Research to Practice

How Achieve3000® Differentiated Literacy Solutions Use Research to Prepare Students to Thrive in the 21st Century
Introduction

Achieve3000's literacy solutions are built on decades of scientific research into how learners develop essential reading and writing skills. KidBiz3000®, TeenBiz3000®, Empower3000® and Spark3000® are based on the findings of widely respected researchers in the field of reading, including Dr. Robert Marzano, Dr. R.C. Anderson, Dr. Carol Ann Tomlinson, Dr. Michael Kamil and more. In addition, the programs build upon the key findings of Reading Next and Writing Next as well as support the objectives set forth by today's college and career readiness standards.
Using Lexiles to Differentiate Instruction

KidBiz3000, TeenBiz3000, Empower3000 and Spark3000 provide differentiated instruction for students in grades 2 through 12 and adult learners. Our approach, illustrated below, has more than 15 years of proven success raising student Lexile® levels and high-stakes test scores. The premise behind Achieve3000’s patented approach is simple: one of the most effective ways to strengthen reading, improve overall literacy and prepare students for the rigors of college and career is to meet them one-on-one at their individual reading levels, while at the same time targeting grade-level state standards.

The program starts by administering the LevelSet™ assessment, the only universal screener for the comprehension of nonfiction text. Developed in collaboration with MetaMetrics®, the makers of the Lexile Framework, LevelSet offers a scientific means of matching students to nonfiction texts in English and Spanish. The results of this assessment are applied immediately to each student’s academic profile so they can receive grade-appropriate content with readings, activities and built-in formative assessments that are precisely and scientifically matched to their individual reading levels. Through these embedded assessments, Lexile levels are periodically and automatically adjusted so students receive more complex text when they are ready. In addition to working at their Lexile level, where they build reading strategies and develop close-reading skills, students have regular and repeated opportunities to interact with the same content written with the grade-level complexity they will encounter on their high-stakes assessments. To ensure that educators intervene as appropriate, Achieve3000 keeps teachers and administrators continually informed of student progress toward readiness for high-stakes tests, as well as toward college and career goals. Built-in forecast reports predict students’ performance on high-stakes state tests as well as project students’ readiness for college and career at the time of those tests, providing teachers with valuable information they can use to ensure all students are on track for success.
Differentiating Instruction for Every Student

A widely accepted and research-validated principle is that students learn better when content is tailored to their individual needs (Tomlinson, 1999, 2004). Time constraints, class size and heavy workloads often prevent teachers from moving away from the “one size fits all” mode. Our solutions, KidBiz3000, TeenBiz3000, Empower3000 and Spark3000, make it easy to differentiate instruction by delivering the same grade-appropriate nonfiction content to students at their individual Lexile levels.

For language arts, science, and social studies classrooms, Achieve3000 offers KidBizPro®, TeenBizPro® and EmpowerPro®. These solutions are designed to strengthen reading and build literacy across the content areas for all students by providing extra scaffolds and supports for intervention, gifted and English language learner students. Each state/country and grade receives a set of lessons that are tailored to meet their needs by addressing their standards and grade-level expectations. Every student in the class takes LevelSet – in English or in Spanish (or both) – and then reads about the same grade-appropriate, standards-based topic, covering the same key concepts and vocabulary. The 5-Step Literacy Routine that students move through is differentiated to each student’s precise reading level and instructional needs.

For students who need more intensive or targeted instruction in pull-out or push-in models, Achieve3000 also provides specially tailored solutions. KidBizBoost®, TeenBizBoost® and EmpowerBoost® build on the features of the Pro series with learning scaffolds and instructional resources designed to deepen differentiation and boost learning intervention and special education programs. Equally, KidBizAccess®, TeenBizAccess® and EmpowerAccess® integrate special supports and teaching materials to build language and literacy acquisition for English language learners of all ability levels, from beginner to advanced. Both the Boost and Access series use an 8-Step Literacy Routine that builds on Achieve3000’s signature 5-Step Literacy Routine with three additional steps for vocabulary, discussion and writing to accelerate students towards grade-level goals.
Providing Opportunities for Independent Reading of Grade-Appropriate Texts

To be ready for college and career, students need to know how to independently read and acquire knowledge from complex, nonfiction text at a Lexile level greater than 1300L, a level higher than what is typically required in high school (1090L) (Williamson, 2004). To achieve this important goal, Achieve3000’s programs offer Simple Rigor®, an instructional model that combines independent student work with teacher-directed instruction to guarantee the greatest acceleration of reading abilities and improvement to overall literacy. Students work through the 5-Step Literacy Routine at their appropriate Lexile level, where research shows that students are most likely to develop reading strategies and close-reading skills that are needed for comprehension.

