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THE RESEARCH BEHIND LEARNING A-Z:

How Best Practices Inform Award-Winning Products





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Overview

Overview

Differentiated reading instruction can no longer be seen as an intervention or as a remedial measure; it's the way to teach all students (Ivey, 2000, p. 42).

Teachers know that one-size-fits-all instruction doesn't work and that personalized, or differentiated, instruction leads to increased learning gains across all subject areas. Learning A–Z understands this universal fact of teaching and has developed products that make it easier for teachers to provide the differentiated instruction every student deserves. Learning A–Z has designed a suite of online reading resources delivered by its family of websites. This comprehensive collection of web-based learning resources helps teachers differentiate instruction and improve student reading performance. These website resources are created to mirror best practices as defined by years of classroom research and as described in the National Reading Panel's report (National Institute of Child Health and Human Development, 2000).

Learning A–Z develops its products around a robust research base in literacy education. Our research-informed resources enable teachers to plan their lessons more efficiently, engage students more proactively, and leverage data and technology to make instruction more informed. With our comprehensive and blended approach, we help instill the skills students need to become proficient lifelong learners. Foremost, high-performing teachers are the single best predictor of student success (Wright, Horn, & Sanders, 1997, p. 63).

This document illustrates how Learning A–Z products align with best practices culled from a vast range of research in the teaching of reading, writing, vocabulary, science, and test-taking strategies. The first four chapters review research related to teaching reading, the necessity of guiding students in reading to learn, the significance of 21st century literacy skills, and best practices for guided, shared, and independent reading. Chapter five explores research on the benefits of cross-curricular, or holistic, teaching approaches, while chapters six and seven focus on specific demographics of learners: English language learners, gifted and advanced learners, and special needs learners. The last two chapters focus on best-practices research in teaching science and writing. Each chapter includes recommendations for Learning A–Z products that are informed by research in the chapter's topic area.

Learning A–Z knows that quality teaching is the number one factor affecting student learning success and that the best teaching is based on rigorous research. We believe that this document not only demonstrates our dedication to research-based best practices in teaching, but also provides a starting point for exploring how certain instructional strategies impact a range of learners, from gifted and advanced students to English language learners and special needs students. Learning A–Z's leveled resources are ideal for differentiating instruction in a variety of subjects, and this research paper highlights the spectrum of studies that inform the development of our products.

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Teaching the Foundations: Best Practices for Emergent Readers

Teaching the Foundations: Best Practices for Emergent Readers

Introduction

According to the United States Department of Education (2002), instructional programs and materials used by a state educational agency or school district must focus on the five key areas that scientifically based reading research has identified as essential components of reading instruction—phonics, phonemic awareness, fluency, vocabulary, and reading comprehension. Two other critical foundational skills—alphabetic knowledge and high-frequency words—have been identified by Adams (1990) and Fry, Kress, and Fountoukidis (2000). Together, these seven key areas are critical for students to master before they can read to learn or read for pleasure. Learning A–Z’s reading resources are informed by the best practices identified in research on teaching foundational skills. Our resources guide students in building and practicing these foundational skills so they are prepared for more advanced skills, such as close reading and making inferences, as they advance grade levels.

I. Alphabetic Knowledge

Alphabet instruction involves teaching naming, recognition, and formation of the 26 uppercase and lowercase letter symbols used to form every word in the English language. In addition to phonemic awareness, many reading experts say that recognition of the letters of the alphabet is one of the most important indicators of early reading success (Adams, 1990).

Starting at preschool and kindergarten, schools should help students learn the names and shapes of letters. Incorporating writing or printing into letter instruction is a powerful means of developing letter recognition. Using letter, keyword, and picture displays when introducing letters is an effective strategy (Adams, 1990).

II. Phonics

From a meta-analysis of 100,000 reading research studies, the National Institute of Child Health and Human Development (NICHD) concluded that systematic phonics instruction brought about the greatest improvements in reading ability. The findings led to recommendations that explicit, systematic phonics instruction be an essential part of every classroom reading program.

Phonics is a natural follow-up to phonemic awareness instruction. Teaching children the graphemes (letters) associated with the phonemes (sound units) that they have learned enables children to decode printed words. Research shows that the most effective phonics instruction is synthetic phonics, which teaches a child to convert letters into sounds and blend the various sounds needed to make words (White, 2005, p. 238–39). This instruction should begin in kindergarten and, for most readers, continue for two to three years.

III. Phonological Awareness

Although phonics and phonological awareness are usually taught together, phonological awareness focuses solely on the sounds of language rather than teaching the symbols that represent sounds. Instruction in phonological awareness includes awareness of sound at word, rhyme, syllable, and phoneme levels. It is one of the most important, if not the most important, early indicators of reading success (Stanovich, 1996).

The NICHD National Reading Panel report (2000) focuses on one component of phonological awareness—phonemic awareness. Effective teaching strategies for phonemic awareness include teaching students to identify a particular sound in a word; recognize the same sound in different words; recognize one word that begins or ends with a different sound from a group of three or four words; segment and blend the sounds in a word; and manipulate sounds in a word through substitution, addition, and deletion of other sounds.

Phonemic awareness also helps students learn to read and spell. Phonemic awareness is one of the best predictors of how well children will learn how to read (Erhi et al., 2001). The most effective instruction quickly moves the student from awareness of a particular sound to an association of that sound with a letter symbol. When letter symbols are introduced, students can manipulate the sounds within words by using their knowledge of sound/symbol relationships.

Phonemic Awareness Skills for Effective Reading Instruction	
Phoneme Skill	Definition
Isolation	recognizing individual sounds
Identification	recognizing same sound in multiple words
Categorization	identifying word with odd (different) sounds in three- to four-word sequence
Blending	listening to phoneme sequence
Segmentation	breaking words into phonemes
Manipulation	adding/deleting phonemes to create new words

IV. High-Frequency Words

In addition to phonics, phonemic awareness, and alphabetic knowledge, high-frequency words are foundational skills students must master. By some accounts, three words (*I*, *the*, and *a*) make up 10 percent of all words read, while 100 words make up 50 percent of all words read. Many of these words, such as *which*, *their*, and *would*, are not easily sounded out or decoded and cannot be taught with pictures. Mastering a repertoire of high-frequency words accelerates fluent and meaningful reading and helps students learn other words that contain similar parts (Fry et al., 2000).

High-frequency word instruction involves multiple exposures to these words, which includes presenting these words in meaningful context, associating them with other words, and presenting them in a variety of contexts.

V. Fluency

When students combine alphabetic knowledge, phonics, phonemic awareness, and recognition of high-frequency words, they are better able to practice reading fluency. Fluency has two parts: reading rate and reading expression (prosody). Research suggests that children who read haltingly expend so much energy on word naming that little energy is left for comprehension. The work of many researchers has shown that repeated practice with familiar reading passages at a child's independent reading level can improve fluency and lead to improved comprehension (Samuels, 2002). According to Samuels, fluency is critical because it exerts an important influence on comprehension; that is, to experience good comprehension the reader must be able to identify words quickly and easily.

VI. Vocabulary

According to Snow (2002), in-depth knowledge of word meanings can help students understand what they are hearing or learning. Specific word instruction, or teaching individual words, can deepen students' knowledge of word meaning. Children who can map words to their meanings are much more likely to comprehend what they read. Building word knowledge, which is demonstrated through comprehension, is critical to reading success.

While much vocabulary acquisition comes from incidental learning, research has shown that instructional

strategies, such as repeated exposure to words, pre-teaching vocabulary, and using context clues, are also effective—especially when these strategies are used in combination. Most students are capable of learning eight to 10 new words a week, according to the National Institute for Literacy (Armbruster, Lehr, & Osborn, 2009).

VII. Comprehension

Comprehension is the overall goal of all reading instruction. When students reach the goal of comprehension they can extract meaning from the printed word and derive knowledge or pleasure from what they read. Pardo (2004) asserts that the complex process of comprehending text is among the most crucial skills that students need to develop.

NICHHD’s National Reading Panel (2000) found that reading comprehension strategies can be acquired independently (informally) and through direct instruction (formally). Comprehension is best taught, practiced, and enhanced when children encounter reading materials at their developmental or instructional level—that is, materials that are not frustratingly difficult but are sufficiently challenging. Using developmentally appropriate materials, direct and explicit comprehension instruction that focuses on a few fundamental reading strategies can lead to improved reading performance.

Teacher-guided use of eight cognitive comprehension strategies, in combination, is the most effective approach to building comprehension skills, according to the National Reading Panel (2000). The goal is to scaffold instruction in a gradual release-of-responsibility model until the reader is able to use these strategies without the assistance of a teacher (Pearson & Gallagher, 1983). The National Reading Panel concluded in its research analysis that cognitive-strategy instruction results in significant gains in reading comprehension.

Strategies and Methods for Teaching Reading Comprehension	
Strategies/Methods	Description
Monitoring understanding	Monitoring understanding means being an active, thoughtful reader. Readers are aware of their thought processes and their use of reading strategies.
Analyzing story structure	Students understand story elements such as sequence, setting, characters, and events.
Answering questions	Teachers ask questions to guide student understanding.
Generating questions	Students generate their own questions regarding who, what, where, when, why, and how.
Summarizing	Students identify main ideas and relevant details of text.
Incorporating multiple strategies	Teachers model how to apply a combination of strategies to extract meaning from text.
Employing cooperative grouping	Students work together learning and using comprehension strategies.
Using graphic organizers	Students use visual devices to represent elements and ideas embedded within text.

Research-Based Product Recommendations

Learning A–Z provides a wealth of resources for effective instruction in alphabetic knowledge, phonics, phonemic awareness, fluency, vocabulary, and reading comprehension.

Raz-Plus/Reading A–Z/Raz-Kids

- **Alphabet Books** and their accompanying resources help students learn to identify, name, and write the letters of the alphabet.
- **Letter Formation Practice Sheets** are ruled practice sheets for each letter of the alphabet that provide practice in uppercase and lowercase letter formation. They come in Zaner-Bloser style, D’Nealian style, and cursive style.
- **Alphabet Chants** are fun one-page alliterative rhymes for each letter of the alphabet that help children with letter naming, listening for letter sounds, and learning the alphabetic principle.
- **Alphabet Letter Naming Assessments** evaluate recognition of uppercase and lowercase letters.
- **Leveled Books** in printable, digital, and projectable formats support instruction in comprehension, vocabulary, close reading of text, and more at 29 different developmentally appropriate reading levels.
- **Fluency Timed Reading Passages** assess reading fluency with two types of assessments. The first is a one-minute timed reading of a passage to measure the number and accuracy of words read; the second is a timed reading of a series of sentences followed by true/false statements about the sentences to assess comprehension.
- **Guided Reading Lessons** accompany every leveled book. Each lesson targets a reading skill and strategy, and has text-dependent questions at various levels of thinking.
- **Retelling Rubrics** assess comprehension through oral retellings and analyze students’ reading behavior and comprehension skills.
- **Benchmark Books** and **Benchmark Passages** assess multiple reading skills and guide teachers in recording reading behaviors with running records, which helps determine students’ instructional levels for leveled reading sessions.
- **Vocabulary Books** use a words-in-context approach. The themed books and accompanying activities provide ample opportunity to master new words and improve students’ ability to communicate.
- **High-Frequency Word Books** increase students’ reading vocabulary by focusing on the most commonly used sight words along with non-high-frequency words shown with a rebus.
- **Word Work** lessons available with every leveled book instruct students in vocabulary skills, such as synonyms, antonyms, homophones, and more.
- **Most Common Word Flashcards** are organized in nine sets of flashcards featuring the 220 most commonly used words, including sight words.
- **Decodable Books and Phonics Lessons** are built on research-based strategies for introducing, teaching, and practicing sounds (phonemes) and related symbols (graphemes).

