Michael & Susan Dell FOUNDATION

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Blended Learning in Practice:

Case Studies from Leading Schools

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featuring ALLIANCE College-Ready Public Schools

prepared by FSG

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Background

Alliance College-Ready Public Schools

Blended Learning at ATAMS

Ms. Hernandez is in control of her Spanish 2 class at the Alliance Technology and Math Science High School (ATAMS) in East Los Angeles, but two-thirds of her students are paying no attention to her. And this is exactly what the school wants to see.

There are 16 sophomores and juniors sitting at four tables at the front of the room, receiving traditional face-to-face instruction from Ms. Hernandez. Meanwhile, 32 of their classmates sitting elsewhere in the room are learning from each other and on their laptops. Laptops underpin two of the three stations used in every core class at the school: collaborative learning, in which the students work in four groups of four on project-based assignments; and independent learning, in which the students work on their own on self-paced online programs. Ms. Hernandez is only teaching 16 ATAMS students now, but over the course of two hours, as the students rotate from one station to the next, she will teach all 48 of them.

This is a classroom rich with technology – a laptop for each student, data reports hung along the walls, a SMART Board at the front of the room, two extra laptops near the door for displaying students' digital work – but the human element of the model is unmistakable. Students actively work with one another on research projects and PowerPoint presentations. An instructional aide, Ms. Almeida, patrols the room offering individualized support to any students who need it. Ms. Hernandez teaches three different groups of students over the course of the class, sometimes covering three different lesson plans.

The importance of the human element comes through in the classroom's most sophisticated technological innovation: Ms. Hernandez is not in the room. She is in her own classroom 20 miles away at the Alliance Judy Ivie Burton Technology High School, where she simultaneously teaches a blended learning class in person, in addition to the class at ATAMS. She appears in front of the ATAMS students via the SMART Board and a CISCO distance learning product, a video conferencing tool that allows her to interact with the ATAMS students as if she were in the room with them.[1]

[1] As of the 2011-12 school year, the distance learning feature was in place in only ATAMS' Spanish 2 class. This was the only class where an instructional aide played a role in the classroom. The goal is to expand the strategy to more classes in the upcoming years.

Alliance at a Glance

CMO

NAME *Alliance College-Ready Public Schools*

FOUNDED *2003*

LOCATION *Los Angeles, CA*

NETWORK *14 high schools and 6 middle schools serving 8,540 students; 3 schools utilize blended learning as part of the Blended Learning for Alliance School Transformation project (BLAST)*[2]

DEMOGRAPHICS *95% Free/Reduced Lunch, 22% English Language Learners, 7% Special Education*

GROWTH PROJECTION *30 schools serving 12,000 students by 2016; growth to include an average of 2 new schools (e.g., one high school and one middle school) each year for the next five years; all new schools will follow the BLAST model (blended learning)*

PRESIDENT & CEO *Dr. Judy Ivie Burton*

MISSION *To open and operate a network of small high-performing 9-12 and 6-8 public schools in historically underachieving, low income communities in California that will annually demonstrate student academic achievement growth and graduate students ready for success in college.*

School Profiled

NAME *Alliance Technology and Math Science High School (ATAMS)*

FOUNDED *2011*

LOCATION *Los Angeles, CA*

STRUCTURE *247 students across grades 9-11 during the 2011-12 school year; ATAMS has added 12th grade for the current school year and plans to grow to nearly 600 students by 2014-2015*

DEMOGRAPHICS *89% Free/Reduced Lunch, 63% English Language Learners, 11% Special Education*

MISSION *To create 21st century learners ready for college success through individualized, student-centered instruction that makes academics both personal and relevant for every student.*

BLENDED LEARNING *Station rotation blended model*[4]

Building a Blended Learning Model

Alliance College-Ready Public Schools is a fast-growing Charter Management Organization (CMO) which currently includes 14[2] high schools and 6 middle schools spread across roughly 100 square miles in Greater Los Angeles. The network, founded in 2003 and led by former Los Angeles Unified School District (LAUSD) Local Superintendent Dr. Judy Ivie Burton, has been lauded by national charter school enthusiasts and local public officials, including the President of the Board of Education for LAUSD and the Mayor of Los Angeles.[3] Alliance schools repeatedly appear in the top ten LAUSD schools for California's Academic Performance Index (API) measure. More than three quarters of the graduating seniors from the class of 2010-11 matriculated at four-year colleges and many others went off to pursue two-year degrees or certificates. *(See Appendix 1 for a sampling of Alliance's historical results.)*

[2] The school and student numbers stated above pertain to the 2011-12 school year. The Alliance network expanded at the beginning of the current school year to include 15 high schools and 6 middle schools, serving approximately 9,500 students. Seven Alliance schools now utilize blended learning.

