends that they are seeing in the data relative to the guiding question. Additional sources of data may be consulted to confirm or refute proposed hypotheses that have been generated based on the data.

Develop a Plan (5-8 minutes): Once the interpretation step is complete, teams should develop a plan based on the conclusions drawn from the data to address the guiding question or impact instruction. It may be helpful for data team members to collaborate and share resources to improve instruction relative to the data and guiding question.

Set expectations (3-5 minutes): Based on the plan that was developed, team members determine what will be done before the next meeting. Teams may need to consider the following: Do we need to collect additional data? What short-term tasks should we accomplish before the next meeting? What supporting artifacts will be shared at the next meeting?

In summary, the implementation of an articulated assessment and analysis plan can help educators move from data to information. The information can then be used to support program and curricular choices and have an impact on instruction. By selecting specific assessments, articulating their purpose, and using the data to inform instruction, schools can capitalize on resources they already have while at the same time provide personalized educational experiences for their students.

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Additional Readings

Beck, I. (2015). *Illuminating comprehension and close reading*. New York: Guilford Press.
Grasping the meaning of a text enables K-8 students to appreciate its language and structure through close reading, which in turn leads to deeper comprehension. This book explains the relationship between comprehension and close reading.

Pearson, P.D., & Hiebert, E.F. (2015). *Research-based practices for teaching common core literacy.* New York: Teachers College Press.
The book addresses important aspects of reading research, written by distinguished literacy researchers. Key chapters include information about comprehension, vocabulary, and the importance of complex text in developing literacy.

Shanahan, T. & Lonigan, C. (2010). *The National Early Literacy Panel: A summary of the process and the report.* Educational Researcher, 39(4), 279-285.

In this article, a summary of the report of the National Early Literacy Panel is described, including information about the importance of language development and the teaching of EL students.

Online Resources

Children's Literacy Initiative
Pennsylvania Writing and Literature Project
Advancing Adolescent Literacy: Pennsylvania's Keystones to Opportunity Comprehensive Literacy Program
Executive Summary
Full Report
Instructional Considerations for Text-Based Writing
Pennsylvania TDA Toolkit
Our LDC Journey: The Pennsylvania Perspective
1000 Books Before Kindergarten
Cruise into Kindergarten
Early Childhood Literacy

Links to Resources for Reading, Writing, Speaking, Listening and Language

Birth to 5

The EFL Playhouse

- Resources for young English Learners

Teaching Channel – Early Childhood Education Resources - https://www.teachingchannel.org/blog/2013/11/15/resources-early-education/

Grades K-5

Florida Center for Reading Research (FCRR)

Improving Reading Comprehension in Kindergarten Through 3rd Grade

- Guide from the Institute of Education Sciences' What Works Clearinghouse that recommends five steps to helping educators improve early reading comprehension instruction for young readers.

International Literacy Association - https://www.literacyworldwide.org

IRIS Center for Training Enhancements - https://iris.peabody.vanderbilt.edu

- Free online interactive resources that translate research about the education of students with disabilities into practice. Materials cover a wide variety of evidence-based topics, including behavior, RtI, learning strategies, and progress monitoring.

Pennsylvania Training and Technical Assistance Network

Teaching Reading is Rocket Science: What Expert Teachers of Reading Should Know and Be Able to Do

Grades 6-12

Adolescent Literacy: Position Statement of the International Reading Association (Revised 2012)
College and Career Readiness Anchor Standards for Speaking and Listening
National High School Center
Secondary Section of the National Council of Teachers of English

PA Core Appendices:

ELA Appendix A – Research Supporting Key Elements of the Standards
ELA Appendix B – Text Exemplars
ELA Appendix C – Student Writing Samples

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This resource begins with an argument for offering children literacy-rich activities and creating an environment for carrying out those activities. It then focuses on enjoyable and effective ways to build essential skills, such as oral language and phonemic awareness, and creating dramatic play areas, book nooks, writing centers, and other literacy-rich spaces.