- **Sound/Symbol Books** practice the sound/symbol relationships introduced in the phonics lessons using simple pictures and labels. The books can also be used on their own for reinforcement and practice.
- **Phonogram Flashcards** include one set of flashcards for each of the five short vowel lessons taught in the Decodable Books and Phonics Lessons.

Headsprout

- **Headsprout Early Reading** and **Reading Comprehension** episodes are individualized and adaptive online programs that increase in complexity as a child masters key skills and strategies. The Early Reading episodes focus on systematic instruction in phonics, phonemic awareness, and fluency, while the Reading Comprehension episodes use four unique methods of vocabulary instruction as well as comprehension strategy instruction for literal, inferential, derived meaning, and main idea question types.

Vocabulary A–Z

- **Vocabulary A–Z** allows teachers to select words and create customized vocabulary lessons.

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Reading to Learn: Going Beyond the Foundations

Reading to Learn: Going Beyond the Foundations

Introduction

After students have learned the foundational skills necessary to read fluently and make inferences from text, they are ready to use reading as a way to learn about a variety of subjects. Learning A–Z’s reading products use research-based strategies to introduce students to skills that help them read to learn, such as close reading and answering text-dependent questions. Our patented Text Leveling System ensures appropriate text complexity for every level of student, which makes our texts ideal for every level of reader, and our engaging informational texts are designed to encourage students to make connections with the material they read.

I. Text Complexity

Learning A–Z’s proprietary Text Leveling System uses a complex leveling criteria that accurately and reliably measures text complexity to support differentiated instruction.

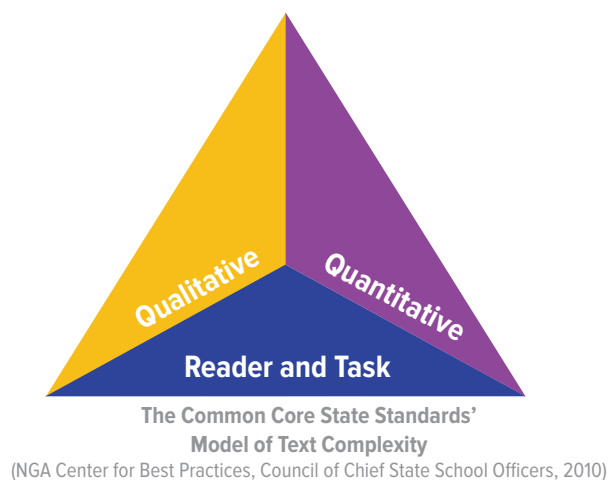
The system relies on three components of text complexity: qualitative measures, quantitative measures, and considerations related to the reader and the task (c.f. National Governors Association [NGA] Center for Best Practices, Council of Chief State School Officers, 2010). These components are helpful guides for teachers as they identify complex texts for classroom use.

Quantitative measures are what publishers traditionally rely upon to determine the difficulty of a text. Publishers use formulas to determine text difficulty, and often these formulas consider only two factors: sentence length and word frequency.

Qualitative measures examine text attributes that can only be evaluated by the person who is reading the book or passage. The reader is required to consider levels of meaning (Is the purpose explicitly stated? Is the language clear? Is the text conversational or academic? Is the text cohesive?), knowledge demands (Is it a simple, single-themed text or multiple-themed and complex? Does the text deal with common or unknown experiences? How many perspectives are presented? How many references are there to other texts?), and structure (How is the text organized? Do the structure and organization make sense? Are sections and features clearly labeled? Are graphic devices relatively simple and useful?).

Consideration of reader and task is the vital third component of text complexity. Each reader brings different skills, background, and motivation to the act of reading. This affects the level of interest or background knowledge a reader can harness for a given reading task.

The importance of the assignment itself can also influence the reading activity. Skimming a book or article for a key piece of information or reading leisurely places less demand on the reading task than if a student is preparing for an exam, following a step-by-step process, or reading for long-term retention.



II. Close Reading

According to the English Language Arts and Literacy Standards (2010), students should be able to “read closely to determine what the text says explicitly and to make logical inferences from it” (CCRA.R.1). Close reading involves analysis of short passages and excerpts, and guides students in understanding the text’s structure and the complex ideas presented.

When students participate in close reading, they first read to identify main ideas and details, and subsequently reread to dive deeper into the text, identifying the craft and structure of the text and analyzing the ideas presented. Serafini (2013) notes that this helps students “develop their comprehension abilities for understanding the textual arguments presented by the author” and allows students to “be better able to write responses to their reading experiences” (p. 300). The Institute of Educational Sciences states that when students can recognize the structure of a text, they comprehend content much better because their knowledge of text structure helps them recognize and construct meaning as they read (Shanahan et al., 2010, p. 17). As a result, students become more skilled at locating evidence within a sentence, paragraph, or page of a text. Then, orally or in writing, they can justify answers to text-dependent questions based on evidence.

III. Text-Dependent Questions

Close reading strategies and answering text-dependent questions go hand in hand. When students have opportunities to practice answering text-dependent questions, they improve their active reading skills and develop close reading habits. Learning A–Z’s resources reinforce the connection between close reading and answering text-dependent questions.

The CCSS call for students to be able to cite examples and evidence related to the ideas, details, information, and structure of a wide variety of texts. The reading standards emphasize students’ ability to answer a range of text-dependent questions, which can be answered only by referring back to the text being read.

Effective text-dependent questions encourage thoughtful consideration of the text. They will often lead students to discover text features or facts that they may have overlooked in earlier readings. Text-dependent questions can focus on specific words as well as the details and arguments presented in texts. Once these items have been identified and discussed, students can question how word choice, content, and structure impact the text as a whole.

Text-dependent questions can be used by the teachers to promote discussion and help students understand what they are reading. These questions can also be used to start student discussions and give students opportunities to explore the text with each other and voice their opinions.

According to the National Institute for Child Health and Human Development (2000), question answering and question generation are highly effective strategies for improving reading comprehension (pp. 4–5).

IV. Informational Text

One of the best ways for students to begin reading to learn is by reading high-interest informational texts about a variety of subjects that facilitate the practice of close reading skills and answering text-dependent questions.

“Informational text” is defined as a broad category of nonfiction resources including biographies and autobiographies; books about history, social studies, science, and the arts; technical texts (including how-to books and procedural books); and literary nonfiction (NGA Center for Best Practices & Council of Chief State School Officers, 2010). The Texas Essential Knowledge and Skills (TEKS) standards also highlight the importance of exposure to and practice with informational texts (Texas Education Agency, 2015). Informational texts teach students about text structure and the features common to written materials in the workplace and everyday life. Common structures in informational texts are description, sequence, problem and solution, cause and effect, and compare and contrast. Features such as headings, boldfaced terms, tables of contents, glossaries, captioned photos, art, and infographics (graphs, tables, charts and diagrams, etc.) are common to informational texts. These texts commonly include multiple structures and features in one text. Students need multiple opportunities to interact with these structures and features in order to become proficient readers of informational texts.

Traditional K–6 reading instruction relies heavily on literature and fictional texts. However, most of the reading that students will do in higher grade levels and in their careers will be expository or nonfiction text. If students are to better comprehend science, social studies, and math text—as well as meet more rigorous reading and writing requirements for graduation—then informational texts need to be used early and often in formal schooling.

Teaching students the skills and strategies to successfully read and comprehend informational text is critical to their success in higher education and the workplace. Teaching students about text structure, either as an isolated comprehension strategy or in coordination with other comprehension strategies, can lead to greater gains in reading comprehension compared to instructional settings where text structure is not discussed (Shanahan et al., 2010, p. 18).

Research-Based Product Recommendations

Learning A–Z’s reading instruction resources align with research recommendations for text complexity, close reading, text-dependent questions, and informational text.

Raz-Plus/Reading A–Z/Raz-Kids

- **Close Reading Packs** are printable and digital resources centered on a Key Question that guide students in thinking critically about text as they collaborate and share ideas based on text evidence.
- **Comprehension Skill Packs** provide multiple opportunities for students to understand the underlying structures of more complex texts.
- **Reading Graphic Organizers** create a simple structure for analyzing the information presented in complex texts.

- **Shared Reading Books** provide models for close reading, strategies for asking and answering questions, and tasks that require students to cite evidence to support their answers.
- **Paired Books** help students make connections within complex texts, first by answering text-dependent questions about individual texts and then answering questions about both texts combined.
- **Leveled Books** are available at 29 different levels of difficulty in printable, projectable, and digital formats to give students the opportunity to practice close reading skills.
- **Project-Based Learning Packs** support guided inquiry and collaboration with specific planning and organizing tools that help student teams investigate a high-interest topic and answer a Key Question.
- **Literature Circles** use informational texts with support materials that guide students' understanding of what they read as they engage in discussions with their peers.
- **Content Area Reading** organizes leveled books into featured groups of common content area topics.
- **Themed Nonfiction Series Collections** provide multiple informational texts on similar topics in order to help students build knowledge and compare information.
- **Theme and News Packs** integrate literacy and content-area instruction in multilevel resources that focus on informational text features such as graphs, maps, and charts.
- **Graphic Books** present informational text in a visually engaging and entertaining format.

Science A–Z

- **Investigation Packs** are group science activities that help students dig deeper into science content as they read high-interest texts and answer a question surrounding a Mystery File.
- **Project-Based Learning Packs** are inquiry-based science projects in which students work in teams to read different passages about a related topic and answer a Key Question.
- **FOCUS Books** cover high-interest science topics at three different reading levels and are available in printable, digital, and projectable formats.
- **Quick Reads** are single-page passages in printable and digital formats that address specific science topics.

Headspout

- **Headspout Reading Comprehension Episodes** teach students strategies to master the four main components of comprehension, including finding facts and making inferences. Materials in the program increase in text complexity to include more complex and longer passages, more variation in question types, and additional features such as diagrams and cross-section illustrations.

ReadyTest A–Z

- **Test-Taking Skill and Strategy Lessons** include close reading practice and assessment.
- **ReadyTest Practice Tests** include questions and tasks about informational text found on end-of-year tests.

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21st Century Skills: Preparing Students for Future Success

21st Century Skills: Preparing Students for Future Success

Introduction

The first decade of the 21st century saw fast-paced advancements in all areas of life, and educators are striving to prepare students for success in a quickly changing and more demanding world. That’s why Learning A–Z focuses on creating educational resources that prepare all students for the expectations of a global society where skills such as critical thinking, collaboration, problem solving, and effective communication are increasingly important.