At the same time, we know that on their high-stakes assessments, students are going to encounter multiple sources that challenge them with complexity at the high bands of their grade-level requirements. For this reason, Achieve3000 gives students access to the Stretch Article, the grade-level (or above) version of the same lesson they just read. Students begin by working at their Lexile level to build their background knowledge and get ready for the direct instruction from teachers. This instruction focuses around the Stretch text, challenging students to interact with grade-level text complexity that requires a cognitive stretch and that promotes the use of strategies like comprehension monitoring and re-reading. The purpose of the Stretch work is to promote independent reading of complex grade-level (or higher) texts without scaffolds, a key competency required for college and career.

Students need time to read and re-read deliberately and slowly to consider the meanings of individual words, the semantic and syntactic differences in the text, and the development of ideas over the course of the text (Coleman & Pimentel, 2011a). Since students will have already read the same article at their individual reading levels, they'll already have an understanding of the background knowledge and key concepts when they get to the Stretch readings. This means that, when they are reading the Stretch articles, students can spend less cognitive energy trying to comprehend the main ideas and more energy focused on the syntactic and vocabulary differences.

Digital highlighting is another way the program helps students read the stretch texts. The key concepts can be highlighted, and teachers can direct students to focus their close read on short and worthy pieces of text that students can annotate as they read (Frey & Fisher, 2014).

Reading and Writing Nonfiction

KidBiz3000, TeenBiz3000, Empower3000 and Spark3000 all provide engaging lessons that include the reading of nonfiction text revolving around contemporary issues and how these issues tie into a variety of content areas. According to numerous studies, learners benefit tremendously from extensive exposure to and interaction with nonfiction texts.

Nonfiction text develops students’ knowledge of vocabulary, literacy and the world (Anderson and Guthrie, 1999), and acquisition of this background knowledge assists students in other content-area reading (Wilson and Anderson, 1996).

For many reluctant readers, fiction text is simply not appealing; the idea that fiction is more accessible to reluctant readers is a myth. Using nonfiction as a source for reading, writing and discussion can improve attitudes toward reading and can assist in overall literacy development (Caswell and Duke, 1998). Furthermore, regardless of learners’ genre preferences, their literacy is likely to improve when they are interested in a text’s topic and when texts address real-world problems and questions (Guthrie, Van Meter, McCann, Wigfield, Bennett, Poundstone et. al., 1996).
In addition, college students and adult workers read a significant amount of nonfiction in order to meet their schooling and workplace demands (Smith, 2000; Venezky, 1982). According to the college and career readiness standards, to be adequately prepared for college and career, students need to be able to access multiple sources of nonfiction text in several ways. They need to be able to decipher nonfiction vocabulary and concepts, identify important ideas and an author's point of view, and analyze the arguments presented and determine whether or not they are valid and have sufficient supporting evidence. To develop these critical literacy skills, students need to read authentic nonfiction by real authors who present their views and arguments. In addition, students need opportunities to discuss the author's viewpoint and students' own opinions.

Achieve3000 utilizes trusted news sources and professional writers of cross-curricular content to provide students with multiple lessons each week, giving them the opportunity to read, write and discuss meaningful issues. Each lesson has students moving through the 5-Step Literacy Routine, which comprises the reading of multiple sources of informational text, completion of embedded formative assessments, discussions and debates through the Before and After Reading Polls, and responses to constructed-response Thought Questions, which require informative and argument writing with evidence from the texts read.