[3] Source: Alliance College-Ready website, Blended Learning for Alliance School Transformation video: http://www.laalliance.org/apps/news/show_news.jsp?REC_ID=229172&id=1

[4] The 2011 Innosight Institute report, *"The Rise of K-12 Blended Learning,"* characterizes different types of blended models; the "rotation" model involves students rotating "on a fixed schedule between learning online in a one-to-one, self-paced environment and sitting in a classroom with a traditional face-to-face teacher." This past May, in *"Classifying K-12 Blended Learning,"* Innosight divided the model into four categories, including "station rotation," in which "students rotate on a fixed schedule or at the teacher's discretion among classroom-based learning modalities."

The network's success is built upon a mission *to open and operate a network of small high-performing 9-12 and 6-8 public schools in historically underachieving, low income communities in California that will annually demonstrate student academic achievement growth and graduate students ready for success in college*. High expectations are an explicitly stated element of the model.

Innovation is also integral to the CMO's approach to education. It is highlighted on the network's website and is reflected in initiatives such as the Los Angeles Math and Science Residency program, the College-Ready Promise, and the i3-funded "CollegeYES" program.[5] Blended learning is the latest example of Alliance innovation at work.

Alliance College-Ready's Core Values

1. High expectations for all students
2. Small personalized schools and classrooms
3. Increased instructional time
4. Highly effective principals and teachers
5. Parents as partners

Blended learning, however, was not part of the conversation when leaders at Alliance first thought about incorporating technology into the CMO's educational model. "Our original intent was to start virtual schools," said Burton. "We were prompted by one of our board members who asked how we could reach out to more kids in a way that's also cost effective." The original idea was to allow high school dropouts to take online courses in Alliance schools as a means to recover credits and restart their high school education. But the idea did not catch on, due to the lack of prior results for such an initiative and the risk of shifting away from the college-readiness focus of the model. Burton and other leaders were nonetheless undeterred and soon traveled across the country in search of inspiration, visiting blended learning schools and talking to entrepreneurs and thought leaders in the field.

During that same year, 2008-2009, Alliance's new Director of Math Intervention, Dr. Michelle "Mickie" Tubbs incorporated a model into the math classes across the network, in which the students would rotate between teacher-led instruction and computers in the back of the classrooms. Alliance Heritage College-Ready Academy High School,[6] in particular, latched on to the new model. Tubbs had used a station approach to her classroom design for many of her 20-plus years in teaching, and both she and the Alliance Heritage principal, Robert Pambello, endorsed the use of computers in the classroom. The model seemed a natural fit.

By the end of that year, as Burton and others were completing a year of exploration into blended learning, Tubbs and Pambello began carving out a