The Partnership for 21st Century Learning Framework

Partly because it is anticipated that service economy employment will continue to grow as manufacturing declines in this century, the National Research Council (NRC) and the Partnership for 21st Century Skills (P21) recommend that all students acquire broad, transferable cognitive and noncognitive (intrapersonal and interpersonal) skills. The NRC (2012) defines 21st century skills as “knowledge that can be transferred or applied in new situations” (p. 128). This knowledge, along with skills and innovation potential, is seen as important in a service and technology-driven economy. Teachers and schools must prepare students for this changing economy. With educators in mind, P21 is one of several institutions that has created a framework to map the skills, knowledge, and expertise students need to succeed personally and professionally in the 21st century.

P21’s framework for 21st century learning standards is divided into three sections: traditional subject areas, 21st century interdisciplinary themes, and 21st century skills. Traditional subject areas include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government, and civics. To support these traditional subject areas, P21 recommends including the following themes: global awareness; financial, economic, business, and entrepreneurial literacy; civic literacy; health literacy; and environmental literacy (Partnership for 21st Century Skills, 2008).

These topics propel students to deeper learning, which the NRC (2012) defines as “the process through which an individual becomes capable of taking what was learned in one situation and applying it to new situations” (p. 5). A student’s ability to transfer skills and knowledge from subject to subject is advantageous to solving complex problems in a time of rapid global change.

II. The 4Cs

As defined by the Partnership for 21st Century Skills (2008), 21st century skills are divided into three categories: learning and innovation skills; information, media, and technology skills; and life and career skills (p. 13). The attainment of learning and innovation skills—critical thinking, creativity, communication, and collaboration—is seen as most valuable in preparing students for the complex work environments of the 21st century. These skills are also referred to as the 4Cs.

Several of the 21st century learning and innovation skills are referenced in the CCSS’s English Language Arts and Literacy standards, which focus on preparing students with the skills they need to become literate, successful people in the 21st century. The skills of communication, collaboration, critical thinking, and creativity are found throughout the standards and are seen as necessary for college, career, and life success.

Modern, rigorous academic standards, including the CCSS, incorporate the interpersonal skills of communication and collaboration in the listening and speaking standards with the goal of requiring students to develop a full spectrum of oral communication skills as well as interpersonal skills (NGA Center for Best Practices & Council of Chief State School Officers, 2010). Communication and collaboration skills include learning to work together, producing and carefully listening to ideas, adapting communication to a particular context or task, integrating information from various visual sources, evaluating spoken information, and using media and visuals to support communicative goals.

Critical thinking and problem solving skills are also integrated in modern English language arts standards. These cognitive processes can involve reasoning, systems thinking, and judgment and decision making (Partnership for 21st Century Skills, 2008, p. 4). When students develop critical thinking and problem solving skills, they are commonly participating in thought processes that ask them to evaluate, analyze, infer, synthesize, interpret, clarify, reflect, and solve.

Creativity is also a complex learning process. There is certainly overlap between the 4Cs, and the overlap between creativity and the other learning and innovation skills is strong. Students must learn to effectively communicate the ideas they create, and they need to build skills to develop new ideas collaboratively. Critical thinking is also important to the creative process. In particular, developing students' questioning skills opens them to new ways of thinking and acting.

III. Inquiry-Based Learning

Students put 21st century skills to work with inquiry-based learning. The inquiry process combines several learning and innovation skills into one approach. When teachers use the inquiry process in instruction, they facilitate learning while students are charged with constructing knowledge. The inquiry process is commonly associated with science education but is applicable to all content areas. When students participate in rich inquiry-based learning, they are commonly asked to pose real questions, plan and conduct research, interpret findings and data, and report their results. According to the National Research Council (2012), this process requires careful reasoning and framing of questions and hypotheses, systematic analysis and integration of data, and communication about and critical analysis of presented ideas (p. 127). Classroom use of the inquiry process has often been watered down to a fixed instructional sequence focused on experimental investigations that have a predetermined outcome. The deeper learning involved in true inquiry processes helps students move beyond facts and information (which can change) to understanding how to create and analyze data.

Research-Informed Product Recommendations

Learning A–Z offers multiple products that build students' 21st century skills and inspire inquiry-based learning.

Raz-Plus/Reading A–Z/Raz-Kids

- **Project-Based Learning Packs** develop students' creativity, critical thinking, problem solving, communication, and teamwork skills. Each pack provides a depth of grade-appropriate resources for reading and activities. Packs also support guided inquiry and collaboration with specific planning and organizing tools that student teams use to investigate a high-interest topic and answer a Key Question. The Key Question gives students' investigations purpose and structure and helps them understand what they are learning and why it is important.

- **Close Reading Packs** promote careful analysis of text while building 21st century skills. Self-directed individual work, team-oriented small-group work, and teacher-facilitated whole-class discussion helps students analyze and evaluate literary and informational text with the goal of determining the best answer to a text-dependent Key Question.
- **Literature Circles** provide teachers and students with everything they need for lively, engaged participation in literature circle meetings that build collaboration, communication, and creativity, and promote student choice, independent reading and writing, and deep discussion of text.
- **Leveled Books** include discussion cards that require students to think critically about recently-read text as they respond to four higher-order thinking questions. When used for general class discussion, literature circles, or prompts for written responses, students learn to use communication and collaboration skills to develop and express their ideas.
- **Paired Books** promote higher-order thinking with texts that are categorized into three types of pairings: fiction-nonfiction, fiction-fiction, and nonfiction-nonfiction. Paired books teach readers to see connections and differences across texts. Students build perspective and comprehension as they consider multiple viewpoints on a topic or issue. Student discussion using carefully crafted text-dependent questions builds communication and collaboration skills.
- **Wordless Books** allow students to be creative as they tell their own stories to go along with detailed illustrations.

Science A–Z

- **Investigation Packs** are group science activities that help students apply scientific practices and develop the 21st century skills of critical thinking, problem solving, collaboration, and communication. Investigation Files, or I.Files, feature high-interest, in-depth informational text. Students do a close reading of the I.Files and then cite evidence that helps them solve the Mystery File in each pack through group discussion.
- **Debates** integrate critical thinking, communication, collaboration, and teamwork with science content and research in meaningful, interactive debating experiences that provide students the opportunity to practice compromise, empathy, and decision making.
- **Videos** promote critical thinking and use important science vocabulary in an engaging format.
- **Process Activities** are hands-on science activities and experiments. Students identify and solve problems and communicate their findings through speaking, listening, and writing. Students also practice proposing new solutions, designing experiments, and testing new ideas as they collaborate with peers.
- **Science Fair Resources** foster creativity and authentic student inquiry while teaching the practices of scientists and engineers. Each unit in Life, Earth and Space, and Physical Science includes a list of engaging science fair project ideas for students to choose from or use as inspiration for their own research questions.

Headsprout

- **Headsprout Reading Comprehension Episodes** go beyond teaching the basics of understanding text and, in later portions of the sequence, focus on critical thinking and problem-solving skills by teaching students to logically make inferences from text. The inquiry-driven sequence prompts students to answer questions based on evidence provided in the text.

Writing A–Z

- **Writing Prompts** and **Write-Aways** fuel student creativity. Writing Prompts spark original compositions with sentence frames and text prompts. Write-Aways are a collection of sentence frames that align with the stages of the emergent writing lessons.
- **Build-A-Book** allows students to exercise their creativity as they write and publish their own digital books. Students can create books in nearly any genre or subject. Build-A-Book supports steps of the writing process with prewriting, drafting, revision, and publication to the online Kids Writing Library.
- **Write Your Way** supports students' creative writing skills as they develop short writing compositions and draw pictures to support their text. The tool can be used for journaling, freewriting, quick essays, responses to reading, or other daily writing activities.

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**Balanced Reading
Instruction: Best Practices
for Shared, Guided, and
Independent Reading**

Balanced Reading Instruction: Best Practices for Shared, Guided, and Independent Reading

Introduction

Research shows that students benefit from multiple approaches to literacy instruction that give them necessary structured guidance while allowing them to practice reading on their own. The resulting instructional framework is composed of nine main elements: reading aloud, shared reading, guided reading, independent reading, shared writing, interactive writing, guided writing or writing workshop, independent writing, and word work (Fountas & Pinnell, 1996, pp. 22–24). The framework helps a teacher “recognize and plan for the relationships among the different components” (Fountas & Pinnell, 2001, p. 14). In this chapter, we focus on a balanced approach to reading instruction that combines guided, shared, and independent reading. Learning A–Z resources for reading instruction align with best practices for implementing these three strategies.

I. Balanced Literacy

Balanced reading instruction supports a scaffolded approach—a gradual release of responsibility model in which the teacher first models the reading skills and strategies that “good readers” employ, then guides the students in using them, and finally supports students as they use the skills and strategies independently. Duffy (2003) states that modeling and explanations “temporarily put teachers in the ‘driver’s seat,’” but that teachers “must as soon as possible get out of the way and ensure that students use explanatory information independently” (p. 59). The read-aloud component is the most teacher-centered and usually involves text that is above grade level in order to expose students to complex sentence structures and advanced vocabulary (Fountas & Pinnell, 1996, p. 22). During this time, the teacher models fluent reading and the use of skills and strategies through explanation.

II. Shared Reading

During shared reading, a teacher reads a text with fluency and expression and then provides explicit instruction on specific skills, strategies, or concepts. The text is commonly in big book or projectable book format to ensure the text and pictures are accessible to everyone. The teacher often reads the book several times over several days, with different purposes for each session. The purposes are commonly to build comprehension, focus on interesting or unknown vocabulary, teach decoding, or teach word identification skills. The teacher pauses to ask questions or to think aloud at various points during the reading, and students read along when they can and answer questions. Shared reading provides students with a high level of support and allows students access to authentic texts above their current reading level. After a shared reading lesson, students may transition into small groups for guided reading, collaborative learning (to discuss and share their thoughts with peers), or independent reading (to practice and apply reading skills and strategies).

Shared reading has traditionally been associated with the big book method developed by Holdaway (1979), but it is now considered a generic term that can represent a range of activities including echo, choral, and cloze reading. Similarly, what is taught during shared reading covers a range of skills, strategies, and concepts. Research by Fisher, Frey, and Lapp (2008) found that teachers most commonly modeled comprehension, vocabulary, text structures, and text features during shared reading. The most common comprehension strategies taught were background, inferencing, summarizing, predicting, clarifying, questioning, visualizing, monitoring, synthesizing, evaluating, and connecting (p. 550). Research has also shown that shared reading is particularly effective for “in the head” strategies such as prediction (Buttun & Johnson, 1997, p. 265).

Early research on shared reading was based on observations that Holdaway (1979) made while analyzing interactions between children and their caregivers at home. His findings led to the development of the school-based big books method. More recently, Hall and Moats (2000) analyzed research concerning parents who read to their children and found the benefits included vocabulary growth, familiarity with language patterns, story structure and the reading process, and the identification of reading as a pleasurable activity (p. 27).

