



# Footsteps2Brilliance® Research Summary

In order to implement the most effective teaching and learning methods, the designers of Footsteps2Brilliance reviewed current research, consulted experts, and observed students. The program is largely based on the following core research-based principles:

1. The importance of vocabulary instruction
2. The importance of reading comprehension
3. The importance of foundational skills development
4. The importance of writing
5. Addressing the needs of diverse learners
6. Parental involvement connecting school to home

The following sections outline how the Footsteps2Brilliance program draws on the best research in early literacy instruction. Research references are included in full at the end of this section.

## 1. Importance of Vocabulary Instruction Research Background

Researchers have found that students require an extensive vocabulary to become competent in reading comprehension (Nagy, 2007, 52, Nicholson and Dymock, 2010, 18). We know from a longitudinal study by Betty Hart and Todd R. Risley that children enter school with large differences in vocabulary size (2003). These differences are chiefly attributable to differences in socioeconomic status (SES). Children from low SES households hear 30 million fewer words by age 4 than their more affluent peers.

Vocabulary instruction has routinely been included in reading programs. However, the vocabulary instruction in the primary grades has been linked to the development of word recognition skills, with emphasis on sight words, such as *have* and *was*. “But adding vocabulary to children’s repertoires need not be held back until their word recognition skill becomes adequate to read texts that include unfamiliar words.” (Beck and McKeown 2007, 190) We know that children develop competence in listening and speaking well in advance of being able to read and write, and that they enjoy listening to complex stories long before they can read them. In their research, Beck and McKeown concluded that certain words, such as *bed*, *up*, *boy*, *run*, *pretty*, and *hamburger* require no direct instruction. Children learn these quite naturally during their everyday lives. Beck and McKeown refer to these as Tier 1 words. Tier 2 words include those words that have high frequency for mature language users and that have general utility (199).

Nicholson and Dymock point out “multiple exposures to a word are critical if the word is to become part of the reader’s vocabulary.” (2010, 21) According to Joanne F. Carlisle, there is one more critical factor. “For children, as well as adults, learning an unfamiliar word begins when it is encountered in an oral or written language context *and* when understanding of that word matters to the listener or reader.” (79)

## Vocabulary: The Footsteps2Brilliance Approach

Footsteps2Brilliance provides rich instruction and practice targeting Tier 2 vocabulary words in both English and Spanish. Engaging stories and interactive illustrations naturally



peak students' interest and inspire repeated readings. Audio support helps all levels of readers to engage with the rich language of the books and games. Moreover, children can toggle between English and Spanish at any point in the book to enrich their bilingual understanding of the story. Vocabulary exposure in Footsteps2Brilliance is not a passive experience. Children see and hear the word in the context of a story. Moreover, interactive illustrations add a deeper level of word understanding. After experiencing the interactive eBook, students hear, see, and play with the target words in multiple engaging games. Finally, students apply and synthesize their understanding as they create their own story using the words, illustrations, and themes from the book.

## 2. The Importance of Reading Comprehension Research Background

In most cases, emphasis in early literacy continues to focus on instruction in phonological awareness, alphabetic principle, and increasing vocabulary in number and complexity (Fischel et al., 2007) but, to become readers, not just decoders, children need to learn how to comprehend. This instruction must begin at a very young age, rather than when children enter primary grades (Neuman, 2006). Dooley (2010) states, "From early interactions, children develop knowledge about how to comprehend in ways that are essential to conventional reading comprehension development" (p. 120). It is clear from this research that comprehension is an emergent prereading skill that should not be left until the middle elementary years.

Teaching young children age-appropriate emergent comprehension strategies provides a scaffold to reading comprehension strategy development and future success in reading comprehension (Dooley, 2010; Dooley & Matthews, 2009; Paris & Paris, 2003; Pressley, 2002).

As children's vocabularies grow, they will be able to better understand concepts and words in stories leading to deeper comprehension of ideas and storylines (Beck & McKeown, 2007). When children's vocabularies include a wide range of words and concepts, they also are better able to comprehend stories being read aloud and, in the future, as they are reading (Biemiller, 2003).

### Reading Comprehension: The Footsteps2Brilliance Approach

Students develop reading comprehension in a variety of ways as they work with the interactive eBooks in Footsteps2Brilliance. For example, interactive, animated illustrations help to enrich students' understanding of the text for each page. In several book titles, the illustrations also include thinking prompts to draw the child's attention to key details in the text and illustrations. Essentially, children and parents are guided to think aloud about what they are reading. After reading the books, children can play "Book Buddies" where they answer questions about the text. A "Hint" button guides students to continually refer back to the text in order to find the answer. As children progress through 3 levels in Book Buddies, they progress from basic recall to inferential questions that require higher order thinking. Rewards and immediate feedback encourage children to persist as they develop their understanding.