Galinsky, E. (2010). *Mind in the making: The seven essential life skills every child needs.* New York, NY: HarpersCollins.
The chapter on communication (Chapter 3) discusses the course of how children learn to communicate.

Hart, B., & Risley, T. R. (2002). *The social world of children learning to talk*. Baltimore, MD: Paul H. Brookes Publishing Company.
This book reveals how daily child-parent social interactions govern children's language and social development.
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Learning Point Associates. (2010). *Access to print materials improves children's reading: A meta-analysis of 108 most relevant studies shows positive impacts.* Washington, D.C.: Author. Retrieved from *http://www.rif.org/assets/documents/RIFandLearningPointMeta-OnePager.pdf*
An analysis of 44 studies found that access to print materials: improves children's reading performance, helps children learn the basics of reading, causes children to read longer and produces improved attitudes about reading among children.

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The National Early Literacy Panel (NELP) was convened to look at the implications of instructional practices used with children from birth to age 5. The authors discuss six variables that correlate with later literacy; alphabet knowledge, phonological awareness, rapid automatic naming (RAN) of letters or digits, RAN of objects or colors, writing or writing name and phonological memory.

Neuman, S. B., Copple, C., & Bredekamp, S. (2000). *Learning to read & write: Developmentally appropriate practices for young children.* Washington, D.C.: National Association for the Education of Young Children.
Developmentally appropriate, research-based strategies for promoting children's literacy learning in preschool, kindergarten, and elementary classrooms and infant/toddler settings.

Neuman, S. B., & Roskos, K. (2007). *Nurturing knowledge: Building a foundation for school success by linking early literacy to math, science, art and social studies.* New York, NY: Scholastic, Inc.

The authors share five essential early literacy practices—creating a supportive learning environment; shared book reading; songs, rhymes, and word play; developmental writing; and play—and show how and why to apply these in math, science, social studies, and art, so children acquire the knowledge and the skills they need for academic success.

Online Resources

Age-Appropriate Speech and Language Milestones

This website is from the Lucile Packard Children's Hospital at Stanford. It lists age-appropriate speech and language milestones with associated programs.

Center for Early Literacy Learning (CELL) Videos

These videos are designed for the teacher, parent, trainer, coach, and home visitor. Each video introduces and illustrates a key component of the CELL Early Literacy Learning Model.

Developmental Milestones: Understanding Words, Behavior, and Concepts

This website lists milestones in understanding words, behavior, and concepts in the language development of children.

Dialogic Reading Research

This site provides the evidence of the positive effect that dialogic reading has on a child's oral language development.

Dialogic Video Series:

- http://www.getreadytoread.org/early-learning-childhood-basics/early-literacy/dialogic-reading-video-series
- http://community.fpg.unc.edu/taxonomy/term/39
- https://dwwlibrary.wested.org/resources

The sites provide video clips and tools to assist early childhood providers in implementing Dialogic Reading in their classroom. It is also suggested that parents could use these clips in helping them use dialogic reading with their preschool child(ren).

Early Beginnings: Early Literacy Knowledge and Instruction

This resource, developed by the National Institute for Literacy, provides instructional guidance for early childhood caregivers, teachers, and leaders. Based on the research findings of the National Early Literacy Panel's report, this document lists early predictors of reading success, learning activities, and suggestions for professional development.

How Does Your Child Hear and Talk?

This website from the American Language-Speech-Hearing Association contains information on the development of communication skills from birth to five years.

The Importance of Oral Language

Jerry Aldridge reviews various articles on oral language and studies done in classrooms.

Improving Reading Comprehension in Kindergarten Through 3rd Grade: A Practice Guide
This guide recommends five specific steps that teachers, reading coaches, and principals can take to successfully improve reading comprehension for young readers.

Language Development Chart
The Child Development Institute provides information on the development of language in children from birth to age 8. Includes links to extra resources.

Learning to Talk and Listen: An Oral Language Resource for Early Childhood Caregivers
Based on the findings of the National Early Literacy Panel's report, this resource provides helpful instructional examples and strategies to use with Pre-K children to enhance their development of early language.