III. Guided Reading

Guided reading is considered the cornerstone of a balanced reading program (Fountas & Pinnell, 1996, p. 1). In fact, guided reading has become one of the most widely used approaches to reading instruction in the United States (Fawson & Reutzel, 2000) and accepted as a particularly appropriate strategy for children who are moving toward fluency in the early years of literacy development (Mooney, 1990; laquinta 2006, p. 413). Guided reading allows students in a small group to employ skills and strategies learned during read-alouds and shared reading while navigating instructional level text with the support of the teacher. Students should be able to read the text with some fluency but also be challenged enough that they can problem solve while reading for meaning. In order to find students' instructional levels, most teachers assess students individually using running records and/or benchmark assessments. Teachers then place students into dynamic and flexible needs-based groups where they are frequently assessed (Fountas & Pinnell, 1996, p. 98). It is suggested that teachers change groups regularly "to accommodate the different learning paths of readers" (laquinta, 2006, p. 414). Effective guided reading instruction is accompanied by a teacher's regular tracking of students' growth and the alteration of group membership as necessary (Gibson & Moss, 2016).

After students are grouped, teachers select appropriate texts that suit the needs or focus of the group. Many teachers will use instructional level texts from a leveled library they have purchased or leveled and organized themselves (Fountas & Pinnell, 1996, p. 113). During a guided reading session, "teachers monitor student reading processes and check that texts are within students' grasps, allowing students to assemble their newly acquired skills into a smooth, integrated reading system" (Clay, 1994, p. 17). Teachers also plan lessons that focus on a particular skill, strategy, or language arts standard.

IV. Independent Reading

Independent reading is an integral part of balanced literacy; it is the instructional period in which students apply the skills and strategies learned in shared and guided reading. Independent reading is viewed as "the indispensable practice that literacy learners require to become successful, self-regulating, self-monitoring readers" (Routman, 2002, pp. 86–87). During independent reading, a 20- to 45-minute time period, depending on the grade level, students read a variety of self-selected texts at their independent reading levels. At this time, the teacher usually conferences with students individually or works with a small guided reading group. Both the teacher and the students keep track of the books read. Students are expected to think about the text as they read and often engage in a written response to communicate their thoughts and questions with the teacher (Fountas & Pinnell, 2001, p. 117).

Independent reading has several definitions, but most educators agree that there is a significant difference between independent reading and sustained silent reading (SSR). Research indicates that simply designating time in school for reading is not enough. Routman (2002) advocates "a carefully designed, structured reading program that includes demonstrating, teaching, guiding, monitoring, evaluating, and goal setting along with voluntary reading of books students choose" (p. 83).

A large body of research supports the effect independent reading has on student achievement. Cullinan's (2000) summary of the research supporting independent reading both in and outside of the classroom found that reading books was the best predictor of measures of reading achievement, reading comprehension, vocabulary, and reading speed (p. 5). Independent reading outside of school has also been linked to increased student achievement. Anderson, Wilson, and Fielding (1988) compared the amount of student reading with their scores on achievement tests. The number of minutes spent reading outside of school, even a small number, correlated positively with reading proficiency (p. 285).

Current literacy standards suggest students read a wide variety of genres from diverse cultures and different time periods. To achieve this, teachers can label and organize their classroom library by genre and create a "Genre Wall" where books read aloud are displayed for students to read independently (Diller, 2005, p. 36).

Research-Based Product Recommendations

Learning A–Z’s products align with current research in balanced literacy by structuring effective instruction in shared, guided, and independent reading.

Raz-Plus/Reading A–Z/Raz-Kids

- **Leveled Books** are available in English and multiple World Languages and come in printable, digital, and projectable formats.
- **Graphic Books** expose students to a variety of genres and allow students to explore nonfiction topics.
- **Shared Reading Books** are projectable big books designed for shared reading.
- **Classics** introduce students to the more complex text of classic literature including novels, stories, and poetry.
- **Literature Circles** provide the materials for student-led groups to have engaging discussions about any book.
- **Reader’s Theater Scripts** give students the opportunity to act out and practice reading fluently in an entertaining way.
- **Serial Books**, or series books, are sets of books with familiar characters and predictable formats.
- **Themed Nonfiction Series** help students interact with informational text at their reading level.
- **Genre and Content Area Reading Connections** help students recognize the characteristics that define different genres and improve reading comprehension as students read independently.

Science A–Z

- **Investigation Packs** are group science activities that help students dig deeper into science content with high-interest texts to read as they answer a question surrounding a Mystery File.
- **Project-Based Learning Packs** are inquiry-based science projects in which students work in teams to read different passages about a related topic to answer a Key Question.
- **FOCUS Books** cover high-interest science topics, come in three different reading levels, and are available in printable, digital, and projectable formats.
- **Quick Reads** are single-page passages in print and digital formats that address specific science topics.

Headsprout

- **Headsprout Reading Comprehension Episodes** teach students strategies to master the four main components of comprehension, including finding facts and making inferences. Materials in the program increase in text complexity to include more complex and longer passages, and more variation in question types, and additional features such as diagrams and cross-section illustrations.

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Cross-Curricular Reading Instruction: A Holistic Approach to Teaching Literacy

Cross-Curricular Reading Instruction: A Holistic Approach to Teaching Literacy

Introduction

Effective literacy instruction does not happen in a vacuum: it occurs across a spectrum of interrelated components that come together to give students a holistic understanding of how to make meaning in the world. According to the National Institute of Child Health and Human Development's National Reading Panel (2000), there are five critical factors to consider when viewing literacy instruction as a whole: assessment, connections across domains, practice at home, incentives, and digital literacy. Learning A–Z designs products with these research-based components in mind so that educators can more easily make cross-curricular connections that enhance reading instruction.

I. Assessment

Ongoing assessment to monitor student progress and adjust instruction as needed is a key component to a cross-curricular approach to literacy instruction. Current research on assessment indicates that students must interact with multiple assessments in order for achievement to be accurately captured (National Council of Teachers of English [NCTE], 2017). Assessments provide teachers with data that informs instruction. The Institute of Education Sciences (IES) recommends making data part of an ongoing cycle of instructional improvement and teaching students to examine their own data. Assessment data can help teachers prioritize instructional time, identify student strengths and weaknesses, target students who need additional instruction, and gauge the effectiveness of classroom lessons (Hamilton et al., 2009, p. 5).

II. Connections Across Domains

Along with using assessment to inform instruction, it is integral for educators to connect all segments of the language arts. Loban (1963) confirms what all literacy instructors know to be true: there are positive interrelations among the language arts—reading, listening, writing, and speaking. The reciprocity of reading and writing is key to learning to read. Clay (1991) finds that “what the child writes is a rough indicator of what he is attending to in print” (p. 109). Through reading, children gain information and ideas, and then share what they know in their writing. Pearson (2002) describes three synergies that link learning to read and learning to write: the first at the letter-sound level, where writing encourages phonemic awareness; the second at a structural level, where students use the stories they have read as models for the stories they write; and at a third level where language intention and connection to audience are questioned as a piece of student writing is created and shared.

The need for literacy instruction across disciplines is also important. If all students are to become competent readers, teachers in all disciplines and at all grade levels must model and practice reading strategies and skills. A good beginning point is for teachers to provide students with instruction in phonemic awareness, phonics, fluency, and comprehension—the effective tools of literacy instruction identified by the National Reading Panel (National Institute of Child Health and Human Development, 2000). Reading in the content areas supports and extends the content area knowledge that teachers share in lessons and model for students. Research examining science and social studies textbooks found that textbooks in these fields represent the grade level content appropriately but that the reading level of the textbooks can be up to three years higher than the age-appropriate reading level for the intended audience (Billmeyer & Barton, 1998).

III. At-Home Practice

There is a large body of research that shows that students who read more are better readers and have higher reading achievement (Routman, 2002). There is also extensive research that identifies the specific components of reading and writing that students need in order to become independent readers. The National Institute of Literacy describes these components as learning the alphabet, phonological awareness, phonics, spelling, and fluency, as well as building vocabulary, comprehension, and knowledge of the world (Eunice Kennedy Shriver National Institute of Health and Human Development, NIH, DHHS, 2006). The promotion of reading at home increases the amount of time students spend reading and their overall exposure to the most important elements of literacy. Reading at home can take different forms: students can read independently, and parents and caregivers can offer verbal support and be involved in reading with their children. Hall and Moats (2000) analyzed research of parents who read to their children and found the benefits included vocabulary growth, familiarity with language patterns, story structure and the reading process, and the identification of reading as a pleasurable activity (p. 27).

IV. Incentives

Motivation associated with reading comes in multiple forms. Self-interest can motivate readers, as can hands-on or authentic reading activities (Duke, Pearson, Strachan, & Billman, 2011). Allowing students to select texts or assignments on their own increases students' motivation and engagement with reading (Billmeyer & Barton, 1998). Creating opportunities for students to see themselves as successful readers is also an important part of motivation. This is one of the five recommendations made by the IES in its report *Improving Reading Comprehension in Kindergarten Through 3rd Grade*. The recommendation suggests teachers work with students to set goals and monitor progress, and also provide frequent and specific praise and feedback when students complete challenging tasks or gain skills, which the panel believes will increase students' intrinsic motivation to read (Shanahan et al., 2010). Overall, research shows that "motivation is highly correlated with learning in general and reading comprehension in particular" (Duke et al., p. 60).

V. Digital Literacy

Research on the development of digital skills is still limited, but most experts agree that students should be learning from a mix of print and digital texts beginning at a young age (Heitlin, 2016). There is some pessimism about the educational use of digital texts (e.g., Carr, 2008). Some have argued that readers simply pay less attention when they read digital content. In the face of these arguments, many others believe digital tools used with intent can be effective ways to engage readers and enable connections (Turner & Hicks, 2015). Digital reading tools (e-reading technology) such as text-to-speech features where a book is read aloud to a student may substantially improve the learning of students (Biancarosa & Griffiths, 2012) and may "create young readers who possess the higher level of literacy skills and background knowledge demanded by today's information-based society" (Biancarosa & Griffiths, p. 139). The National Reading Panel considered technology as an effective component of literacy instruction. The report found that although the number of studies that examine the effect of technology on reading instruction was limited, technology could be effective in reading instruction. The report also pointed to the possibility of using word processing to improve reading by linking it to writing instruction (National Institute of Child Health and Human Development, 2000, p. 6-2).

Research-Informed Product Recommendations

These Learning A–Z products and resources support assessment, connections across domains, practice at home, incentives, and digital literacy.

Raz-Plus/Reading A–Z/Raz-Kids

- **Alphabet Letter Naming** assessments in printable and digital formats determine students' abilities to name uppercase and lowercase letters.