### 3. The Importance of Foundational Skill Development Research Background

Among kindergartners, phonemic awareness “is one of the strongest predictors of subsequent reading achievement” (Brady, 2012, p. 19). When early reading instruction is methodically and systematically combined with phonemic instruction, “the success rates are dramatic” (Adams, 1990, p. 329). The effect on reading success is even stronger when phonological and phonemic awareness instruction is combined with activities that promote knowledge of letter names and letter sounds (Brady 2012; NELP, 2008). “The speed with which they can name individual letters both strongly predicts success for prereaders and is strongly related to reading achievement among beginning readers” (Stahl, et al., 1990, p. 43).

While explicit instruction in foundational reading skills has been conclusively shown to enhance the chance of early literacy success, proponents stress that such instruction is a means, not an end (for example, see Adams, 1990; NRP, 2000). The ultimate goal of literacy instruction is enabling students to move from decoding text to comprehending it.

### Foundational Reading Skills: The Footsteps2Brilliance Approach

Footsteps2Brilliance offers children hundreds of books, songs, and games designed to develop foundational reading skills. Children can record themselves singing along with nursery rhymes and play rhyming games to help develop phonological awareness. The Mega Mouth Decoder book series introduces fun and memorable characters designed to help children hear and pronounce the 44 sounds in the English language. With each book, a collection of games provides fun practice of phonics and phonemic awareness skills related to the target sound introduced in the book. Children have ample opportunities to develop their letter recognition skills with Alphabet Animals and a wide variety of letter recognition games. Based on the seminal work of Elkonin, the “Word Wall” game provides children with hundreds of opportunities to hear the accurate pronunciation of isolated phonemes represented by letter tiles. Children essentially build words from graphemes exploring the alphabetic principle where individual sounds can be represented by multiple letters. “Whack a Word” gives children automaticity practice recognizing high-frequency sight words. By providing immediate feedback and progress tracking, children are encouraged to increase all of their skills as they work from easier to more difficult activities.

### 4. The Importance of Writing Research Basis

In *Writing to Read*, Steve Graham and Michael Hebert site that “one often-overlooked tool for improving students’ reading, as well as their learning from text, is writing.” Reading and writing are both functional activities that can be combined to accomplish specific goals, such as learning new ideas presented in a text (Fitzgerald and Shanahan, 2000). For instance, rewriting a nursery rhyme will facilitate comprehension and learning, as it provides children with a means for recording, connecting, analyzing, personalizing, and manipulating key ideas from the reading experience. Reading and writing are connected, as they draw upon common knowledge and cognitive processes (Shanahan, 2006). Consequently, as children learn to write, they become better readers. Finally, reading and writing are both communication activities, and writers should gain insight about reading by creating their own texts (Tierney and Shanahan, 1991), leading to better comprehension of texts produced by others.



## Writing: The Footsteps2Brilliance Approach

Footsteps2Brilliance emphasizes the connection between reading and writing. Every interactive eBook in Footsteps2Brilliance includes a “Create-a-Book” activity. Create a Book encourages children to write and publish a variation of the book they just read. Children use a simplified word processor where they can write and illustrate their own version of the story. A wide variety of illustrations directly from the book, drawing tools, and an open canvas engage children in storytelling and encourage the imagination. Some children choose to create a retelling of the story in their own words. Other children will write an alternate ending to the story. The options are endless. An optional writing prompt is available to help reluctant writers get started. Most importantly, Create-a-Book enables children to create, save, print, and even email an unlimited number of original books. Teachers and parents can easily access these books to assemble a digital portfolio of each child’s work throughout their time on the program. For older children, “My Journal” offers an even richer word processor where children can create a wide variety of writing projects.

For teachers, Footsteps2Brilliance also includes Lesson Plans with research-based strategies to develop student’s writing skills. This blended learning approach encourages teachers to maximize a child’s practice in using 21<sup>st</sup> Century tools as well as using traditional paper and pencil. In addition, Footsteps2Brilliance encourages writing through Project Based Learning activities. Using the Footsteps2Brilliance eBooks as a catalyst, the Project Based Learning modules have students explicitly define advanced vocabulary, conduct independent research, analyze their findings, use graphic organizers, and create a variety of evidence they can share to demonstrate their deeper understanding. With Version 6, children can complete and submit their projects online. We have even added new rigorous projects related to the new books in version 6!

