

Appendix 4: Detailed Explanation of Blended Learning

An Illustration of Blended-Learning

Carmine, an inquisitive kindergarten student and English language learner, is in the blue group, which today starts the morning literacy block on the computer. She sits down at her assigned computer along the wall and puts on the headphones. She then signs on to the computer by clicking on a picture of her teacher, then on a picture of herself and finally uses a simple picture password scheme to access today's lesson. Based on her recent reading assessment and work with the teacher during guided reading, her teacher has already assigned Carmine to work on a specific phonics skill. The program explains the concept verbally along with visual graphics and then assigns her practice tasks. It is adaptive and selects each problem based on whether or not she understood the previous problem, assuring that the level of challenge is high enough to accelerate her learning without being too hard and losing her. The program gives her immediate feedback, reinforces correct answers and explains errors. The computer collects this information for the teacher to review later and use to inform subsequent instruction. After 20 minutes she signs off and rotates to her daily guided reading group with her teacher.

A blended-learning model is only as successful as the tools that help teachers customize and coordinate computer-based and teacher-led instruction. Noting the importance of effective design and implementation, an innovative and critical component of our program is the use of the cloud-based Hybrid Learning Management System (HLMS) developed by Education Elements. Key features include:

- Teachers, administrators, students and parents can log on to one system to access a range of content, assessments and student performance data.
- Organized around student groups and subjects – not whole classes and grade levels- teachers can work with smaller groups of students and target instruction.
- Content can be quickly added and changed to provide students with developmentally appropriate and engaging materials.
- Curriculum can be supplemented with remedial and advanced content for all types of learners, including students with disabilities and English language learners.
- Ongoing formative assessment provides students and teachers with immediate feedback to inform teaching and learning.
- Teacher-created assessments can be incorporated along with those offered by content providers.
- Data analysis tools allow teachers to review progress by student, group, and standard and use results to plan future instruction and facilitate Response to Intervention.
- Integrated grade book provides holistic real-time view of student progress to teachers, administrators and parents.

Education Elements has experience working with successful start-up charter schools serving students similar to our target population, including KIPP Empower in Los Angeles, IDEA Public Schools serving 16 schools in the Rio Grande Valley in Texas and Alliance College-Ready Public Schools serving 20 schools in California. In addition, the state of Pennsylvania is using the HLMS as the backbone of its statewide Hybrid Learning Initiative.

Nevertheless, a learning management system is nothing without great content. The Obama administration recently called for states to change their calcified curriculum adoption processes and accelerate the transition to digital textbooks and software. One of the great advantages of being a charter school is the ability to quickly modify curriculum to meet students' needs. The HMLS will allow the school to select from a diverse array of content providers. With the field of education technology evolving so rapidly, it does not make sense to specify now the digital content we will use at BBWA. We will delegate this responsibility to the school's leaders using the following criteria:

- **Aligned:** engaging content must support our curriculum and instructional objectives.
 - **Adaptive:** lessons must continuously personalize instruction based on frequent assessment of student progress and mastery.
 - **Assignable:** teachers must have some control over assigning lessons to address identified needs of individual students and coordinate with their instruction.
 - **Reporting:** programs must provide useful feedback to both students and teachers.
- Examples of computer-based programs that currently meet these criteria include Odyssey K-5 by Compass Learning, iStation, Dreambox and Learning.com.

While BBWA intends to implement a relatively new and innovative approach, blended learning does have a track record and research base. Corporations, the military and higher education have relied on it for years to develop critical mastery of skills and knowledge. KIPP Empower, an elementary charter school in Los Angeles, uses a model close to our design with encouraging results: last year just 9% of its kindergarten students were reading at a proficient or advanced level at the start of the school year, but 96% were doing so by the end of the school year, as measured by the STEP literacy assessment. Similarly, on the SAT-10 test, 96% of students were performing at or above the national average in both reading and math. What's more, the KIPP Empower model accelerated many students beyond grade level: 30% of kindergarten students were reading at a 1st or 2nd grade level at the end of the year.

The larger impact on K-12 education is nascent. The 2006 report *Technology in Schools: What the Research Says* notes that "[t]he research on the effect of technology in learning is emerging. Overall, across all uses in all content areas, technology does provide a small, but significant, increase in learning when implemented with fidelity." Several recent studies have examined the underlying mechanisms of technology in the classroom and identify a common theme: how the teacher uses technology contributes significantly to the effectiveness of that technology.

A review of the research on one-to-one computing (Fadel and Lemke) noted several studies that identified increased student engagement in learning. They also found that, in technology intensive classrooms with effective implementation, instructional practices shifted to more collaborative, small-group work; used curricula that were more student-centered and problem based; and produced more higher-order thinking skills.

We recognize that technology is no magic bullet and the successful implementation of this blended-learning model will require:

- **Staff Development:** teachers will receive ongoing training to understand how to group students, plan and assign appropriate lessons, review data, and revise groups and instruction. To that end we will provide implementation training and employ a full-time Blended-learning Manager to support teachers throughout the year.
- **Meticulous Planning:** in order to tightly integrate online content and offline instruction requires that teachers regularly review student progress data, adjust flexible student groups and differentiate instruction to optimize learning. Our schedule will provide teachers with regular planning time and guidance.
- **Orderly Culture:** teachers will establish structured routines and procedures for students working independently, using computers and transitioning between activities. School culture will be a major component of staff development and ongoing support.
- **Pedagogy:** BBWA subscribes to the principles of Paideia. In Greek the word "paideia" means education or child-rearing. In classical Athens Paideia was a system of instruction in which students were taught language, history, logic, math and music. In modern times Mortimer Adler resurrected the term with the Paideia Proposal, which promoted a variety of instructional methods to address different learning situations. Paideia emphasizes three specific pedagogical techniques:

□ **Didactic Instruction:** Typically teacher-centered, students acquire foundational information about a subject. Lecture, reading, demonstration and videos are common forms of didactic instruction. Assessment typically includes questioning and written quizzes and tests of basic knowledge. Didactic instruction will typically occur during whole class lessons and some computer-based instruction.

□ **Intellectual Coaching:** Through practice students acquire expertise in skills of learning, such as reading, writing, calculating and observing. Teachers model, question and provide positive and corrective feedback. Assessment is often conducted through performance tasks with the use of checklists and rubrics. Our blended-learning and co-teaching model is designed to maximize small group instruction to facilitate the coaching relationship. Adaptive instruction and immediate feedback from some computer programs can fit the coaching model as well. Targeted coaching will be especially important for meeting the needs of at-risk students.

□ **Paideia Seminars:** While most are familiar with Socratic seminars in college settings, the basic practice of expanding students' understanding of ideas, concepts and values can be translated to elementary classrooms as well. Paideia seminars typically include facilitated discussions using open-ended questions and can be used with all ages in all subjects. Assessment is often based on evaluation of oral responses as well as presentations and written work. In preparing for a seminar, teachers use a variety of content reading strategies to help students build their comprehension of the seminar topic. The teacher also coaches individual students in speaking and listening skills in pre-seminar sessions, allowing at-risk students such as English language learners to effectively participate. During the seminar, students collaboratively use their reading, speaking and listening skills. Finally, the students write in response to the discussion.