More Time to Talk: Language Building Tips for Center-Based Child Care Providers
The phrase MAKE TIME TO TALK is intended to help child care providers remember things they can do when talking to children to help them learn new vocabulary, use language to express their ideas and needs, and have fun with words.

The Nation's Report Card
Provides 2015 data from the National Assessment of Educational Progress (NAEP) assessment in reading and math.

National Paideia Center Lesson Plans
Paideia Seminar fosters critical and creative thinking through text-based socratic seminar, intellectual coaching, and mastery of information. Lesson plans to engage students in academic discourse about a text are located on the website for grades K-12.

PDE Standards Aligned System
PA Academic and Core Standards are located on the SAS website.

Summary of the National Early Literacy Panel
Young Children's Oral Language Development by Celia Genishi

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This comprehensive resource provides the guidelines needed to conceptualize assessment that benefits all students.

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Bernhardt discusses how to effectively gather, analyze, and use data to improve student learning. It demonstrates how to make better decisions, identify root causes of problems, and communicate and report results.

Fisher, D., & Frey, N. (2014). *Checking for understanding: Formative assessment techniques for your classroom* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Formative assessments can be used to help teachers determine what students know and what they still need to learn. Fisher and Frey explore a variety of engaging activities that check for and increase understanding, including interactive writing, portfolios, multimedia presentations, audience response systems, etc.

Lenski, S. D., Ehlers-Zavala, F., Daniel, M. C., & Sun-Irminger, X. (2006). Assessing English-language learners in mainstream classrooms. *The Reading Teacher, 60*(1), 24-34.

The authors discuss nontraditional and traditional types of assessments that teachers can use to assess the literacy strengths and needs of English learners.

Smith, M.A., & Swain, S. (2016). *Assessing writing, teaching writers*. New York: Teachers College Press.

This book introduces a rubric designed by the National Writing Project—the Analytic Writing Continuum (AWC), useful at all grade levels. The authors use sample student writing and multiple classroom scenarios to illustrate how teachers have adapted this flexible tool to meet the needs of their students, including using the AWC to teach revisions, give feedback, direct peer-to-peer response groups, and serve as a formative assessment guide.

Online Resources

Future Ready PA Index
Keystone Exams
Pennsylvania System of School Assessment (PSSA)
PVAAS
Standards Aligned System – Assessment
Using Data for Decision Making

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Additional Readings

Bellanca, J., & Brandt, R. (2013). *21st century skills: Rethinking how students learn.* Indianapolis, IN: Solution Tree.

This book introduces the 21st century skills movement, the Partnership for 21st Century Skills, and the Framework for 21st Century Learning. The chapters seek to flesh out the vision established by the partnership by identifying key issues that contribute to the dialogue. The contributors explore three overarching questions: 1. Why are the skills listed in the Framework for 21st Century Learning needed for learning in the future? 2. Which skills are most important? 3. What can be done to help schools include these skills in their repertoire so that twenty-first century learning results?

Dweck, C. S. (2017). *Mindset*. London: Robinson, an imprint of Constable & Robinson Ltd.

People with a *fixed mindset* (those who believe that abilities are fixed) are less likely to flourish than those with a *growth mindset* (those who believe that abilities can be developed). *Mindset* reveals how great parents, teachers, managers, and athletes can put this idea to use to foster outstanding accomplishment.

Hart, B., & Risely, T. R. (2003). The early catastrophe: The 30-million-word gap. *American Educator, 27*(1), 4-9.

Among other findings, Hart and Risley's extrapolation of data indicated that children from "professional" families would hear roughly 30 million more words by age three than children from "welfare" families. Although the researchers did find a correlation between socio-economic status (SES) and the number of words young children heard, they also found differences within SES groups. The apparent simplicity and buzz of the phrase "30 million-word gap" misses the complexity of the association.

Trelease, J. (2013). *The read-aloud handbook.* New York: Penguin Books.

Recommended by "Dear Abby" upon its first publication in 1982, millions of parents and educators have turned to Jim Trelease's beloved classic for more than three decades to help countless children become avid readers through awakening their imaginations and improving their language skills. It has also been a staple in schools of education for new teachers.

