

# ROBIN HOOD LEARNING + TECHNOLOGY FUND

IN PARTNERSHIP WITH  
OVERDECK FAMILY FOUNDATION  
AND SIEGEL FAMILY ENDOWMENT

## BLENDED LITERACY CONCEPT PAPER



To understand the Robin Hood Learning + Technology Fund’s strategy to boost low-income students’ literacy, you must first understand the “Matthew Effect.”<sup>i</sup>

The “Matthew Effect” refers to the idea that when it comes to reading, the more you know, the more you learn. A famous experiment about baseball illustrates the concept. Given a common passage about baseball, so-called “low-ability” readers who knew a lot about baseball significantly out-performed so-called “high-ability” readers who knew little about baseball. This was because the high-ability readers did not have the context to make sense of what they were reading.<sup>ii</sup>

In other words, a learner’s background knowledge is a key ingredient in her ability to learn and absorb information from what she is reading and consuming.

Building learners’ background knowledge in scalable ways that is personalized to their particular needs and contexts is challenging, especially for schools serving students with diverse backgrounds, a range of outside-of-school experiences, and widely varying background knowledge. A reality that is even more true after the learning interruptions caused by the COVID-19 pandemic. Using a blended learning approach that taps into the power of technology and coupled with high-quality instructional materials<sup>iii</sup> can help to solve this problem in novel ways, with the potential to positively impact low-income students throughout New York City — and the nation.

## DETERMINING THE POTENTIAL OF BLENDED LITERACY

The objective of the Fund’s blended literacy strategy is to partner with organizations, schools and families to determine the potential of combining a personalized and blended approach with high-quality materials and content-rich instruction to boost low-income students’ achievement. The Fund seeks organizations interested in providing educators with resources and support, such as curriculum, professional development, and organizational support, to implement personalized, engaging, and affirming learning with rigor. Organizations will partner with new and existing schools, both charter and traditional public, and with families to serve high-poverty students in New York City and create demonstrations that:

- A TAKE ADVANTAGE OF WHAT IS KNOWN ABOUT BUILDING LITERACY THROUGH A CONTENT-RICH STRATEGY LEVERAGING HIGH-QUALITY INSTRUCTIONAL MATERIALS COMBINED WITH A BLENDED APPROACH THAT PERSONALIZES LEARNING THROUGH TECHNOLOGY;**
- B DEMONSTRATE THE POTENTIAL OF THIS APPROACH WHEN IMPLEMENTED ACROSS SUBJECT AREAS, AND NOT JUST IN ENGLISH LANGUAGE ARTS (ELA) CLASS;**
- C OUTPERFORM THE CITY AVERAGE ON ELA PROFICIENCY AND RESULT IN STUDENTS EXHIBITING ACCELERATED GROWTH ON CRITERION-REFERENCE TESTS.**

Although the Fund recognizes that high-quality instructional materials and a content-rich approach can be effectively implemented without technology, and that there are many ways to personalize learning, our focus is on demonstrating the yet-untapped potential of bringing the two together.

## THE RATIONALE FOR THE DUAL APPROACH: WHY HIGH-QUALITY INSTRUCTIONAL MATERIALS AND BLENDED LEARNING CAN HAVE AN OUTSIZED EFFECT

### THE IMPORTANCE OF BUILDING CONTENT KNOWLEDGE

As cognitive scientist Daniel Willingham wrote, “Every passage that you read omits information. All of this omitted information must be brought to the text by the reader. Otherwise the passage will be puzzling, or only partly understood.”<sup>iv</sup> Recall the baseball example and imagine the confusion of a reader unfamiliar with the sport puzzling over why the crowd cheered when the runner stole second base — an act that might sound criminal in another setting.

**The takeaway is that intentionally building specific content knowledge within a high-quality curriculum is critical to building understanding.** But as standardized literacy tests have grown in importance, educators have spent more time building students’ skills around close reading — knowing how to find a main idea, analyze a passage, make inferences, and so forth — to the detriment of having students learn content in a way that builds upon itself across a wide range of subjects, including social studies, science, music, and the arts. Pre-pandemic, only 4% of class time in first grade was spent on science, and 2% on social studies, whereas 62% of time was spent on ELA, with similarly weighted distributions in later grades.<sup>v</sup> This emphasis on literacy will likely increase as the country seeks to accelerate learning for the millions of children struggling to recover months of unfinished learning due to the pandemic.<sup>vi</sup>

**By narrowing the curriculum and neglecting the importance of background knowledge, schools are inadvertently making it harder for their students to excel in any subject,** including ELA. What we read and when is important. Teaching nonfiction texts in isolation, for example, loses value because students read the texts without context and coherence, which makes it difficult for them to absorb information. The contrast to this is reading intentionally deep into a topic — with ample nonfiction but also appropriate fiction — as part of a coherent high-quality curriculum that builds knowledge and depth. This does not mean students should not also read widely, but that reading too thinly has its perils.