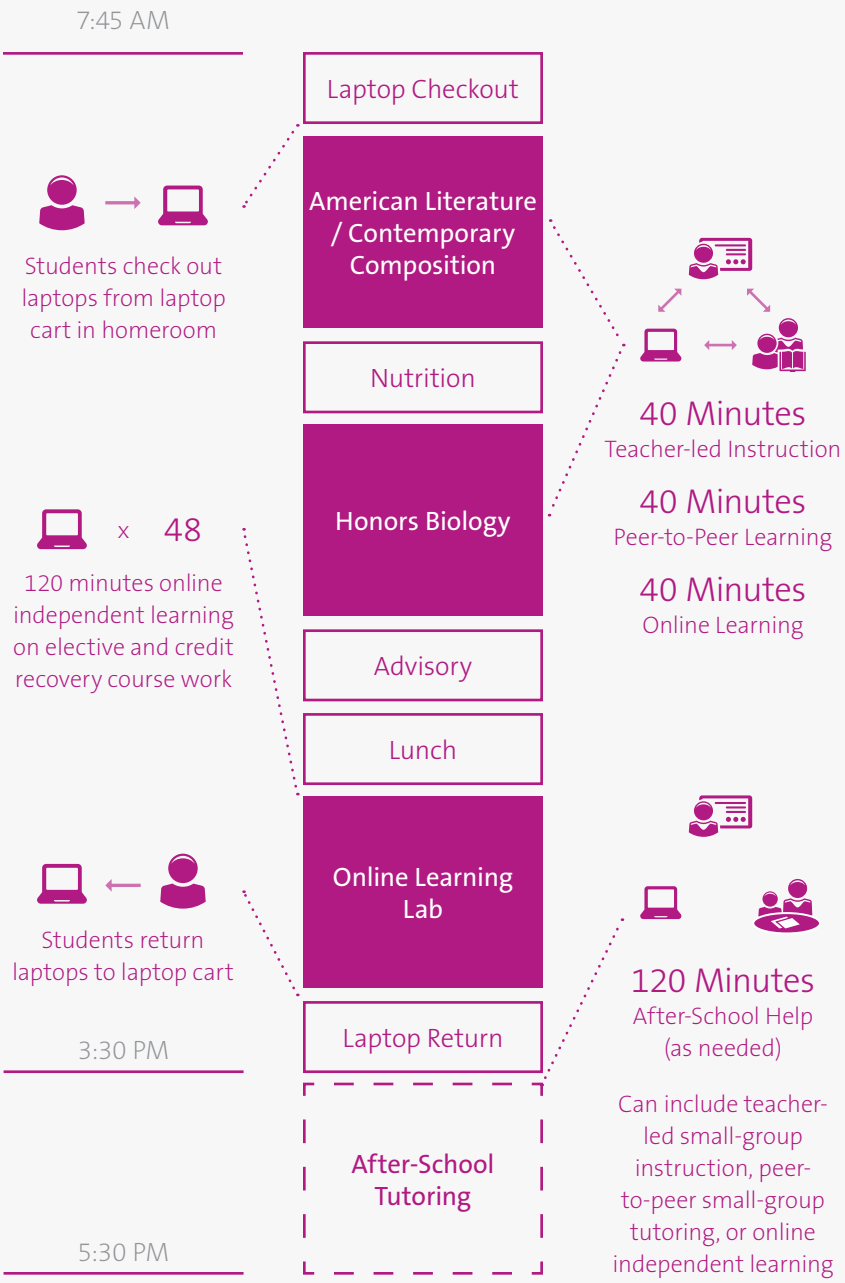
[5] "CollegeYES" is a program in which ninth-grade Alliance students and their teachers work on project-based learning problems in a technology-enabled one-to-one laptop environment. The program is funded by a federal Investing in Innovation (i3) grant received in 2011. Alliance was one of 49 organizations out of 1,700 applicants to receive an i3 award last year.

[6] The school was recently renamed Alliance Judy Ivie Burton Technology Academy High School.

Fig. 1

Rotational Blended Learning Model at ATAMS*

The model is explained in detail in the "Instructional Model" section



*Sample depicts potential 11th-grade schedule.

larger design for the role of technology at Alliance. They met with representatives from Apple and talked about a one-to-one laptop model. The idea picked up steam and important support from the Alliance Board and by June 2010 – with Tubbs now situated as the principal at the newly established Alliance College-Ready Academy High School #11[7] — the two launched a ninth-grade summer pilot using the classroom rotation approach and online Algebra content. This model was then carried into the 2010-2011 school year at both Alliance Heritage and Alliance #11 and was expanded to include Math and ELA, using the programs Revolution Prep and Achieve 3000, respectively.

To help flesh out the early design and build the technology architecture supporting it, Burton turned to one of the educational entrepreneurs she had met in her travels, Anthony Kim, and his company, Education Elements, a blended learning consulting and data systems firm. Before long, the Blended Learning for Alliance School Transformation (BLAST) project was born. The model started at the two pilot schools during the 2010-2011 school year and this past year was implemented at the new Alliance Technology and Math Science

[7] Alliance College-Ready Academy High School #11 is now known as Alliance Cindy and Bill Simon Technology Academy High School.

High School (ATAMS), one of five new schools on the district-funded Sonia Sotomayor Learning Academies campus.[8]

Students in the BLAST model attend school from 7:45 a.m., when they check out their laptops for the day, until 3:30 p.m., when they return the laptops. In between, on every day but Wednesday, they have three two-hour blocks of instruction, woven around a 15-minute Nutrition period, a 35-minute advisory class, and a 30-minute lunch. Wednesday is early dismissal day, with all six classes meeting for 47 minutes, which allows students to leave at 1:30 and teachers to complete a two hour professional development session. The class schedule and classroom design are further examples of Alliance innovation.

The students are enrolled in six courses at a time, distributed in a Monday/Thursday and Tuesday/Friday schedule. A junior might have U.S. History, American Literature, and Chemistry on Mondays and Thursdays, and Spanish 3, Algebra 2, and an elective on Tuesdays and Fridays. That same student would have all six classes on Wednesdays. *(See Appendix 6 for class schedule example.)* During these classes, the students rotate among the three learning stations described above, staying within predetermined groups as they do so and spending roughly 40 minutes in each station.