- **High-Frequency Words** assessments in printable and digital formats help measure a student’s ability to recognize and read high-frequency words, or sight words.
- **Phonological Awareness** assessments determine whether or not students can identify, discriminate, and produce sounds.
- **Timed Reading** assessments are available in printable and digital formats to test the accuracy of words read, fluency, and comprehension.
- **Benchmark Passages** and **Benchmark Books Running Records** in printable and digital formats enable teachers to record reading behaviors and find students’ instructional levels by assessing their reading skills with developmentally-appropriate texts.
- **Comprehension Quizzes** in digital and printable formats accompany all leveled books and assess students’ comprehension and understanding of the text read.
- **Themed Nonfiction Series** are groups of texts at a variety of reading levels built around a central theme which integrates language arts with either science or social studies.
- **Project-Based Learning Packs** encourage cross-domain instruction by providing numerous resources related to language arts, science, and social studies that students use as a team to solve real-world problems.
- **Classics** and **Genre Collections** improve reading comprehension by exposing students to a wide variety of genres and increased text complexity.
- **Parent Access** allows caregivers to track their student’s online learning. Parents and reading tutors can see which books their student has been reading, monitor comprehension with quiz scores, and send messages to the student. Easy-to-navigate digital reports show real-time student activity and skill development.
- **WOWzer** downloadable cards and certificates encourage and reward successful readers and learners as they move from one level to the next.
- **Messages and progress statistics** allow teachers and parents to see and track student progress. They can also choose to send encouraging messages and reminders through the online message center.
- **Star Zone with Raz Rocket and Robot Builder** motivate student success. Students receive stars for successfully completing various assignments and texts. These stars can then be redeemed in the Kids A–Z Star Zone, where students can personalize their online portal and create a personal avatar.
- **eBooks** at 29 different reading levels give students the opportunity to listen to texts read aloud in an individual setting or as a class using the projectable format.
- **Reading Room** is a self-directed digital reading library separate from an assignment where students can choose books based on their interests.
- **Data and Reports** allow teachers to monitor student progress in reading and comprehending texts.

Science A–Z

- **Investigation Packs** integrate science and literacy across four science domains and include a variety of books, quizzes, supporting texts, comprehension tools, hands-on science activities, and multimedia along with teaching guides for instructional support.
- **FOCUS Books** combine reading comprehension activities, assessments, and hands-on, inquiry-based science activities in which students read, write, think, and do.
- **Instructional Units** integrate literacy and science. Each unit includes lessons, informational texts, and hands-on activities across four scientific domains: Life, Earth and Space, Physical, and Process Science.

Headsprout

- **Headsprout Early Reading Episodes** take nonreaders or beginning readers up to mid-second grade reading skills in less than 30 hours of individualized online instruction.

Writing A–Z

- **Wordless Books** allow students to use their imaginations to write their own stories with a book’s illustrations or support retellings of the original text from leveled books at levels aa–J.
- **Writer’s Response** activity sheets for select leveled books encourage students to reflect on the deeper meaning of each book, and read through prompts that support writing that applies, synthesizes, and evaluates each book.
- **Process Writing Lessons** engage students in shared writing during the guided practice portion of the lesson.
- **Process Writing Workshop** is an online program that takes students through the writing process at the writer’s developmental stage. The workshop gives step-by-step instructions and videos so that students can create compositions for different text types on their own.
- **Write-Aways** are templates that inspire quick compositions in four major writing genres (informative, narrative, opinion, and transactional).
- **Story Cards** are story starters that spark ideas for developing stories in various genres and text types using students’ knowledge and experience with text structure and character, plot, and telling cards.
- **Mini Books** help students practice their reading and writing skills with engaging content area and seasonal topics. The books feature illustrations and writing frames for young writers to complete.
- **Back-to-School Writing** helps students get to know one another better while improving their writing skills at home or in school. Parents work with their children to answer questions about their home and family.
- **Summer Writing** handouts offer chances for students to practice writing letters, books, postcards, and posters for critical writing practice over the long summer break. Helpful tips for parents foster writing skill development and help parents partner with the teacher during the school year, too.

ReadyTest A–Z

- **ReadyTest Practice Tests** prepare students for next generation, standards-based assessment in an interactive learning environment which includes self-correction with supporting rationales to help students to better analyze text and practice with higher-order thinking questions, drag-and-drop response, and text highlighting.
- **ReadyTest A–Z Practice Tests Skill Reports** show individual and class-wide progress on online Practice Tests.

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**English Language
Learning: Helping
Students with Speaking,
Listening, Reading, and
Writing in English**

English Language Learning: Helping Students with Speaking, Listening, Reading, and Writing in English

Introduction

Teaching English language learners (ELLs) is a complex process that involves scaffolding instruction in speaking, listening, reading, writing, vocabulary, and grammar. For some students, English may be their second or third language, and other ELLs may have limited levels of proficiency in their primary languages.

I. Programs for English Language Learners

In the United States, almost one in ten K–12 students is identified as an English language learner (National Center for Education Statistics [NCES], 2017). Best approaches to teaching ELLs are constantly evolving as teachers try new practices and as new research is conducted. Certain facts on effective teaching of English as a new language, however, have already been established: 1) The academic and language background of students is important in deciding best programs and approaches to teaching, and 2) the process of second language acquisition must be considered in pedagogical practices.

ELLs are placed in programs that reflect different philosophies and policies. The most common programs are:

- **Pull-Out/Push-In English as a Second Language:** A language specialist provides specific language support to facilitate student success in mainstream classrooms or support staff uses a research-based program to assist students' language development.
- **Sheltered or Structured English Immersion (SEI):** ELLs are grouped in a stand-alone classroom for a few hours a day to receive language and academic instruction. Some states have opted to use the Sheltered Instruction Observation Protocol (SIOP) approach as an instructional frame.
- **Bilingual Instruction:** Students receive academic instruction and language development in their native and second languages.

II. Academic Language Acquisition

Regardless of program choice, educators must consider how the process of academic language acquisition affects instructional practices. Quality instruction has more influence on student success than time spent immersed in language, and it demands explicit attention to language, literacy skills, and content knowledge within an authentic sociocultural context (Collier & Thomas, 2007; Ovando & Combs, 2006). The development of language, literacy skills, and content knowledge depend on each other. In fact, language for school, also known as academic language, is learned only through the literacy of the content (Fillmore & Fillmore, 2012).

Academic language includes the discourse patterns, grammar, and vocabulary of the task (Anstrom et al., 2010; Scarcella, 2003). For instance, if the task is to read a text which compares and contrasts two concepts, the discourse patterns would address the features and words common to compare-and-contrast writing, the grammar would explain the use of comparatives and adjectives commonly used in compare-and-contrast sentences, and the vocabulary would be specific to the two concepts being compared. Academic language implies that students will have opportunities to comprehend and express the complex language required for their grade level (August & Shanahan, 2006). Incorporating the following practices positively influences the effectiveness of instruction for ELLs.

- **Introducing and reinforcing academic language through reading, writing, listening, and speaking:** This gives students opportunities to read, write, listen, and speak on one theme through different subjects. Another way to do this is by developing literacy skills using text materials that relate to the content of instruction.
- **Assessing academic language:** Assessing language at the end of each lesson provides powerful information to plan and adjust instruction. It creates awareness of the complexity of language students are using to express their knowledge. Effective assessments require students to explain their knowledge through speaking or writing. In this manner, educators may evaluate the discourse, sentence complexity, or vocabulary students are using to reflect content knowledge. The following chart exemplifies some assessment strategies:

Discourse	Sentence	Word
Students explain a concept using a graphic organizer or concept map.	Students write using specific parts of speech to add details to sentences.	Students label a visual representation of a concept.
Students write a paragraph that responds to the verb of the objective (<i>analyze, summarize, explain cause and effect</i>).	Students use conjunctions or internal punctuation to relate two ideas in one sentence.	Students use derivational words when explaining a concept (<i>conduct, conduction, conduces, conducted</i>).
Students retell a video clip that explains a concept.	Students read mathematical sentences and expressions.	Students define words using prefixes and suffixes.

- **Use the complexity of text to deconstruct academic language:** The goal of deconstructing academic language is to use language structures as strategies to comprehend a text. This involves analyzing how writers organize discourse, control sentence complexity, or use words to achieve a purpose. The teacher and students may select the most complex or difficult sentence and analyze the meaning of groups of words and how these groups of words relate to the main idea of the sentence.
- **Using the student's first language to construct knowledge of English:** Students retain more information when a new language construction is linked to what they already know from their native language (Fillmore & Snow, 2000). Pointing out words that are similar in English and other languages (cognates), such as *describir* in Spanish and *describe* in English, is an example of how to build English upon the native language. Comparing affixes is another way. A teacher may point out to native Spanish speakers that the suffix *-tion* has the same function than *-ción* in Spanish as in *nation -nación* or that *-ty* is the same suffix as *-dad* as in *liberty-libertad*.
- **Scaffolding language and content:** The goal of scaffolding is to sequence and build on grade-level academic language and content to give great support at the beginning and then give independence to students in building and expressing their own learning. Teachers use scaffolding strategies for teaching (I do) when they speak English with clarity, model academic language, use visuals, use demonstrations, and in think-alouds. Scaffolding is also used to process learning (we do) when students use language frames, graphic organizers, and manipulatives, and when they collaborate and represent concepts through different modes.

III. Speaking

English language learners need to develop oral proficiency in English to be confident and competent in social and academic settings. When ELLs have explicit instruction and practice in oral language, they have a stronger foundation for developing reading and writing skills. ELLs need oral language skills in order to be active participants in their learning and achievement in school. With explicit instruction in speaking, through the use of sentence frames and scaffolded partner or group discussions, ELLs have the structured practice needed to meet rigorous academic standards. Effective instruction for ELLs provides both explicit teaching of features of English (such as syntax, grammar, vocabulary, pronunciation, and norms of social usage) and ample, meaningful opportunities to use English (Goldenberg, 2008, p. 42). The use and development of oral language is particularly important for beginning ELLs in the younger grades, as it serves as one foundation that students use to build early reading skills (Bunch, Kibler, & Pimentel, 2012, p. 3).

IV. Listening

For English language learners, listening is an essential skill in a content classroom where students are listening to and processing information in a second or additional language. Instructing ELLs to become active listeners can help them achieve success in academic settings. When ELLs receive listening strategy instruction, they gain access to academic conversations and content learning. For English learners, for whom oral language proficiency plays an important role in acquiring reading skills, active participation by children during teacher read-alouds contributes to vocabulary growth (Calderon, Slavin, & Sanchez, 2011, p. 111). Preparing ELLs for mainstreaming means preparing them for listening to teachers and classmates engaged in academic content (Chamot & O'Malley, 1994, p. 52).

V. Reading

Reading is a complex skill involving processing, interpreting, and evaluating in order to comprehend written text. For ELLs, reading in English means applying these actions to a new language. Greater opportunities to engage with fiction and nonfiction texts support ELLs in becoming successful readers in content area subjects. It is essential that ELLs are prepared to comprehend and respond to challenging texts in order to achieve state and national standards, as well as be successful in secondary and higher education and beyond. Reading comprehension instruction for ELLs needs to be modified to address their needs. According to Irujo (n.d.), curriculums must be implemented at a language level that is accessible to ELLs. To become good readers—to be able to recognize words and comprehend a text simultaneously—ELLs require practice at both decoding and fluency. Teachers must thus give equal attention to decoding, or word recognition, and comprehension (Calderon et al., 2011, p. 111). ELLs learning to read in English, just like English speakers learning to read in English, benefit from explicit teaching of the components of literacy, such as phonemic awareness, phonics, vocabulary, comprehension, and writing (Goldenberg, 2008, p. 17).