The bigger point is not that teachers should neglect other aspects of literacy — helping learners close read texts, write, learn how to make arguments, and advance ideas about texts in ways that allow for deeper learning and critical thinking — but that practicing close reading to the exclusion of intentionally building knowledge is futile.

**Growing research supports the importance of coherently building background knowledge.** In New York City, there is a solid base of schools that have adopted a content-rich approach and seen striking results. Per one body of research, New York City schools that took this approach gained 2.5 scale score points compared to 0.9 points in the control group.<sup>vii</sup> Research also found that students with access to digitally accessible high-quality instructional materials and support from a caregiver learned about the same — and sometimes more — than they would have in a “typical” year. Their experience was in stark contrast to the significant learning loss experienced among students nationally, up to one year for students of color and students living in poverty.<sup>viii</sup>



## **THE CRITICAL ROLE OF A BLENDED APPROACH FOR PERSONALIZATION**

But personalizing at scale is challenging. Personalizing for all students may be possible in a school with a small student-to-teacher ratio and flexible groupings, but it is taxing on an individual teacher who must provide new and targeted learning experiences for each student in a large class.

This is why blended learning is so important. **Blended learning is the engine that can power personalization at scale.** Just as technology enables mass customization in so many sectors to meet the diverse needs of so many users, online learning can allow students to learn any time, in any place, on any path, at any pace, and in a way that celebrates their unique assets. At its most basic level, it lets students fast-forward if they have already mastered a concept, pause if they need to digest something, or rewind and slow something down if they need to review. It provides a simple way for students to take different paths toward mastery.<sup>ix</sup>

The proliferation of blended school models around the country makes clear how the thoughtful integration of online software and tools can make meeting a wide range of learning needs feasible.<sup>x</sup> Based on these promising practices, we envision schools leveraging technology in multiple ways.

## HALLMARKS OF EFFECTIVE BLENDED LEARNING

- 1 Helps students build reading and writing fundamentals, grammar, mechanics, and vocabulary**  
**Example:** Students learn certain grammar rules using software that provides feedback in real time, and then practice applying them in a range of contexts and formats adapted to their level of mastery.
- 2 Delivers personalized online content in the form of video, text, and simulations that support the development of content knowledge and affirm students' identities**  
**Example:** Students watch videos, read texts online that are scaffolded for their reading level, or listen to readings so they can hear the rhythm, emotion, and intentionality of a passage, and can choose texts that are culturally relevant and affirming.
- 3 Provides students with opportunities to synthesize, analyze, create, share, and teach their acquired knowledge**  
**Example:** Students create their own interactive texts, simulations, or videos on relevant topics and content.
- 4 Supports rapid, iterative and efficient diagnostics alongside actionable data dashboards to give teachers and students a real-time window into learning and gaps along a variety of metrics**  
**Example:** Online iterative and tailored short-form assessment tools determine students' reading proficiency during and at the end of a unit. This data is shared with students and their families to engage them in their own learning process, and used by teachers to group, regroup, and assign tasks to maximize learning.

All the above uses have one other critical advantage: Freeing up teacher time to provide students with more qualitative feedback and targeted support while creating opportunities for critical thinking and inquiry via small-group and one-on-one learning.

## FRAMEWORK FOR BUILDING LITERACY WITH A BLENDED, HIGH QUALITY AND CONTENT-RICH APPROACH

Our vision is not to prescribe how to implement a blended, high quality and content-rich approach to learning. We seek instead to invest in organizations and their school and community partners that will demonstrate this approach thoughtfully, will try things and iterate as they learn and improve, will create new tools, models and resources to support others, and that will **ultimately generate measurable results that help the field learn more about what works**, and what does not, in what circumstances.

That said, a framework for building literacy with a blended, high quality, and content-rich approach can serve as a valuable clarifier. Reading Reconsidered by Doug Lemov, Colleen Driggs, and Erica Woodway<sup>xi</sup> offers four interconnected literacy strategies that, when coupled with Knowledge Matters<sup>xii</sup> tenets for a knowledge-rich curriculum, provide schools with a framework to guide their thinking and work toward adopting a blended literacy approach.