Alliance leaders believe that the three learning modalities they have chosen, coupled with the small-group approach nested within the larger classroom structure, will allow BLAST schools to individualize instruction to a greater degree than the network has been able to in its other schools. This, they hope, will lead to better student outcomes. Importantly, Alliance is closely monitoring the model as they go and refining it when possible. The instructional dimension of the model is where most of the refinement has taken place – this is the piece that is most distinct from other schools – but the operational and financial dimensions of the model have been significant as well. The following sections of this case study examine all three of these dimensions, as implemented at ATAMS.

[8] The campus includes three district schools and two charter schools, all of which started in August or September 2011.

Instructional Model

Alliance College-Ready Public Schools

Instructional Model

ATAMS is a one-to-one laptop school, but while technology is ubiquitous at ATAMS, the instructional focus at the school is the same as at all other schools in the Alliance network.

Instructional Quick Facts

MODEL *Grades 9-12; a station rotation model in all core classes*

PEDAGOGICAL APPROACH *Student-centered learning through small group data-informed instruction*

INSTRUCTIONAL TIME *Core classes are 120 minutes in length and include 3 stations of 40 minutes each:*

- *Teacher-led instruction*
- *Collaborative peer-to-peer learning*
- *Online independent learning*

STUDENT TO ADULT RATIO *16 students:1 teacher during live instruction (though up to 48 students in one class)*

The emphasis is on rigorous standards-based teaching, college-prep course work (including Advanced Placement courses for the upper grades), critical thinking, and student-centered learning.[9] Technology is just a tool used by ATAMS to more effectively execute on these values and goals. As Dr. Burton has said, "It's not about technology for the sake of technology. It truly is technology used to help us with our core mission: graduating kids who are ready for college. Technology doesn't matter for a hill of beans if it doesn't help us achieve our mission."

As at other Alliance schools, assessment plays a major role at ATAMS and determines a number of important instructional decisions. ATAMS students complete assessments in every class every day, through their online work and their daily Exit Slips. The stakes of the assessments increase as the frequency decreases, from daily assessments, to weekly collaborative learning projects, to internal benchmark assessments given every ten weeks, to pre- and post-tests every semester, to the annual California state exams. Data from these assessments are used to inform the following decisions *(see Appendix 3 for ATAMS' system of assessments)*:

[9] Every student has a Personalized Learning Plan (PLP) based on his or her prior work; this is updated three times a year, based on his or her performance in class and on benchmark assessments.

1. "Same-need" student station groupings: The students are randomly placed into mixed-level classrooms, but within classrooms teachers are encouraged to use all available assessment data to determine homogeneous station groups. These groups are based on each student's current understanding of the subject matter, so that students are grouped by the particular skill(s) they need to learn in order to master the standard at hand. The composition of these groups often changes each week as different lessons and standards pose different challenges to the students.

2. After-school tutoring and Saturday Academy assignments: Select students are assigned to after-school tutoring if they are not passing classes or assessments, missing assignments, and/or falling short of their achievement goals. All students are assigned to the school's Saturday Academy, specifically to individual Math and ELA classes which cover different instructional standards. Daily assessments reveal those standards with which the students need the most help, and this determines the classes to which they are assigned during the Saturday sessions. *(See "Extra Support" section for more detail.)*

3. Differentiated instruction: ATAMS does not use an explicit Response to Intervention (RTI) strategy because, as Tubbs has said, the model provides to all students the greater instructional differentiation that RTI would provide. Teachers evaluate assessment data on a daily basis and, when necessary, assign specific online work to a struggling student, to either slow down the pace of the work or target significant gaps in the student's learning. Additionally, the school provides differentiated support to its special education students through a resource specialist who works on a one-to-one basis in the classroom during the students' station time.[10] *(See "Supporting Special Populations" section for more detail.)*

Instructional Delivery: *Stations Enable ATAMS to Fulfill Its Mission of Individualized 21st-Century Instruction*

Upon entering class, ATAMS students go directly with their groups into whichever station has been designated as their first stop of the period:[11] teacher-led instruction,[12] online instruction, or collaborative instruction. Each station has desks numbered 1 through 16. When the students rotate from one station to the next they move to the same numbered desk each time.

[10] When student-specific support interventions are not helping to improve the performance of struggling students, they are referred by teachers and/or administrators to take part in a Student Success Team (SST) process, through which members of the SST (including the student, the parents, teachers, and a resource specialist) identify whether the student needs intervention or special education services. If so identified, then the student is formally assessed by a psychologist, and an individualized education plan (IEP) is created. These special education designations can occur ad hoc but are most common every five weeks, after progress reports are distributed.

[11] The way this initial station is assigned varies on a class-by-class basis. Some teachers announce this to the students when they enter; for others, it is noted on the Digital Agenda.