## 5. Addressing the Needs of Diverse Learners Research Basis

Recent statistics reveal the increasing diversity of US public education students:

- There has been a 150% increase since 1990 in the number of English language learners (ELLs) in US public schools (Goldenberg, 2010).
- It is projected that 20% of the US public school population will be Hispanic by 2050 (Cárdenas-Hagan, 2010).
- 13% of public school children receive federally supported special education services (US Department of Education, National Center for Education Statistics [USDOE, NCES], 2011).
- Over 21 million children receive Title I services, aimed at students from low-income families (USDOE, NCES, 2011).

Research shows that learning is enhanced when instruction accommodates the variances in learning needs among individual children (Sousa & Tomlinson, 2011).

## Diverse Learners: The Footsteps2Brilliance Approach

Footsteps2Brilliance is ideally suited to meet the needs of special learners. Both struggling readers and English language learners benefit from an environment replete with environmental print, literacy experiences, and explicit instruction.



The Footsteps2Brilliance curriculum is uniquely positioned to help the growing population of students who speak Spanish as a primary language. A simple English/Spanish Toggle switch available on every page of the program enables children, teachers, and parents to seamlessly switch between languages at any time. The program allows for unprecedented flexibility and bilingual configuration. This includes: full English immersion, full Spanish immersion, English with Spanish scaffolding, and Spanish with English scaffolding. With these combinations, this system is the most flexible English/Spanish system available.

Through the option of having the story read aloud or getting a single word identified, special learners find both the story and vocabulary readily accessible. With headphones, no one needs to be aware of a student's use of audio support. In addition to the extra practice with vocabulary provided by the games on the platform, both struggling readers and English language learners benefit from receiving clear and simple directions, having models of the expected behavior, and having scaffolding for understanding (Goldenberg and Coleman 2010). The Book Buddies provide comprehension checks at three levels of difficulty. In addition, many of the activities in teacher lesson plans include recommendations for scaffolding the instruction for learners with special needs. There are also recommendations for independent learners who might benefit from an additional challenge, making Footsteps2Brilliance a rich program for use in the classroom or home.

## 6. Parental Involvement Connecting School to Home Research Basis

Researchers have evidence for the positive effects of parent involvement on children, families, and school when schools and parents continuously support and encourage the children's learning and development. According to Henderson and Berla (1994), "the most accurate predictor of a student's achievement in school is not income or social status but the extent to which that student's family is able to:

- Create a home environment that encourages learning
- Express high (but not unrealistic) expectations for their children's achievement and future careers
- Become involved in their children's education at school and in the community (p. 160)

## Engaging Families: The Footsteps2Brilliance Approach

Footsteps2Brilliance is founded on the principle that parents are their child's first and most important teacher, but many parents do not have the resources and/or skills to support their child's emergent and developing literacy skills. Our design embraces the uniqueness of each child and each family. Footsteps2Brilliance literally puts books and resources into parents' pockets. Moreover, the Footsteps2Brilliance approach meets parents where they are—providing audio support in English and Spanish so that parents can be learning right alongside their children.

Footsteps2Brilliance is uniquely positioned to give every family access to high-quality learning experiences anywhere, anytime. The Footsteps2Brilliance program can be used on any mobile device—smartphone, tablet, or computer—with or without an internet connection. According to recent research from the Pew Foundation, more than 80% of families own a smartphone, regardless of socio-economic status. Footsteps2Brilliance offers a flexible deployment that can quickly put thousands of books, games, and activities into every parent's pocket.



Instead of lock- stepping children through a forced sequence of learning, Footsteps2Brilliance enables families to explore and discover together. The curriculum provides children with a cost-effective library of beautifully written and illustrated e-books and educational games that address comprehension, vocabulary, writing and critical thinking skills. With the touch of a button, families can move seamlessly between learning in English and learning in Spanish. Teachers and schools can easily track student activity on Footsteps2Brilliance in order to understand interests and areas of strength and weakness. By creating a bridge between the learning at school and the learning that occurs informally in the kitchen, the grocery store, the park, the car, or the waiting room, Footsteps2Brilliance strengthens the family and school partnership.

Finally, the Footsteps2Brilliance Model Innovation City Program provides districts with the strategies, tools, and frameworks to effectively engage with their community.



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