### READING RECONSIDERED'S INTERCONNECTED LITERACY STRATEGIES:

- 1** Reading harder texts
- 2** "Close reading" texts rigorously and intentionally
- 3** Reading more nonfiction more effectively
- 4** Writing more effectively in direct response to texts

## KNOWLEDGE MATTERS' TENETS FOR A CONTENT-RICH CURRICULUM:

**SPECIFIC:** Topic by topic, the specific content children learn throughout the year is clearly stated. For example, “compare and contrast ancient civilizations in China, Egypt, and the Middle East” versus a vaguer “compare and contrast three ancient civilizations.”

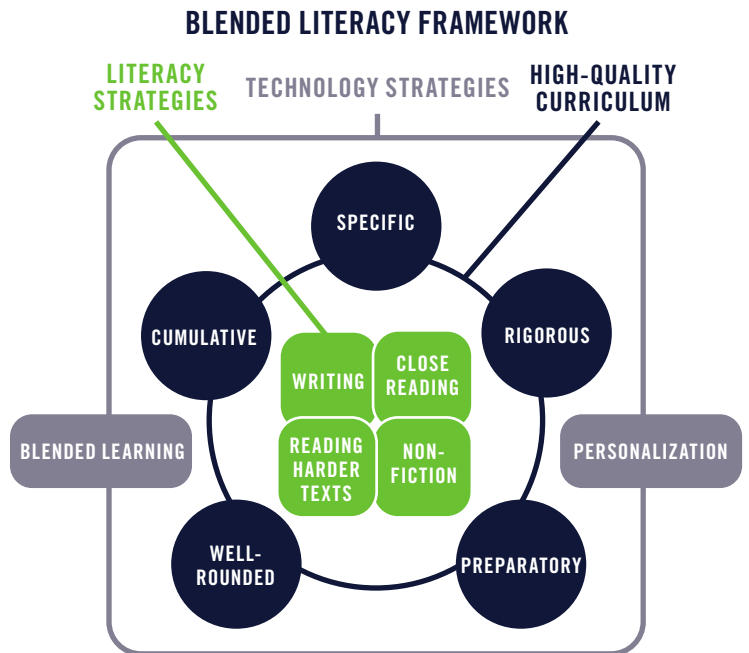
**CUMULATIVE:** Grade by grade, the specific content is cumulative, ensuring that children are developing both deep and broad knowledge, and that their curriculum does not feature boring repetitions or problematic gaps.

**WELL-ROUNDED:** Not only are the sciences, social studies, and arts necessary for reading comprehension because of the knowledge and vocabulary they convey, these subjects are inherently interesting.

**PREPARATORY:** From literature to chemistry to music, educators select the content that offers the best preparation for later studies. While some time could be set aside to pursue children’s interests, children do not know what background knowledge is necessary to succeed in challenging courses in later grades.

**RIGOROUS:** Even in kindergarten and first grade, children are ready for rigorous academic topics. Rigorous does not mean stressful or boring. Young children enjoy complex topics if they are immersed in a carefully planned series of read-alouds, discussions, and projects that start with a basic introduction and build toward deeper understanding.

The Fund sees technology as a unifying tool that can provide educators, families and students with the data and resources they need to pursue a high quality and content-rich approach to literacy instruction in a way that effectively meets the needs of every student.



## LESSONS LEARNED: USING TECHNOLOGY, PERSONALIZED LEARNING, AND CURRICULUM TO BOOST STUDENT LEARNING

Over the last four years of investing in curriculum providers and professional learning organizations the promise of blended literacy has started to yield results. While navigating shifting conditions caused by the COVID-19 pandemic, teachers and leaders explored a couple of questions: 1) how to use blended resources to build students' content knowledge; and 2) how to use blended methods to collect student thinking and data to support learning. Below are lessons learned from implementation of blended literacy practices:<sup>xiii</sup>

- **Blended** resources help students build foundational knowledge. Digital resources present concepts and topics in engaging formats and multiple representations that help students visualize what they read about. This, in turn, leads to increased access to complex topics and texts.
- **Technology** makes valuable data collection easy and efficient. Technology can provide immediate access to individual student thinking and learning in ways that are impossible when leading a full class.
- Understand **curriculum design** before blending is critical. When teachers deeply understand how and why the curriculum was built the way it was, they are poised to make effective blending choices while maintaining the academic and content rigor of the instructional materials.
- **Personalization** is particularly powerful when viewed as a strategy for all students to access common rigorous learning experiences rather than as an approach that aims to create different core tasks for different students. When personalized blended strategies are implemented to help students access high-quality curriculum content, they represent a more realistic pursuit in the quest for equitable learning outcomes than the creation of rigorous blended learning plans for individual students.