The Five-Step Literacy Routine

KidBiz3000, TeenBiz3000, and Empower3000 and Spark3000 use a simple 5-Step Literacy Routine designed to improve fluency, vocabulary, reading comprehension and writing proficiency, and to build the literacy capacities students need to be college and career ready. By working through the routine at their Lexile level, students are able to develop the reading strategies and close-reading techniques needed to pull evidence from text, which is then used to support oral and written arguments – all of which stretches students to the use of higher order, critical-thinking skills. When implemented in the classroom as an instructional tool, these solutions also promote the effective use of discussion and argument in the classroom, helping to build listening and speaking skills as students argue their differing points of view with supporting evidence drawn from the texts they have read. Each of these five steps is based on best practices that have evolved out of decades of reading research. Together with the proprietary technology and Bayesian scoring of the embedded formative assessment, the steps accelerate students to the comprehension of more and more complex text and to the acquisition of greater depths of knowledge.

The sections that follow present a summary of each step in the 5-Step Literacy Routine, along with a research section that illustrates its theoretical framework.
Step 1: Build background through the Before Reading Poll

Students start the 5-Step Literacy Routine by voting in a Before Reading Poll and writing a short response that justifies their votes; this step stimulates students to think about the issues that they will explore during the rest of the lesson. As students think about the Poll statement, they are mentally preparing to engage with the content of the lesson. This step becomes an opportunity for discussion, during which all students contribute their understanding and experiences related to the topic. This shared meaning better prepares students for the content of the lesson and contributes to the development of listening and speaking skills.

Connection to Research

Building Literacy Capacities: The Before Reading Poll is an opinion statement with which students may agree or disagree. Of importance to this step is the inclusion of supporting evidence for an opinion – evidence that is delivered in writing or orally. This helps to raise students' awareness to their emerging points of view and at the same time reinforce the importance and value of evidence.

Reading Comprehension: The Before Reading Poll prepares students for the topics being addressed in the lesson, helping students to access their prior knowledge about or make personal connections to the topic. Making these text-to-self connections is an essential skill that helps to build comprehension (Duke & Pearson, 2002).

Learning via Differentiation: The key to successful learning is using content that is grade-appropriate to ensure that students are not only addressing key standards, content and skills, but are also exposed to age-appropriate, relevant and interesting information. Taking this grade-appropriate content and differentiating it to meet each student's unique learner profile, along with scaffolds to provide them even better access, ensures that all students develop grade-level knowledge and literacy skills. The Before Reading Poll step sets the stage for a learning experience that is designed to help every student maximize his or her potential by introducing the grade-appropriate topic using vocabulary and text complexity that is most accessible.

Writing Skills: According to the National Writing Commission's 2003 report, “Writing: The Forgotten R,” increasing the amount of time students spend writing is key to the improvement of their writing skills. The National Writing Commission also stated that students should be encouraged to write in an informal environment, across the curriculum, and outside of the school routine. The range of topics within KidBiz3000, TeenBiz3000, Empower3000 and Spark3000 allows students to write across many content areas and, because the solutions are cloud-based, they can write anytime and anywhere, not just in the classroom.

Discussion: The Before Reading Poll is an opportunity for students to share their background knowledge around a topic, so all students enter the lesson with a stronger conceptualization of the topic. Through discussion, students are better primed to comprehend the readings that they will encounter in the lesson.
Step 2: Close reading of multiple sources with the Article

The next step directs students to the Article tab where they read through multiple sources of information. The first source – a contemporary issue – engages students in relevant, real-world topics. The second source – called the Dig Deeper – is a nonfiction source that ties the contemporary issue into a specific academic content area, like Life Science, Civics, Economics or Engineering. All students read about the same grade-appropriate, standards-aligned topic, but the passages are adjusted for each student’s individual reading profile – with 12 Lexile versions available in English and 7 available in Spanish – to scaffold students as they develop grade-level knowledge and vocabulary, strengthen reading and build overall literacy skills.