Online Resources

Adolescent Literacy
AdLit.org is a national multimedia project offering information and resources to the parents and educators of struggling adolescent readers and writers.

International Society for Technology in Education (ISTE)
The ISTE Standards define the new skills and pedagogical insights educators need to teach, work, and learn in the digital age.

Learning to Talk and Listen: An Oral Language Resource for Early Childhood Caregivers
Learning to Talk and Listen is intended to help caregivers learn more about how to support children in communicating their thoughts and needs, and to listen effectively when participating in conversations.

The Literacy Web
The National Children's Literacy Website is a unique children's literacy initiative and is part of the Soho Center's National Children's Literacy Information Project - a not-for-profit literacy initiative dedicated to advancing the literacy skills of young children.

Pennsylvania Department of Education's Standard Aligned System (SAS)
The Standards Aligned System (SAS), developed by the Pennsylvania Department of Education, is a comprehensive, researched-based resource to improve student achievement.

Read, Write, Think
The site provides educators, parents, and afterschool professionals with access to the highest quality practices in reading and language arts instruction by offering the very best in free materials.

Reading Rockets
This article provides strategies to help teachers and parents foster a child's complex thinking.

Zero to Three: National Center for Infants, Toddlers and Families
ZERO TO THREE works to ensure that babies and toddlers benefit from the early connections that are critical to their well-being and development.

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Zmuda, A., & Kallick, B. (2017). *Students at the Center: Personalized Learning with Habits of Mind*. Alexandria, VA: ASCD.

Additional Readings

Ankrum, J. (2017). *Differentiated literacy instruction: Assessing, grouping, teaching*. New York: Routledge.

This book provides readers with the information they need to understand, plan for, and achieve effective, differentiated literacy instruction in their classrooms.

Sousa, D. A., & Tomlinson, C. A. (2011). *Differentiation and the brain: how neuroscience supports the learner-friendly classroom.* Bloomington, IN: Solution Tree Press.
Authors, David Sousa and Carol Ann Tomlinson, examine the basic principles of differentiation in light of what the current research on educational neuroscience has revealed.

Wormeli, R. (2007). *Differentiation: from planning to practice, Grades 6-12.* Portland, Me.: Stenhouse.
In this refreshing addition to differentiated learning literature, Rick Wormeli takes readers step-by-step from the blank page to a fully crafted differentiation lesson. Along the way, he shows middle and high school teachers behind-the-scenes planning that goes into effective lesson design for diverse classrooms.

Online Resources

The Access Center: Improving Outcomes for All Students K-8
The purpose of the Access Center was to improve access to the general education curriculum for students with disabilities at the elementary and middle school levels.

Alliance for Excellent Education
The Alliance for Excellent Education is a Washington, DC–based national policy, practice, and advocacy organization dedicated to ensuring that all students, particularly those who are traditionally underserved, graduate from high school ready for success in college, work, and citizenship.

Florida Center for Reading Research
The Florida Center for Reading Research was established in 2002 to conduct basic research on reading, reading growth, reading assessment, and reading instruction that will contribute to the scientific knowledge of reading, and benefit students in Florida, and throughout the nation.

The IRIS Center
The IRIS Center is a national center dedicated to improving education outcomes for all children, especially those with disabilities, birth through age twenty-one, through the use of effective, evidence-based practices and interventions.

International Literacy Association
Contains links to various position papers and advisory briefs, including Dyslexia Awareness: Expanding the conversation (Research advisory).

National High School Center
The College and Career Readiness and Success Center (CCRS Center) is dedicated to ensuring all students graduate high school ready for college and career success.

Pennsylvania Standards Aligned System (SAS)
The Standards Aligned System (SAS), developed by the Pennsylvania Department of Education, is a comprehensive, researched-based resource to improve student achievement.

Reading Rockets
Reading Rockets is a national multimedia literacy initiative offering information and resources on how young kids learn to read, why so many struggle, and how caring adults can help.