## BLENDING LITERACY IN PRACTICE: WHAT IT MIGHT LOOK LIKE

### A STATION-ROTATION ELEMENTARY SCHOOL EXAMPLE:

#### LEVERAGING MULTIPLE ONLINE AND OFFLINE LEARNING MODALITIES TO MEET DIVERSE STUDENT NEEDS

To understand what blended literacy might look like in practice, imagine a third-grade English language arts class where students are learning about frogs. Leveraging a coherent set of high-quality instructional materials in place at the school, the unit **builds on a previous study** in science focused on the environment, **using similar vocabulary and concepts, and is a precursor to a social studies unit comparing cultures**. Now imagine the classroom is set up for students to cycle through different centers as they learn about frogs. Rather than have all the centers focused on building reading fundamentals, students could also learn about frogs through the lens of social studies and science. Students with limited knowledge of amphibians could watch a set of online videos about frogs, and then construct a Venn diagram to compare different types of frogs and show evidence of their learning. Once they have demonstrated mastery, the students could progress to reading a book about frogs at another station. At the other online station, students learn and practice the fundamentals of reading through online software that utilizes adaptive assessments to provide real-time data for teachers and students to decide on students grouping and lesson planning. A third station features a teacher working with a small group of students on how to effectively close read a non-fiction text about how frogs are perceived in various cultures.

### A MIDDLE SCHOOL EXAMPLE: DIFFERENTIATING TASKS WITHIN A CUMULATIVE CURRICULUM

In social studies, students with a solid grounding in the history of the United States and the founding documents could spend time using **online software that personalizes close reading** to help them dissect a passage about the Bill of Rights or westward expansion, providing broader context about that period in our country's history to help them further develop their literacy skills. **Students who have less familiarity** with the topic could use an **online software program to read a passage or watch a video that introduces some of the necessary foundational knowledge**. Other students could leverage technologies to write a written report or create an interactive simulation designed to teach the material to their peers. This learning experience would also be the precursor to a related curriculum in the following year, and could also link to computing education and computational thinking, where students could continue to develop their history simulations.

## BLENDING LITERACY IN PRACTICE: WHAT IT IS NOT

The Fund is **not interested in creating instructional models where students sit in front of computers all day**. Nor is it interested in simply automating adaptive learning or creating instructional models that individualize learning and take interaction among students and teachers out of the picture. To that end, the Fund is not interested in personalizing to an extreme, such that groups of students within a school never read and discuss shared books or that students only read what they think interests them, to the exclusion of introducing them to new genres and topics they might come to love, as well as uncomfortable but important material. Finally, the Fund is **not interested in finding the most innovative or novel of instructional models for their own sake**.

## CONCLUSION

The Robin Hood Learning + Technology Fund was established to unlock the potential of technology to transform learning and advance achievement for low-income students in New York City. By working in collaboration with organizations, school leaders, educators, communities, and researchers, we aim to achieve this mission together by providing clear and inspirational tools, resources and models with the power to bridge the literacy gap that prevents so many of our youth from deepening their learning and ultimately setting on a path to opportunity.

## ABOUT THE FUND

The Robin Hood Learning + Technology Fund is dedicated to unlocking the potential of technology to transform learning and advance achievement for low-income students in New York City. A collaboration among Robin Hood, the Overdeck Family Foundation and Siegel Family Endowment, the Fund focuses on seeding and uncovering bright spots of innovation in two targeted strategies: 1) developing students' computational thinking at a young age (K-5); and 2) boosting literacy through a blended, high quality and content-rich approach (K-8). Across both focus areas, we seek to build the research base and share learnings with the field to support the replication and scale of promising approaches.

The Fund is guided by a uniquely experienced advisory board: John Overdeck and David Siegel, Fund co-chairs and the founders and chairmen of Two Sigma; Laura Arrillaga-Andreessen, founder and president, Laura Arrillaga-Andreessen Foundation; Matt Dalio, founder, Endless; Michael Horn, chief strategy officer, Entangled Solutions; and David Saltzman, co-founder, Atria and co-founder, Robin Hood.

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SCHOOLS, DISTRICTS AND ORGANIZATIONS INTERESTED IN PARTNERING WITH THE FUND OR LEARNING MORE SHOULD CONTACT US AT  
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