[12] Under the BLAST model, this station is known as "Direct Instruction." For clarity, it is referenced here as "teacher-led," rather than "direct," instruction to avoid any confusion with the formal pedagogical term.

1. Teacher-Led Instruction: This station resembles a smaller version of a traditional classroom, with the teacher leading the lesson of the day in front of the room, and students sitting at their desks, raising their hands and taking notes. The lesson here addresses the same standard covered in the other two stations (e.g., students graph a linear equation and compute the x- and y-intercepts). Aside from a more intensive use of SMART Boards, the most noticeable difference between this and a traditional classroom setting is the 16:1 student to teacher ratio. Teachers say the smaller instructional group has a positive impact on the quality of their teaching and on their ability to connect with their students. "I feel like I was only reaching 40 percent of the 35 kids I had in a traditional classroom before, and now I feel like I'm reaching all of them," said Wendy Chavez, a math instructor. "Yes, it's 48 students [in the classroom], but really it's just 16 [students at one station]. This allows me to cater to each individual learner. I'm not just talking about my third period math class anymore; I'm talking about each individual student."

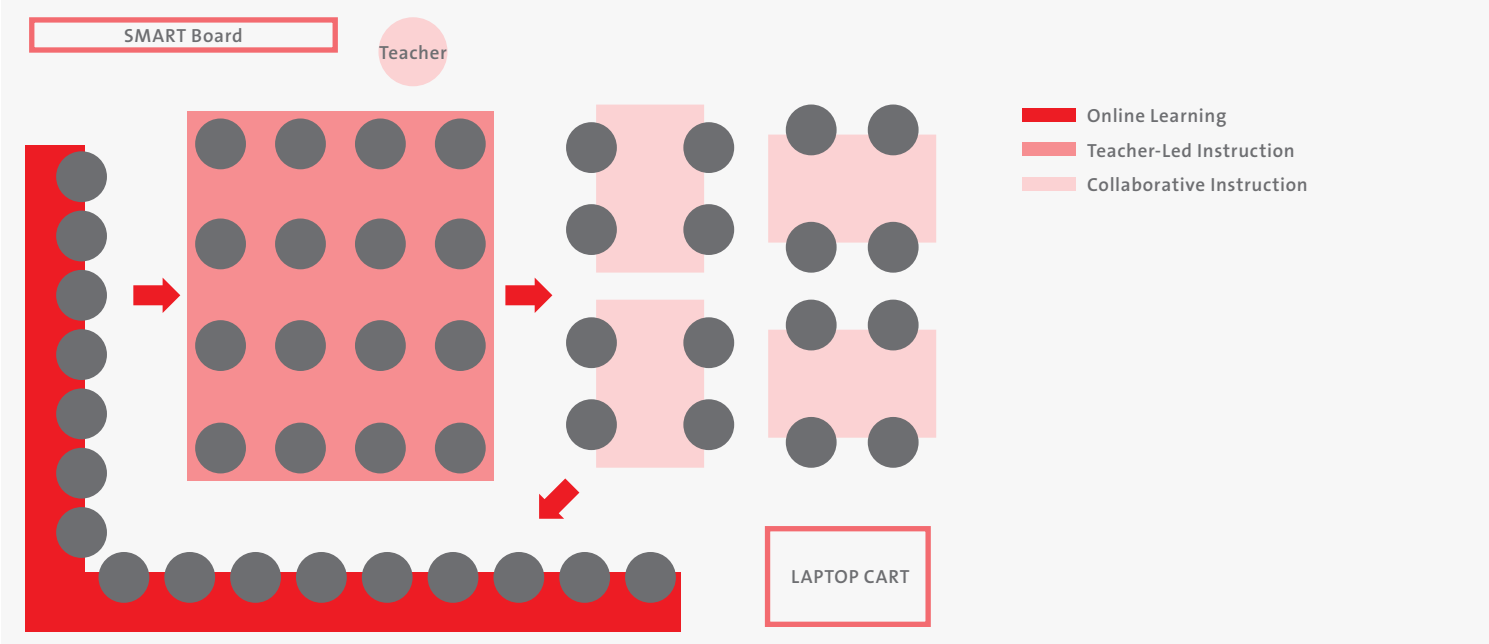
2. Online Instruction: At this station, the students set up their laptops at an L-shaped set of tables along the back and right of the room and sign into the student portal, from which they can access the school's suite of online programs, the Digital Agenda, their individual course pages, and their grades. The Digital Agenda lays out tasks they need to accomplish that day. For example, it might instruct them to log into Compass Learning Algebra I and to work through the exercises on "Equations and Inequalities" and "Functions and Graphs." The Online Instruction portion of the agenda also often includes an "Individual Work" area which refers to student-specific work that is customized to their unique learning abilities. This represents the targeted, backfilling type of academic support that these programs provide.