VI. Writing

Writing is often thought of as the most challenging skill for ELLs to acquire. When putting ideas into words, ELLs may find it difficult to express themselves because of limited vocabulary and grammar skills, spelling ability, or a lack of confidence using their voices in English. The demands placed on ELLs by college and career-focused writing standards have made writing in English an even more challenging task. Just as teachers can carefully scaffold the reading of complex texts, they can also assist ELLs to develop the ability to write for the wide variety of audiences and purposes emphasized by CCSS and other standards.

Like first language writing, second language writing develops gradually over time, with considerable variation in individual learners' progress through different stages of development (Bunch et al., 2012, p. 5). As with all students, ELLs must be able to move beyond narrative writing and into genres where they must apply academic and content knowledge. Writing instruction benefits ELLs in numerous ways. As they practice the process of writing, they are exposed to a variety of genres and can experiment with voice in English.

VII. Vocabulary

An English language learner's English vocabulary can be extensive or minimal depending on the student's background and learning experiences. ELLs require more vocabulary instruction and different vocabulary teaching techniques and strategies than their native-speaking peers (Irujo, n.d.). To help ELLs acquire vocabulary, they must be given numerous opportunities for exposure to and application of words in authentic and varied contexts. ELLs need vocabulary instruction that is focused, deliberate, content-based, and visually supported. ELLs need to see and use the words repeatedly within new content or context in order to acquire them.

Vocabulary knowledge and strategies for interpreting word meanings are essential for ELLs to perform academic reading and writing tasks. Vocabulary instruction contributes to overall effective instruction by developing students' phonological awareness and reading comprehension (Calderon et al., 2011, p. 110). Effective second language instruction helps students directly and efficiently learn features of the second language such as syntax, grammar, vocabulary, pronunciation, and the norms of social usage (Goldenberg, 2008, p. 13). Studies of vocabulary instruction also show that ELLs are more likely to learn words when they are directly taught. Just as with English speakers, ELLs learn more words when the words are embedded in meaningful contexts with ample opportunities for their repetition and use, as opposed to looking up dictionary definitions or presenting words in a single sentence (Goldenberg, 2008, p. 17).

VIII. Grammar

Grammar is the structure and function of language, and when ELLs can recognize the structures and functions of English they can increase their proficiency in speaking, listening, reading, and writing. In order for ELLs to be able to access academic language and content, they need explicit instruction in, and meaningful practice with, English grammar. According to the CCSS, all students, including ELLs, must demonstrate a command of grade-level appropriate English grammar and usage (National Governors Association, 2010).

Grammatical competence for everyday English includes the accurate use of frequently occurring morphological and syntactic features as well as the functions of these features (Scarcella, 2003, p. 14). Understanding and developing a high level of competence in grammar is the foundation for ELLs to gain access to the demanding texts and tasks of the CCSS, TEKS, and other rigorous academic standards.

Learning A–Z Research-Based Resources for English Language Learners

Raz-Plus ELL Edition

- **ELL Leveled Reader Packs** are correlated to many leveled books and scaffold reading instruction for ELLs at all proficiency levels. The packs build English language speaking skills in the context of academic content. Each pack includes multiple opportunities to support students' oral language development.
- **ELL Content Picture Packs** provide opportunities for ELLs to develop their oral language skills with visual supports while working with content area materials.
- **ELL Vocabulary Power Packs** provide differentiated and structured support to promote the success of grades 3–5 ELLs by allowing students to record their reading or responses to questions posed in the text.
- **ELL Vocabulary Books** use content-based themes to support students' social and academic speaking skills. Each lesson provides students with proficiency-leveled dialogue frames that support student engagement. The digital resources allow teachers to assign specific books to students, which they can record themselves reading.

- **ELL Language Skill Packs** provide content-based resources for developing oral skills through vocabulary and guided instruction of key language skills and functions, such as describing, comparing, and classifying.
- **ELL Assessments** monitor and track ELLs progress in academic language skills, including speaking skills.

Raz-Plus/Reading A–Z/Raz-Kids

- **Leveled Books** at 29 levels of complexity in printable and digital versions allow students to read silently, whisper read, or record their reading using built-in recording tools. The listen versions of eBooks contain continuous-play audio and follow-along highlighted text to model fluency with a natural voice. Many lower level listen eBooks provide engaging animation and sound effects.
- **Projectable Books** provide opportunities for labeling, circling, or highlighting nouns, verbs, or other basic grammar elements.
- **Reading Graphic Organizers** can be used with any book and allow readers to organize ideas, practice talking about what they have read, and develop higher-level thinking skills.
- **Vocabulary Graphic Organizers** provide a framework for learning and discussing new words.
- **Reader’s Theater** scripts are adapted from leveled books and allow students to practice reading aloud material they are familiar with and collaborating with a group for a performance.
- **Literature Circles** help ELLs to practice important communication skills as they discuss and collaborate on a single text in small groups.
- **Shared Reading Books** help build ELLs’ reading confidence with modeled and choral reading, along with group discussion to promote listening and speaking.
- **Content Area Reading Editions** of leveled books engage students with science, social studies, math, art and music, or social stories.
- **Close Reading Packs** contain short engaging reading passages that drive close reading and both small-group and whole-class discussions.
- **Alphabet Books, High-Frequency Word Books, Fluency Practice Passages, Decodable Books and Phonics Lessons, and Phonological Awareness Lessons** help students become familiar with the sounds of English and provide essential foundational reading skills practice.

Headsprout

- **Headsprout Early Reading** and **Reading Comprehension Episodes** have been shown to improve reading and language skills for ELLs by focusing on reading, listening, and speaking practice in the context of developmentally appropriate and increasingly complex text environments.

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Supporting Exceptional Learners: Methods for Gifted Students, Special Education, and Response to Intervention

Supporting Exceptional Learners: Methods for Gifted Students, Special Education, and Response to Intervention

Introduction

Students who experience difficulties in learning, who show superior performance, or who require a change in instruction or curriculum to help reach their full potential are considered exceptional learners. Exceptional learners are supported academically through methods such as special education services, response to intervention (RTI), and gifted and talented programs. Learning A–Z provides a spectrum of resources that respond to the needs of exceptional learners and align with best practices for teaching special education, RTI, and gifted students.

I. Special Education

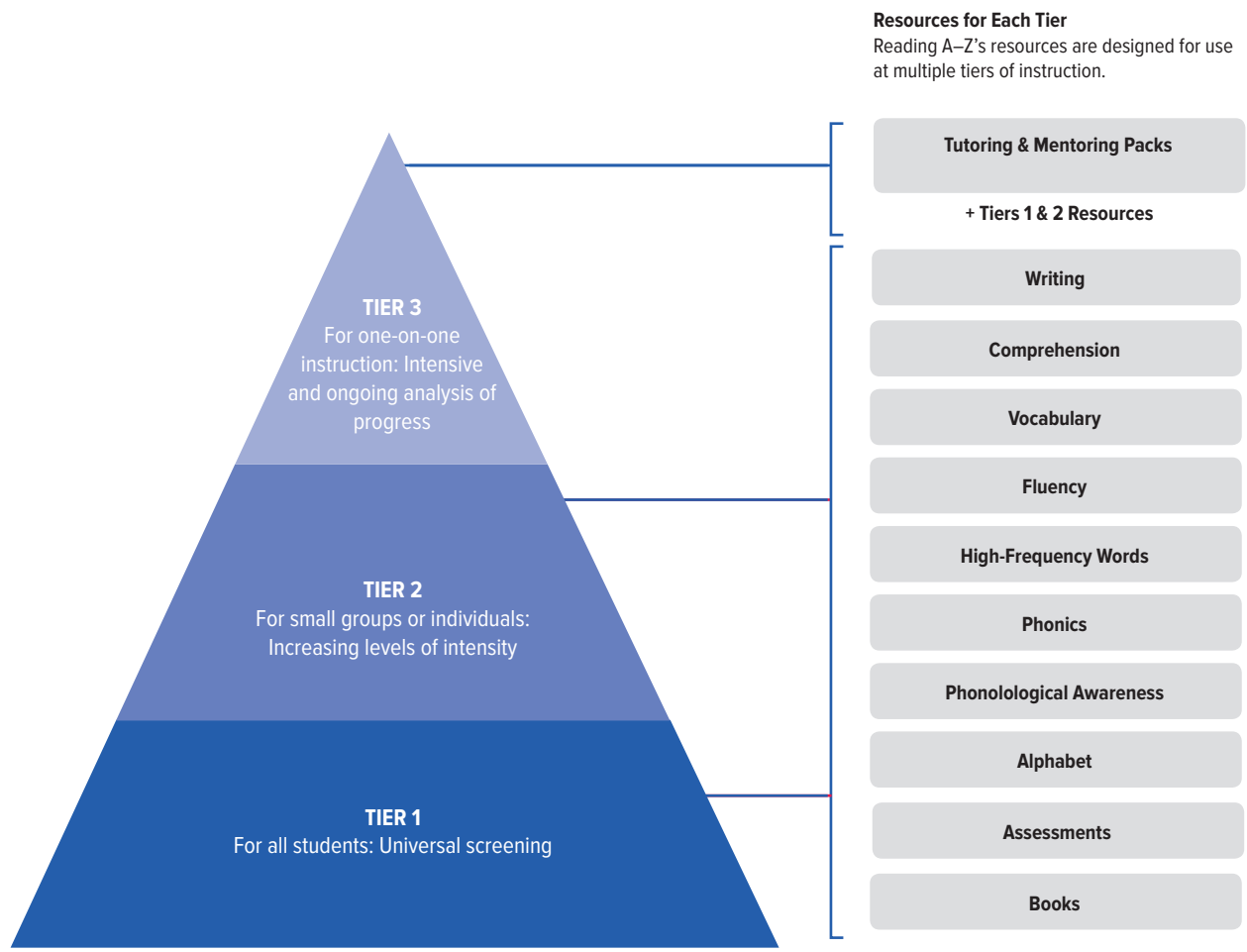
The purpose of special education is to give all students the opportunity to successfully grow and learn to their fullest potential. The key to any special education program is matching resources to a student's developmental level and providing opportunities for practice with a purpose. Great resources allow educators to easily customize instruction to suit the specific learning needs of every student. Special education is designed to support, instruct, and provide services to students with an individual education plan (IEP) to meet their specific needs. Services for each student may include in-class support with accommodations, with an instructional aide or co-teacher. Some students may need more support and spend part of the day or the whole day receiving modified instruction based on their IEP in a special education classroom. General education teachers and special education staff should collaborate throughout the school year to discuss students' needs and progress using a variety of progress monitoring tools and assessments. Assessments may include running records, benchmark passages, and foundational skills assessments (letter identification, fluency, phonics, and phonemic awareness). The frequency of assessments depends on student need and academic levels in comparison to grade level, and may be noted in their IEP (Winn & Blanton, 2005).