Built into the texts are tools to foster the development of reading strategies and close-reading techniques. One tool is the Reading Connections, which has students practicing two of the proven most effective reading strategies: summarizing and generating questions. Summarizing is a higher-order, critical-thinking skill that challenges students to evaluate information and determine or rate the importance of details in relation to the overall passage. Generating questions is a strategy that helps promote independence as students ask questions, determine if the available texts provide responses to those questions and then independently research any questions that remain unanswered.

Through the open notes fields after each paragraph, students can annotate as they read and make connections to the text. With the third Reading Connection – Setting the Purpose – students are challenged to capture evidence that will help them to respond to the Thought Question. Having a specific purpose for reading helps to focus students and improve their comprehension (Duke & Pearson, 2002).

In addition to the Reading Connections, students have access to a digital highlighting tool. Using a variety of highlighting colors, students can identify key ideas, details, evidence, confusing ideas and words to explore. The guidelines for using the highlighting tool help students to focus as they read both sources of information.
Connection To Research

**Learning via Differentiation:** Differentiated instruction is at the core of what makes KidBiz3000, TeenBiz3000, Empower3000 and Spark3000 so effective. According to Dr. Carol Ann Tomlinson, a renowned expert in this field, students learn better when content is differentiated based on their individual needs. Achieve3000 makes it easy for teachers to differentiate reading instruction by tailoring grade-appropriate lessons to students’ individual reading levels. All students in the same class read about the same topic, fostering class discussions and building self-esteem. Specific instructional resources help teachers further differentiate for struggling readers and English learners, as well as gifted and talented students.

**Developing Literacy Capacities:** To develop the literacy capacities outlined by the National Assessment for Educational Progress (NAEP) and college and career readiness standards, students need to read closely, utilizing the reading strategies in Reading Connections: summarizing to build independence, generating questions to develop researching skills and setting the purpose to reinforce the value of evidence through identifying text-based information that can be used to formulate written responses. Every lesson provides opportunities for students to practice these strategies as they read, as well as to build strong content knowledge through exposure to cross-curricular informational text. In addition, every lesson comes with point-of-use instructional recommendations that guide the teacher through introducing lessons, supporting students through their independent work and deepening student comprehension levels by facilitating discussion through the use of text-dependent questions (Murphy et al., 2009).

**Developing Vocabulary Skills:** Dr. Robert Marzano emphasizes the importance of developing essential cross-curricular academic vocabulary. Because every lesson in Achieve3000 is nonfiction and cross-disciplinary, students are given the opportunity to build a robust bank of academic vocabulary. In addition, following the recommendations put forth by the National Reading Panel, topics are revisited over time and students are given multiple opportunities to interact with the same words, allowing them to understand nuances of meaning.

This example shows the word “concept” as it appears in the Article, student support materials and the Multiple-Choice Activity. This same word appears again in the Stretch Article and Activity. These are just a few examples of how the 5-Step Literacy Routine provides multiple encounters with new vocabulary and opportunities for students to use these words in different contexts.
Step 3: Embedded assessment within the Activity that drives acceleration

After reading the texts in the Article tab, students complete an embedded assessment that serves two critical functions: monitoring of mastery of standards and readiness for high-stakes assessments. Every item is aligned to one or more standards, which drives the report *How are my students performing on standards?* These items represent the types of questions that students encounter on their high-stakes assessment, including multiple-choice questions, as well as drag-and-drop, multi-select multiple-choice, Part A/Part B questions and more in the Challenge lessons. Practice with these question types prepares students for the cognitive demand the assessments require and for completing assessments in an online environment.

Additionally, using a Bayesian scoring application, the system monitors scores on these activities and automatically increases student Lexile levels when it determines they are ready for more complex text. Based on how students respond, the system assesses their performance and moves them to more challenging text. The questions also serve to measure comprehension and vocabulary mastery as well as assess higher-order thinking skills. In this way, students are able to accelerate their Lexile growth two to three times what is expected over the course of the school year.

Connection to Research

Learning via Differentiation: The regular and ongoing formative assessment provided in the Multiple-Choice Activities holds each student accountable to the same grade-level state and college and career readiness standards but with questions that are differentiated based on each student's reading level. Teachers can monitor each student's progress and easily identify individual strengths and weaknesses. Prescriptive reports identify remediation materials specific for each individual student's needs.