3. Collaborative Instruction: Students teach and work with each other in this peer-to-peer approach, in which 16 students split up into four groups of four to the left side of the room. The students break up into project roles, such as Discussion Director, Illustrator, and Vocabulary Expert, and use programs on their laptops like iMovie and PowerPoint to work on project-based assignments. A collaborative project might involve creating a PowerPoint presentation in which the students define and illustrate terms like "slope" and "y-intercept." As with the other stations, all of this is laid out for the students in their Digital Agenda.

With 48 students and three stations to rotate through, ATAMS classrooms are more dynamic than a traditional high school classroom. Consequently, Alliance has worked hard to create protocols to minimize the effect of the station rotations and expects each 16-student rotation to take less than a minute. The students get up from their seats at the same time and rotate in a clockwise pattern from one station to the next. The collaborative group moves to the online station; the online group moves to the teacher-led station; the teacher-led group moves to the collaborative station. The school

Fig. 2

ATAMS' Three-Station Classroom Design



hopes that the flow of learning is as seamless as the rotations, as students take the standard-based work they encounter in one modality into another station where they are presented with a different approach to the same standard. Finally, while there is some flexibility in the model, the classrooms and the three stations are more fixed than not. Aside from a few student-specific adjustments in the online station and occasional impromptu tweaks to the teacher-led lesson, the content each day is relatively set. The length of each station is as well, not varying far from 40 minutes.

Wherever they are, the students' work is dictated by a Digital Agenda, a downloadable weekly syllabus that the students access through the student portal on the ATAMS website. The agenda pertains to each class and outlines the class's work across all three stations. It presents the goals, questions, and objectives which will guide the students' learning that week, the brief daily assessments and/or self-reflections which must be completed and e-mailed to the teacher, and the standards that will be covered. The students are not assigned homework,[13] per se; instead, everything they need to cover during any given week is reflected on the Digital Agenda, which, like the classrooms, is broken into three parts. While not student-specific, the agendas are group-specific, representing the three different groups of students rotating through the stations. Teachers, then, often need to build three different weekly agendas to correspond to the three slightly different learning levels of these groups. The teachers also

[13] Though homework is not explicitly assigned, student interviews reveal that they typically have much more to do at home than they had in more traditional learning environments. Teachers do not indicate that homework completion is an issue.

need to plan ahead for the fastest-moving of these groups, building the following week's Digital Agenda as a precaution if this group moves through the current week's schedule of lessons faster than planned. *(See below for an illustration of a Digital Agenda, continued on the following page.)*

Role of Online Instruction: *Online Programs Foster Greater Individualization*

ATAMS uses internet-based educational programs in the online station to supplement the lessons that each classroom group faces in the other stations, as well as to address student-specific needs. The

Fig. 3
The ATAMS Digital Agenda

Digital Agenda #2S.8 Algebra 2

April 10th – April 13th, 2012
Unit 11 Binomial Theorem

CHECK IN/DO NOW: DOWNLOAD FILES

Essential Question(s):	1. How can the students use Pascal's Triangle to expand simple binomials?	2. How can the students use the Binomial Theorem to expand binomial expressions?
Standard(s) from Instructional Guide: *(TCRP Domains 1-3) Alg II*	20.0: The students know the Binomial Theorem and use it to expand Binomial expressions that are raised to positive integer powers.	
Student Objective(s):	1. The students will be able to use Pascal's Triangle to expand simple binomials	2. The students will be able to use the Binomial Theorem to expand binomial expressions
College Objective(s):	Objective: The students will be able to use the Binomial Theorem in any other higher level Mathematics Class in College. Application: Recognize and use applications of the Binomial Theorem in real world application problems.	
Assessment and Student Reflection:	1. Exit Slip on each station based upon what was done at that particular station and will deal with the respective CST Released questions.	

Fig. 3

The ATAMS Digital Agenda (cont'd.)