II. Response to Intervention (RTI)

RTI is a multi-tier process designed to help and support struggling students. The goal of RTI is to help students maximize achievement and reduce behavior problems so they can perform at the same level of their peers. According to Wisniewski (2013), RTI can provide a framework of support that, used effectively, can help students close learning gaps and achieve CCSS.

RTI is implemented using three components: screening, progress monitoring, and multileveled instruction. Multileveled instruction is generally modeled as a three-tier system:

- Tier 1 (whole class): High quality instruction is provided to all students, with about 80 percent of students receiving instruction at this level showing mastery.
- Tier 2 (small group): Targeted interventions for students not making progress in Tier 1 that include increasingly intensive instruction depending on group size, frequency, and duration of intervention.
- Tier 3 (individual student): Intensive interventions that target the student's skill deficits. Students who do not progress at this tier are considered for eligibility for special education services under the Individuals with Disabilities Education Improvement Act of 2004 (IDEA 2004).



Within an RTI framework, screening and progress monitoring are used throughout the school year. Using the same monitoring tools throughout the school year provides a more valid assessment for parents, teachers, and administrators to monitor student progress. These resources are important to measuring and identifying learning gaps and gains. Student motivation and confidence is vital to making progress for struggling students. It is helpful to use a variety of approaches for differentiation that motivate and engage students who are receiving RTI services.

Without RTI, struggling students are likely to fall further behind their peers. Guskey and Jung (2011) express how important it is to use the RTI framework properly at each level so students can meet the goals for mastery, which require regular assessment and progress monitoring for students in targeted or intensive intervention. The data from progress monitoring help direct teachers when deciding tier movement for students.

III. Gifted Learners

Students who show evidence of high achievement and capability in creative, artistic, or leadership areas, or in specific academic fields, need services and activities not ordinarily provided by the school in order to fully develop their potentials (National Association for Gifted Children, n.d.). Although gifted learners have higher skills in one or more specific areas, it is important to note that their social-emotional development does not develop at the same rate. Gifted learners benefit from a range of differentiation and services for their learning, including the following:

- Instruction that responds to their extra curiosity, urgency for meaning, advanced vocabularies, interest in complexity, fast comprehension, and vast memories
- Choice-individualized and self-regulating experiences that are appropriate to their self-motivated independence
- Higher-order thinking activities
- Socratic inquiry
- Accelerated or advanced levels of subject and content

In addition to a range of differentiated and challenging activities, technology is an effective tool in engaging advanced learners because of the increased flexibility it may allow.

- **In Pairs:** Students who need more challenges could work together to share their ideas on an assignment that is more complex or involved.
- **In Groups:** Allow gifted learners to work together in areas where they need the stimulation of intellectual peers (for example, in literature circles).
- **Across Classes:** Combine gifted learners across the grade, if possible. Then, several educators can share responsibilities for monitoring extra projects.
- **On Projects:** Gifted learners could work on an independent project that is supervised by a parent volunteer or community member.

It is important for gifted learners to have the opportunity to explore in their learning. It is not always easy or possible in a classroom setting, but any opportunity to draw on student interest will greatly aid their growth and learning.

Research-Informed Product Recommendations

Raz-Plus/Reading A–Z/Raz-Kids

- **Leveled Books** provide rich, high-quality printable, projectable, and electronic books at 29 levels of text complexity. These consistently and accurately leveled books progressively increase in difficulty to help students improve comprehension and fluency. Students can read digital texts at their level and in their areas of interest anytime to get the practice they need to become better, more confident readers.
- **Assessments** provided by Learning A–Z offer teachers the resources they need to measure and track learning gains. Raz-Plus includes a collection of easy-to-use assessment tools for key reading behaviors and foundational skills (alphabet, phonological awareness, phonics, high-frequency words, and fluency) and comprehension, all for progress monitoring, formative assessment, summative assessments, and more.

- **Alphabet Letter Naming** helps determine students' abilities to name uppercase and lowercase letters. Three forms are available to help assess how well a student recognizes uppercase and lowercase letters. The fourth form is a matching exercise in which children match uppercase letters with lowercase letters.
- **High-Frequency Word Books** assess a student's ability to recognize and read high-frequency words, including sight words, with four assessments that are directly associated with High-Frequency Word Book Sets A, B, and C. Each assessment targets high-frequency words that gradually increase in level of difficulty.
- **Phonological Awareness** and **Phonics** help students understand sound/symbol relationships. Through the phonics assessments teachers can determine whether to focus on onset and rime, rhyme, or syllables. A nonsense word assessment form helps teachers identify whether students can decode common sounds or less common sounds.
- **WOWzer printable certificates** can be used anytime to encourage and reward successful readers who move from one level to the next.
- **Project-Based Learning Packs** are great tools for students to learn how to work in teams while improving their communication with each other. Project-based learning is an instructional framework with problem-solving research and inquiry.
- **Shared Reading Books** support a balanced literacy instructional approach. Teachers use projectable big books while modeling close reading, text-dependent questioning, and strategies for asking and answering questions.
- **Comprehension Skill Packs** give teachers the resources they need for direct and explicit instruction. These standards-based lesson plans provide a three-step approach to instruction—teach, practice, and apply—to help students construct meaning from text.
- **Star Zone with Raz Rocket and Robot Builder** are great motivational pieces within Kids A–Z. Students receive stars for successfully completing various assignments and texts they have selected themselves. These stars can then be redeemed in the Kids A–Z Star Zone, where kids can customize their own online environment or create a personal avatar.
- **Projectables** help teachers model and introduce individual elements. The built-in tools can be used for whole-class or small-group instruction with leveled books, comprehension skill packs, and more.
- **Literature Circles** can be used with any book. The predetermined roles appropriate for a leveled book will help assist and save time for teachers as students collaborate during book discussions.
- **Reader's Theater** scripts give students the opportunity to perform and practice reading fluently in an entertaining way.
- **Classics** expose students to timeless novels, poetry, and stories more easily by breaking longer texts into manageable parts for student understanding.
- **Themed Nonfiction Series** provide literacy instruction and focused content-area instruction.
- **Graphic Books** present informational text in a visually engaging and entertaining format.

Science A–Z

- **Investigation Packs** are group science activities that help students dig deeper into science content as they read high-interest texts and answer a question surrounding a Mystery File.
- **Project-Based Learning Packs** are inquiry-based science projects in which students work in teams to read different passages about a related topic and answer a Key Question.
- **FOCUS Books** cover high-interest science topics at three different reading levels and are available in printable, digital, and projectable formats.
- **Quick Reads** are single-page passages in printable and digital formats that address specific science topics.

Headsprout

- **Headsprout Early Reading and Reading Comprehension** is an adaptive, easy-to-use program that ensures that beginning readers master foundational skills necessary to be at or above their reading level. The scaffolded program adapts to meet the needs of every student to develop and enhance reading comprehension.
- **Headsprout Fluency Building** packs provide additional instructional and practice opportunities for students who need additional support in the areas of decoding and oral reading fluency. Additional instruction is delivered based on periodic benchmark assessments that identify specific phonetic skills gaps.

Writing A–Z

- **Emergent Writing** and **Process Writing Lessons** help emergent to fluent writers develop their writing skills using printable, projectable, and eLearning tools. Students perform activities that develop their skills from single words to sentences to complex writing compositions. Students can draft and publish their own full-length books—complete with color illustrations with the Build-A-Book tool.

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**Teaching Science:
Addressing Scientific
Literacy, Scientific Inquiry,
and Three-Dimensional
Learning**

Teaching Science: Addressing Scientific Literacy, Scientific Inquiry, and Three-Dimensional Learning

Introduction

With the growing focus on STEM (science, technology, engineering, and mathematics) education and careers, educators are striving to provide well-rounded science instruction that gives students basic understandings of science concepts while preparing them for the demands of the future. The most effective instruction for the needs of a globalized society accounts for scientific literacy, scientific inquiry, and three-dimensional learning (that is, learning that includes the disciplinary core ideas of a scientific field but also cross-cutting concepts and science and engineering practices). Research highlights the importance of integrating reading and science instruction and points to the benefits of this integration for developing students' critical thinking and problem-solving skills. Science A–Z resources are designed with best practices in mind for balancing scientific literacy, scientific inquiry, and three-dimensional learning. They integrate instruction in both interpretations of scientific literacy—developing students' mastery of the ideas and practices of science as well as the language arts skills employed in the field of science, which are integral to children's education and later careers.

I. Scientific Literacy

Scientific literacy is the ability to make meaning of texts and to develop proficiency in science content. According to Norris and Phillips (2003), science and literacy go hand in hand: “Nothing resembling what we know as western science would be possible without text . . . a person who cannot read and write is severely limited in the depth of scientific knowledge, learning, and education he or she can acquire” (p. 224). Literacy skills are fundamental to scientific literacy, while the pursuit of knowledge in the domain of science fosters the development of traditional literacy skills, including reading, writing, listening, and speaking. As explained by Cervetti, Pearson, Bravo, and Barber (2006), learning about science as a discipline entails learning the language of science, as shown by being able to read, write, and speak using scientific conventions.

Scientific literacy goes beyond merely knowing facts. As defined by the Organisation for Economic Co-operation and Development (OECD, 2004), scientific literacy requires the ability to use science knowledge to ask questions and make decisions about the natural world as well as the effects of human activity on it, while supporting conclusions with evidence. A scientifically literate student should appreciate the natural world, understand the benefits and limitations of technology, know about how science and technology are connected, be able to interpret numerical data, and know how to seek answers to questions in science (Millar, 2006).

National Science Teachers Association (NSTA, 2002) proposed its own definition of a scientifically literate person. It includes someone who uses concepts of science and technology to solve problems and make decisions; takes action based on considering options and consequences; defends decisions and actions based on evidence; makes explanations of natural phenomena that can be tested and supported with data; engages in science and technology because they provide excitement and explanations; values scientific research; and uses sources of scientific and technological information to solve problems, make decisions, and take action.

Science A–Z introduces students to a wide array of science content and challenges students to make meaning from the texts by answering comprehension questions and writing responses to what they read. Science A–Z resources give students an opportunity to explore the natural world through first- and secondhand experiences that build upon their own knowledge.

II. Scientific Inquiry

Research has shown that inquiry-based approaches to teaching science result in better topic comprehension, a more durable understanding of key concepts, and a realignment of previously held misconceptions about science topics (Prince, Vigeant, & Nottis, 2016; Abdi, 2014; Şimşek & Kabapinar, 2010). Inquiry lessons are critical for success in science because they illustrate the processes by which scientists develop knowledge, and they encourage students to use these methods to further advance our knowledge of the natural world (National Research Council, 2000).

An effective scientific inquiry lesson allows students to construct their own understanding of a topic by asking an authentic question, conducting an experiment aimed at answering the question, collecting data using tools, analyzing the data, and formulating an explanation about the data that addresses the initial question (Lederman, 2009). Inquiry lessons may also include comparing and evaluating data based on the work of others and communicating results.