Building Literacy Capacities: The Multiple-Choice Activities require that students exercise high-level cognitive thinking, which supports the goal of challenging students to comprehend as well as critique what they are reading. The multiple-choice item types also align closely to high-stakes state tests. Item-by-item alignment allows for precise reporting of mastery on specific state and college and career readiness standards. The Multiple-Choice Activities also support the goals of the NAEP cognitive framework. Drawing from years of literacy research that characterizes reading as a dynamic cognitive process, the authors of the *Reading Framework for the 2009 NAEP* identified key cognitive targets (distinguished by text type), familiar to most teachers, as central to constructing meaning:

- **Locate and Recall:** When students locate and recall information from an article, they identify clearly stated main ideas or theses or locate supporting details.

- **Integrate and Interpret:** The processes of integration and interpretation engage students in comparing and contrasting ideas, drawing conclusions, finding evidence to support an argument and distinguishing facts from opinions.

- **Critique and Evaluate:** The final set of reading behaviors, critiquing and evaluating text, asks students to take an objective view of the text. This category asks students to evaluate the strength and quality of evidence used to support an argument, examine a text to see what is most significant or judge the effectiveness of a specific textual feature.
Step 4: Learn the value of evidence through the After Reading Poll

After completing the embedded assessment, students revisit the Poll question – the opinion statement that was introduced in the Before Reading Poll. The Before Reading Poll gives students an opportunity to consider what they already know about the topics to be read and what opinions they have before they learn new information from the texts in the Article tab. The After Reading Poll asks students to re-evaluate their opinions based on new information gleaned from the readings. Using the Polls both before and after reading helps students to realize that ideas and opinions are flexible and can be shaped by reading and learning new information and evidence. It also raises awareness of their emerging points of view.

The strategy of having students agree or disagree with opinion statements before and after reading is known as the Anticipation Guide Strategy. It was first published by reading researchers Robert Tierney and John Readence and was popularized by Kylene Beers in *When Kids Can't Read: What Teachers Can Do*.

Connection to Research

**Building Literacy Capacities:** The Polls encourage students to develop opinions and judgments and to value evidence by supporting their views on important issues. In the first interaction with a Poll, the goal is to explore students’ beliefs and activate their prior knowledge about the themes in the text. Then, as students work through the routine, they are asked to reconsider their beliefs based on new information from the text.

The Poll statements do not have clear right or wrong answers and are worthy of debate, which helps to facilitate more meaningful classroom discussions and debates. In presenting their opinions, students are supported as they discuss and argue as well as encouraged to provide evidence to support their opinions, critical skills encouraged by college and career standards.

**Learning via Differentiation:** Leaders in differentiation identify the use of “respectful tasks” as central to engaging students at all levels. By ensuring that readers across the range of abilities are addressing the same key activities for each lesson, we recognize that each student has an important contribution to make. This is an important element in supporting the self-esteem needs of students. The Polls are another of those respectful tasks. They allows all students to share their opinion and see their response in the larger context of students across the country.

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*This is the second interaction with the same Poll prompt that students saw before reading, which helps students to realize that ideas and opinions can be shaped by information learned through reading.*

*After voting in the Poll a second time, students can review their before-reading and after-reading results, along with the worldwide before-reading and after-reading results.*
Step 5: Synthesize information from multiple sources in the Thought Question

As a culminating step, students are asked to synthesize all of the information they have learned in order to respond to a writing prompt – Achieve3000 includes informative, argument and narrative prompts – that requires higher-order, critical-thinking skills and the use of supporting evidence from the texts read.

Connection to Research

Building Literacy Capacities: The Thought Question helps students to comprehend and critique and to develop their higher-order thinking skills as they engage in learning beyond what is provided in the reading. Thought Questions challenge students to extend their initial impressions, apply what they have read and form generalizations to identify the most significant elements in a passage or to take a different perspective. The rigor of the Thought Questions pushes students to think critically, to use reasoning skills and to value evidence by backing up their ideas and opinions with text-based evidence. The Thought Question taps into the Integrate/Interpret as well as the Critique/Evaluate NAEP cognitive targets.