Explicit Direct Instruction

AGENDA

1. Do Now
2. Mini-Lecture on Pascal's Triangle and the Binomial Theorem
3. Work on practice Activity Sheet on Using the Binomial Theorem: http://kutasoftware.com/FreeWorksheets/Alg2Worksheets/The%20Binomial%20Theorem.pdf
4. Exit Slip, Reflection

Individualized Online Instruction

AGENDA

1. Work on 2S.8 Agenda **STD 19.0 Pre-Test** on Compass Learning. If you score anywhere BELOW 80% work on the entire LEARN LOOP folder that will appear right next to the Pre-Test Folder and write the info in your notebook. If you scored 80% or above 80% move to step #2 below.
2. Watch the following videos in order on the Binomial Theorem and do **ONLY ONE** video protocol for all 4 videos, please take good notes in your notebook:
   - http://www.brightstorm.com/math/algebra-2/polynomials/binomial-theorem-problem-1/
   - http://www.brightstorm.com/math/algebra-2/polynomials/binomial-theorem-problem-2/
   - http://www.brightstorm.com/math/algebra-2/polynomials/binomial-theorem-problem-3/
3. Work on the 2S.8 Agenda **STD 20.0** BINOMIAL THEOREM UNIT #11 on Compass Learning; work on the entire folder and write the info in your notebook.
3. Exit Slip, Reflection

Collaborative Standards-Driven Activities and Stations

AGENDA

1. In your groups, use the collaborative group role expectations and assign a role to each person in your group and read the following purple math article on The Binomial Theorem:
   - http://www.purplemath.com/modules/binomial.htm
2. Watch the following videos in order on the Binomial Theorem and use them as a tool to understand the Binomial Theorem:
   - http://youtu.be/1pSD8cYyqUo
   - http://youtu.be/TeE-ypKj8Zl
3. In your groups, create a **graphic organizer** about what you just read, don't forget to list and give credits to all of the sites that you use to create your graphic organizer.
3. Exit Slip, Reflection

majority of the programs are mastery-based, meaning students cannot advance from one step to another in the program curriculum until they exhibit mastery. Students proceed at their own pace and work on programs and exercises tied to either their classroom group or their individual needs.

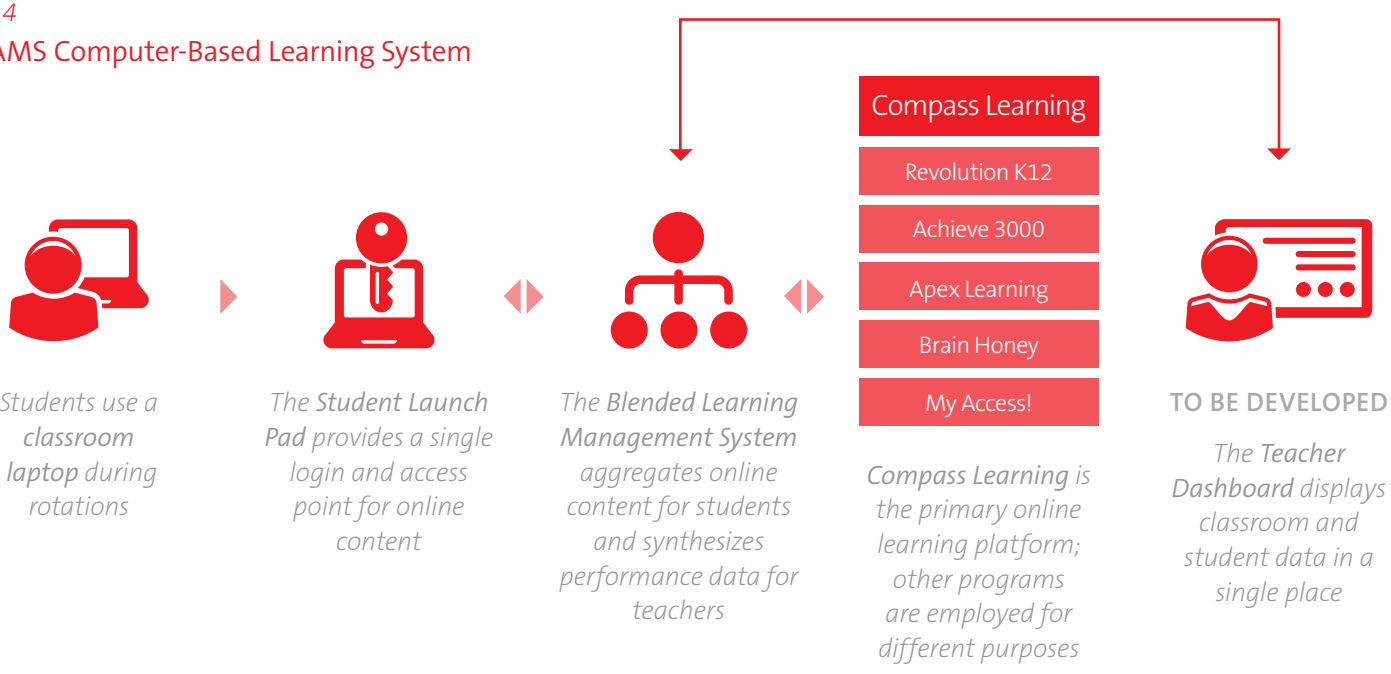
In order to provide the internet-based instruction, ATAMS relies heavily on Compass Learning, a comprehensive multi-subject online learning platform with offerings in all of ATAMS' core classes. The individual Compass Learning programs act as whole courses themselves, which are tied to California state standards and mirror, to an extent, the students' path through the scope and sequence of their given school year. Compass Learning remembers the students when they access the site and immediately presents them with work representing the next building block in the students' progression through the preset curriculum.