Vaughn Gross Center for Reading and Language Arts
From translating research into practice, to providing online professional development, the Vaughn Gross Center for Reading and Language Arts emphasizes scientifically based research and is dedicated to improving instruction for all students, especially struggling readers, English language learners, and special education students.

What Works Clearinghouse
The What Works Clearinghouse (WWC) reviews the existing research on different programs, products, practices, and policies in education.

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Wineberg, S., Martin, D., & Monte-Sano, C. (2013). *Reading like a historian: Teaching literacy in middle and high school history classrooms*. (2nd ed.). New York, New York: Teachers College Press.

Additional Readings

Books

Borasi, R., & Siegel, M. (2001). *Reading counts: Expanding the role of reading in mathematics classroom*. New York, NY: Teachers College Press.
Three perspectives on reading are presented, highlighting different ways that reading can enhance mathematics learning. Classroom application showing the range of texts, strategies, and reading practices teachers can use.

Dreher, M. J., & Kletzien, S. B. (2015). *Teaching informational text in K-3 classrooms: Best practices to help children read, write, and learn from nonfiction*. New York: Guilford.

Ferriter, W., & Gary, A. (2010). *Teaching the iGeneration: Five ways to introduce essential skills using web 2.0 tools*. Bloomington, IN: Solution Tree Press.
Serves as a fine primer for "digital literacy." Gives teachers suggestions for using informational books with children to introduce them to book features, academic vocabulary, and expository text structures. Contains ideas for comprehension and informational writing.

Litman, C., & Greenleaf, C. (2008). Traveling together over difficult ground: Negotiating success with a profoundly inexperienced reader in an introduction to Chemistry class. In K. Hinchman & H. Thomas (Eds.), *Best practices in adolescent literacy*. New York: Guilford.
This book includes information about reading complex texts in social studies and science. Gives specific ways that students can be helped to become more capable with disciplinary texts.

Wineburg, S. (2001). *Historical thinking and other unnatural acts: Charting the future for teaching the past*. Philadelphia: Temple University Press.
Excellent text that explains why we study history and what challenges it presents for students and teachers.

Journal Articles and Reports

Baer, J. D. (2006). *The literacy of America's college students*. Washington, D.C.: American Institutes for Research. Retrieved from http://www.air.org/focus-area/education/index.cfm?fa=viewContent&content_id=636
Report of research study examining graduating students (from 2-year and 4-year institutions) in prose literacy, document literacy, and quantitative literacy. Using the National Assessment of Adult Literacy, results indicate no difference in quantitative literacy from previous generations, but current graduates are superior to earlier generations in prose and document literacy.

Carnegie Council on Advancing Adolescent Literacy. (2010). *Time to act: An agenda for advancing adolescent literacy for college and career success*. New York, NY: Carnegie Corporation of New York. Retrieved from https://eric.ed.gov/?id=ED535318
Capstone report of Carnegie Council for Advancing Adolescent Literacy. Provides steps for leaders at all levels to improve adolescent literacy.

Fisher, D., & Ivey, G. (2005). Literacy and language as learning in content-area classes: A departure from "every teacher a teacher of reading." *Action in Teacher Education, 27*, 3-11.
Description of how Disciplinary Literacy is different from "reading in the content areas" with examples from physics and physical education. Gives five principles to encourage disciplinary literacy in every class.

Greenleaf, C. L., & Hinchman, K. (2009). Reimagining our inexperienced adolescent readers: From struggling, striving, marginalized, and reluctant to thriving. *Journal of Adolescent and Adult Literacy, 53*(1), 4-13. Retrieved from http://onlinelibrary.wiley.com/doi/10.1598/JAAL.53.1.1/abstract
Description of a secondary school student who recreates his image as a reader by working through texts out of school that are important to him and how his teachers used this to help him access academic texts.

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Presents the results of a study examining the effects of professional development integrating academic literacy and biology instruction on science teachers' instructional practices and students' achievement in science and literacy.

Hall, K. M., & Sabey, B. L., (2007). Focus on the facts: Using informational texts effectively in early elementary classrooms. *Early Childhood Education Journal, 35*(3), 261-268.
Authors suggest several research-based strategies to help children understand and learn from informational texts.