The Reading/Writing Connection: As was reported by the National Writing Commission, it is not that students have not mastered the mechanics of writing; rather, they have not learned to create cohesive, coherent and engaging prose. The writing prompts give students practice in this essential skill with rigorous prompts related to the multiple sources found in the Article tab. The ability to draft, edit and revise responses that integrate information from multiple sources is a critical academic skill and one that is essential for success on the high-stakes assessments.

Differentiation: Dr. Carol Ann Tomlinson describes product, what a student produces to demonstrate what they have learned in a unit, as one of the essential keys to differentiation. The Thought Question provides students with an opportunity to demonstrate, apply and extend what they have learned in a formal writing assignment. The complexity of the writing assignment is varied in the prompt as well as in the rubrics and writing support that match and extend student skill levels.

In this sample Thought Question, the student is asked to provide support for his/her response using text evidence from the article.
Stretch Students Beyond Independent Work

Student independent work is at the center of the 5-Step Literacy Routine, and through this work we see incredible Lexile gains – double or even triple what you expect to see in a school year. However, teacher-directed instruction and guidance through the lesson increases the rigor of work that students do and better prepares them for the high-stakes assessments and college and career readiness goals. To support this instruction, Achieve3000 provides supports for teachers:

Teacher Recommendations: Help teachers introduce the topic, build background knowledge and reinforce the academic and cross-disciplinary vocabulary associated with the content-area lesson. The materials in the “point-of-use” Teacher Recommendations are designed to aid teachers as they guide students through the 5-Step Literacy Routine: holding students accountable to providing evidence in their Before and After Reading Polls, using the digital highlighting tool and Reading Connections when reading the Article, closely reading texts to respond to the embedded assessment in the Activity and drafting/editing/revising their Thought Question responses while including evidence from the text.

Stretch Article: Students begin each lesson by working independently through the 5-Step Literacy Routine, but teachers then extend the lesson and increase the rigor by using the Stretch Article – the grade-level version of the lesson – to model for students how to fluently read or apply reading strategies to grade-level text. Combining independent student work and teacher-directed instruction around the Stretch Article creates the perfect blended learning environment through which student Lexile levels are accelerated. Through this regular and repeated exposure to grade-level text, students gain confidence in working with the text complexity they will see on high-stakes state assessments.

Connection to Research

Higher-Order Thinking Skills: The latest state standards require that students construct effective arguments on a wide range of subject matter. Text-dependent discussion questions in the Teacher Recommendations and Teacher’s Guide help students use academic words in speaking and help teachers support debate and argument in the classroom. These tools cultivate discerning readers who question what they read. In addition, teachers may use a graphic organizer in conjunction with the Poll question to help students support their opinions.

Direct Instruction: Every lesson comes with strategy lesson plans as well as Teacher Recommendations for how to use the Stretch Article to challenge students with grade-level text. Teachers receive everything they need to deliver explicit instruction and support the use of critical reading strategies in order to help students read complex text independently. The Teacher’s Guide includes metacognitive strategies for teachers to use as they help students comprehend the complex texts and language associated with multiple sources of information. Both instructional tools also provide several supports so that teachers can facilitate discussion and debate. By discussing the facts and ideas in texts, students gain what E.D. Hirsch (2003) calls “world knowledge,” an essential component of reading comprehension.

Vocabulary Instruction: Both the Teacher Recommendations and the Teacher’s Guide identify academic vocabulary that teachers should introduce and reinforce with their students. Specific vocabulary activities are recommended in the Teacher’s Guide and myriad vocabulary activities are available in the Learning Center. In addition, the Learning Center provides access to direct instruction lesson plans around Word Part and Contextual analyses. The Teacher Recommendations also flags words from the Academic Word List (Coxhead, 2003). These are academic terms that are common across disciplines, so they will help students develop the language they need for all their content-area classes and for college and career readiness. Exposure to academic vocabulary will benefit learners at all levels. Many of the academic terms are also SAT/ACT words.
References


To learn more about Achieve3000 and its proven solutions, call 800-838-8771 or email info@achieve3000.com