Banchi and Bell (2008) find that meaningful and purposeful classroom inquiry happens along a continuum with various levels of support and guidance provided to students. The inquiry continuum consists of four main levels:

1. **Confirmation Inquiry:** Teachers provide students with a familiar science topic to explore with the aim of confirming existing content knowledge.
2. **Structured Inquiry:** Students are given a research question to which they do not know the answer and work to identify relationships between variables to propose an explanation.
3. **Guided Inquiry:** Teachers provide students with only a research question and then students design and execute an experiment to answer that question.
4. **Open Inquiry:** Students develop their own research questions and experiment, design, and collaborate to draw evidence-based conclusions.

III. Three Dimensional Learning

In 2012, the National Research Council released a new vision for science education, *A Framework for K–12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*. The framework identifies a growing demand for a trained workforce to fill roles in STEM fields and addresses the fact that preparing children for postsecondary education offers a critical pathway to STEM careers (NGSS Lead States, 2013, Appendix C). The framework laid the groundwork for the Next Generation Science Standards (NGSS), a new set of guidelines that map out the science and engineering ideas, concepts, and practices that students should be engaged in from kindergarten to high school. These guidelines identify three areas of focus for science education: Science and Engineering Practices (SEPs), Disciplinary Core Ideas (DCIs), and Crosscutting Concepts (CCCs). When students engage in all three of these areas at once, it can be referred to as three-dimensional learning. Each dimension within the NGSS is made up of several key practices, ideas, or concepts.

Science and Engineering Practices include the following:

- Asking questions and defining problems
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Using mathematics and computational thinking
- Constructing explanations and designing solutions

- Engaging in argument from evidence
- Obtaining, evaluating, and communicating information

The Disciplinary Core Ideas include several categories under four domains of science and engineering. Each of the major categories is then further subdivided into narrower topics (not shown):

- Physical Science: matter and its interactions; motion and stability; forces and interactions; energy; waves and their applications in technologies for information transfer
- Life Science: structures and processes in molecules and organisms; interactions, energy, and dynamics of ecosystems; inheritance and the variation of traits in heredity; unity and diversity in biological evolution
- Earth and Space Science: Earth's place in the universe; Earth's systems; Earth and human activity
- Engineering, Technology, and the Application of Science: engineering design

The Crosscutting Concepts have broad application to all areas of science and engineering. They include the following:

- Patterns
- Cause and effect: mechanisms and explanation
- Scale, proportion, and quantity
- Systems and system models
- Energy and matter: flows, cycles, and conservation
- Structure and function
- Stability and change

Research-Informed Product Recommendations

Science A–Z

The following Science A–Z resources support the best practices in teaching scientific literacy, scientific inquiry, and three-dimensional learning:

- **Unit Nonfiction Books** serve as a springboard into deeper understandings of science content and encourage students to answer text-dependent discussion questions.
- **I.Files** are group science activities that help students learn science concepts while practicing collaboration, communication, and critical-thinking skills.
- **Science in the News** is a monthly edition of multilevel science news articles that engage students in exploring recent STEM advancements.
- **FOCUS Books** detail specific, high-interest science topics and come with comprehension assessments and hands-on activities.
- **Science Fair Resources** foster hands-on scientific inquiry with guides and other resources that support the process of conducting a science fair project.

- **Project-Based Learning Packs** engage students in collaborating to answer a Key Question by reading multiple texts and the overarching science concepts that connect them.
- **Process Activities** give students opportunities to put science concepts into practice with fun experiments and easily accessible materials.
- **Science Videos** show real science in action and serve as virtual field trips that help students visualize science concepts.
- **Debates** allows students to practice engaging in argument from evidence by using content knowledge to formulate and present pro or con positions.

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**Ensuring Writing
Proficiency:
Best Practices
for Teaching Writing**

Ensuring Writing Proficiency: Best Practices for Teaching Writing

Introduction

Writing is integral to success inside and outside the classroom. Students use writing in all subjects and will continue to write for a variety of purposes in college and in their careers to develop and communicate ideas. Research indicates that students must practice several skills as they gain confidence with writing: process writing, traits and conventions, shared and interactive writing, grammar and mechanics, and writing for various purposes. In alignment with this research, Writing A–Z provides leveled resources that support students at five different learning levels. Writing A–Z resources allow teachers to put into practice the most effective methods for instructing foundational and advanced writing skills.

I. Why Teach Writing

Writing allows individuals to share ideas, accomplish everyday tasks, and express and create knowledge. Writing proficiency is a prerequisite skill for most professions and is imperative for college success. The executive summary of the Carnegie Foundation Writing Next report states that “writing well is not just an option for young people—it is a necessity. Along with reading comprehension, writing skill is a predictor of academic success and a basic requirement for participation in civic life and in the global economy” (Graham & Parin, 2006, p. 3).

The National Council of Teachers of English (NCTE, 2016) recommends that “whenever possible, teachers should attend to the process that students might follow to produce texts—and not only specify criteria for evaluating finished products, in form or content. Students should become comfortable with prewriting techniques, and multiple strategies for developing and organizing a message, revising and editing, preparing products for public audiences, and for deadlines. In explaining assignments, teachers should provide guidance and options for ways of going about it” (“What does this mean for teaching?,” para. 1). Research indicates that students should have the opportunity to write daily (Graves, 1983), and it is recommended that writing occur 35–40 minutes daily at least four days a week (Graves, 1991).

II. Process Writing

In order to meet the demands of new, more rigorous English language arts standards, teachers must explicitly teach and guide students through the writing process. Process writing involves the natural sequence of steps writers move through in order to develop a piece of writing. These steps are prewrite, draft, revise, edit, and publish. While creating compositions, writers develop their ideas, make sense of them, and then make changes (Egawa, 2001). They interact between steps of the writing process at the same time rather than in sequence, and then repeat these interactions (Fearn & Farnan, 2000). Teachers also often conference with students to provide support during each stage of the writing process, clarify any misconceptions, and create a positive attitude about writing. This positive writing attitude is fostered through opportunities for students to see teachers write, be partners in learning, make their own decisions about the topics of their writing, and have authentic reasons to write (Cooper, 1997).

III. Traits and Conventions

The Common Core English Language Arts and Literacy Standards for grades 3–5 propose students learn techniques for including descriptive details, sequencing events, using a variety of transitional words and phrases, and organizing thoughts in a logical format to convey ideas and information clearly (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). To achieve this, researchers have found that instruction involving the traits framework of instructional strategies has been shown to increase

writing competency. The traits build students' understanding of the concepts of good writing, provide language for thinking and talking about writing, help with revising, connect reading and writing, and put students in charge of their own writing process (Spandel, 2013, p. 3). The traits are meant to be taught in conjunction with various stages of process writing. Teachers often use mentor texts as models and demonstrate how to include these traits when drafting a composition. They guide students in creating texts with the traits in whole-class settings and during individual conferencing or in small-group instruction. Teachers show students how to revise compositions to include the traits and have students evaluate their writing using rubrics with the good traits of writing embedded in them.

IV. Shared and Interactive Writing

During shared writing, students practice using the techniques with the guidance of the teacher before writing compositions independently. As students progress through the lessons, they learn how to construct increasingly complex segments of writing, moving from a letter, to a cluster of letters, to a word, to a phrase, and finally to a sentence as it is used across the grade levels. Interactive writing plays a unique role in writing instruction, as sharing the pen in writing holds words and ideas in space and time for careful analysis (Klein, 1999).

Another increasingly popular option for engaging students in the writing process is the use of technology-based interactive writing programs. Many of these programs allow students to choose their own topics while providing assistance during the writing process and encouraging students to publish their work in a variety of ways. The incorporation of technology in the classroom is also an important component of the Common Core English Language Arts and Literacy Standards: Students should "use technology, including the Internet, to produce and publish writing and to interact and collaborate with others" (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010, CCRA.W.6).

V. Grammar and Mechanics

Grammar and mechanics must be taught in order for students to be able to edit and revise their own writing to make the final product comprehensible for the reader. Lessons that provide accurate and relevant information, clear examples, and opportunities to practice conventions are the most effective for teaching grammar and mechanics (Atwell, 2002, p. 194). Weaver (2006) argues that "the ultimate goal of such teaching, of course, is for students to use what we've taught independently and spontaneously, without our having to prompt them" (p. 87).

Teachers can use a variety of methods to guide students in understanding grammar and mechanics. The most effective way to teach conventions is in the context of actual writing. When lessons on conventions are incorporated into everyday writing instruction, students become more adept at revising and editing their own writing (Weaver, 2006, p. 78).

VI. Writing for Various Purposes

Research indicates that it is important for students to develop an understanding that different genres exist for different social purposes and that each genre has its own set of characteristics and text features (Dean, 2008, p. 45). After students have an understanding of the characteristics of a particular genre, they are ready to write their own piece. By developing units of study in which students are taught each genre through modeling, inquiry, and shared writing, students move through the writing process using knowledge gleaned from the mini-lessons to create their own pieces (Atwell, 2002, p. 92).

Research-Informed Product Recommendations

With these Learning A–Z resources, teachers can structure how students engage with and practice writing for various purposes.

Raz-Plus/Reading A–Z/Raz-Kids

- **Project-Based Learning Packs** provide students with tools and resources to record the results of their research and experiments. Teaching Tips suggest students demonstrate their learning through a variety of writing genres, such as action plans, scientific arguments, reports, and short stories.

Science A–Z

- **Investigation Packs** have suggestions for extensions in which students research various topics and develop compositions in a variety of genres.

Writing A–Z

- **Process Writing Lessons** teach students the five steps of the writing process through the four main writing genres: informative/explanatory, narrative, opinion/argument, and transactional.
- **Write Rights** are daily grammar practice activities that target key grammar skills at multiple developmental writing levels.
- **Cloze Stories** strengthen students' abilities to identify parts of speech, use them appropriately, and better understand their roles in sentences.
- **Word Lists**, including parts of speech, punctuation, and commonly used and misused words, support student writing skills and word choice by giving students references or ideas to use at various steps of the writing process.
- **Skill-Building Lessons** provide instruction on proper capitalization, grammar, paragraphing, and spelling.
- **Editing Guides** assist students in checking writing conventions, such as capitalization, punctuation, spelling, or sentence structure to make their writing clear for the reader and ready for publishing.
- **Revision Checklists** give students the opportunity to strengthen their writing by making sure expected elements appear in their writing.
- **Graphic Organizers** help students organize thinking and generate logical patterns or structures of information to map out, or outline, writing for each text type.
- **Build-A-Book** is an interactive program which supports students across each step of the writing process and allows them to publish online books of their own creation to the Kids Writing Library.
- **Write Your Way** is an online tool for journaling, freewriting, quick essays, responses to reading, and other daily writing activities.
- **Writing Samples** give students clear examples of the features and structures of each text type and help provide a blueprint for creating compositions.
- **Posters** provide references that call out key characteristics and structures for each text type.

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