Hapgood, S., & Palincsar, A. S., (2007). Where literacy and science intersect. *Educational Leadership, 64*(4), 56-60. Retrieved from http://district.auburn.cnyric.org/departments/science/Where%20Literacy%20and%20Science%20Intersect.pdf
Provides ideas for integrating science and literacy in elementary classrooms.

Haynes, M. (2011). *Engineering solutions to the national crisis in literacy: How to make good on the promise of the Common Core State Standards.* Washington, D.C.: Alliance for Excellent Education. Retrieved from http://www.all4ed.org/files/EngineeringSolutionsLiteracy.pdf
Presents data from NAEP and PISA testing showing that American adolescents are not performing well in literacy and suggesting that adherence to the Common Core State Standards can help address this problem. Gives possible reasons for the lack of achievement and describes policy decisions that can make a difference.

Kamil, M. L., Borman, G. D., Dole, J., Kral, C. C., Salinger, T., & Torgesen, J. (2008). *Improving adolescent literacy: Effective classroom and intervention practices: A practice guide* (NCEE #2008-4027). Washington, DC: U. S. Department of Education. Retrieved from https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/adlit_pg_082608.pdf
Guide presenting several evidence-based recommendations that teachers can use to increase the literacy levels of their adolescent students. Includes references to the research supporting these recommendations.

Moje, E. B. (2007). Developing socially just subject-matter instruction: A review of the literature on disciplinary literacy teaching. *Review of Research in Education, 31*, 1-44. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.615.9799&rep=rep1&type=pdf
Article describing research on Disciplinary Literacy up until 2006. Focus is on combining socially just instruction with Disciplinary Literacy.

National Council for the Social Studies. (2013). *College, career and civic life (C3) framework for social studies state standards.* Retrieved from http://www.socialstudies.org/sites/default/files/c3/C3-Framework-for-Social-Studies.pdf
This document's objectives are to: a) enhance the rigor of the social studies disciplines, b) build critical thinking, problem solving, and participatory skills to become engaged citizens, and c) align academic programs to the Common Core State Standards for English Language Arts and Literacy in History/Social Studies.

Neuman, S. B., & Dwyer, J. (2009). Missing in action: Vocabulary instruction in Pre-K. *The Reading Teacher, 62*(5) 384-392.
Review of the importance of vocabulary instruction and development in Pre-K. Analysis of strengths and weaknesses of ten common curriculum programs and suggestions for vocabulary instruction in Pre-K.

Online Resources

American Association of School Librarians Standards for the 21st Century Learner
Standards and suggestions for teachers in helping students with information literacy.

International Literacy Association
Information, resources, publications for all teachers concerned with literacy.

Literacy Design Collaborative
Resources for disciplinary literacy lessons and text-dependent writing units K-12.

National Council for the Social Studies
Information, resources, lesson plans, publications and professional development for social studies teachers.

National Council of Teachers of English
Information, resources, ideas for lessons, publications, and professional development for English teachers.

National Council of Teachers of Mathematics
Resources, lesson plans, ideas for instruction, information and publications for mathematics teachers.

National Science Teachers Association
Lesson plans, videos, professional development, and information for science teachers.

Pennsylvania Standards Aligned System
At this site, teachers can find the Common Core State Standards, assessments, ideas for instruction, and lesson plans aligned with the standards.

Reading Apprenticeship
Reading Apprenticeship is one of the leading programs for fostering Disciplinary Literacy. This site explains the program and provides many resources for teachers who want to understand more about how to teach content through disciplinary literacy.

ReadWriteThink
This website, jointly sponsored by International Reading Association and the National Council of Teachers of English, provides many ideas for teachers and for parents in promoting literacy. It includes lesson plans, as well as student interactives.

Stanford History Education Group
Includes a variety of lessons for U.S. and World history as part of the Read Like a Historian curriculum.

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Fixsen, D., Naoom, S., Blase, K., Friedman, R., Wallace, F. (2005). *Implementation research: A synthesis of the literature*. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, National Implementation Research Network.

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