For student-specific needs, ATAMS has integrated an "Individual Work" component into the Digital Agenda and uses a range of programs, each with a specific purpose. For example, it relies on RevolutionK12 to backfill gaps in Math and on Achieve 3000 to teach targeted and leveled reading comprehension. *(See Appendix 3 for the full list of ATAMS' online content providers.)*

In this way, the students complete specific exercises related to the class and their classroom group using Compass Learning, and they receive student-specific assignments as well, using content from other online programs. Adjusting the path of the online programs, or assigning different programs

Fig. 4

ATAMS Computer-Based Learning System



altogether, so that the students encounter material that is individualized to their needs is a core component of this model and adds to the feeling of customization students say they experience from the online learning station.[14]

ATAMS' Online Learning Lab

All students at ATAMS take Math, English Language Arts (ELA), History/Social Science, Science, and Spanish (or an elective). For those students who failed the graduation-required English or Math portion of the California High School Exit Exam (CAHSEE) in the previous year or did not sit for the exam, the remaining period in ATAMS' six-class cycle is a CAHSEE preparation class. All other students are enrolled in the **Online Learning Lab**, in which up to 48 students, across multiple grades, work in one class on a range of subjects.

According to Tubbs, 65 percent of her students last year came into the year "credit-deficient." Many of them were tracked into the CAHSEE class, while the others worked in the online lab on internet-based credit recovery programs. The remaining 35 percent used the lab to take electives ranging from AP Spanish to music.

The students in the lab are graded on the work in their respective online courses and on the quality of the notes they keep in a school-distributed composition notebook. The school's Physical Education instructor, Michael Chan, oversees the class, which functions as an extended online learning station in which the subject matter is customized to the students' individual needs.

Role of the Teachers: *The Model Presents New Opportunities and Challenges for the Teachers*

There are four elements of the teachers' role at ATAMS which are either unique to the BLAST model or are intensified within it, relative to a traditional classroom:

1. **Student Grouping:** Teachers assign their students into station groups, using assessment data and personality/behavior characteristics to do so. Teachers do not have discretion over the size of these groups – due to the design of the model, it is important to have three equal-sized groups of 16 students – but they do have flexibility in how often they change the groups and, to a lesser degree, how long the groups stay in their stations. For example, some teachers will prolong, by a few minutes, the lowest-performing students' direct instruction station so that they get more face-to-face time with the teacher.

2. **Multiple Lesson Plans:** Not only do the teachers have to plan lessons a week in advance in order to build the weekly Digital Agendas, they must also build three lesson plans for each class each day, due to the fact that the three groups rotating into the teacher-led station are working at three different levels.

[14] Source: Student and staff interviews.

"The Key Is the Teachers"

Assistant Principal Richard Thomas laid out six qualities required of the teachers at ATAMS. As he said, the teachers have to be:

- Able to handle multiple lessons at the same time
- Able to relinquish control of the class (yielding control to the students and the model)
- Able to deal with and manage innovation in the classroom
- Good at working with data
- Good at differentiating instruction
- Willing to take on a multi-disciplinary approach (e.g., humanities teachers may need to teach English and History)
- Good at personalizing instruction for every student
- Forward-looking

3. Heightened Need for Classroom Management Skills: Because of the large class size and the fact that the students are disbursed across the classroom, the teachers at ATAMS have to pay more attention to classroom management. They must lead their own traditional lesson while watching for concerns around the periphery of the room.

4. Increased Expectation for Individualization: It is not uncommon at ATAMS for a teacher to offer brief one-on-one guidance to students who appear to be struggling, particularly in the online station.[15] Likewise, teachers may adjust the online curriculum on a student-by-student basis to best meet individual student needs. The differentiated lesson plans, distinct student groups, and availability of real-time student data also present enhanced opportunities for individualized instruction.

Distance Learning: *A Twist on the Role of the Teacher*

ATAMS had a need for a skilled Spanish teacher, and the financial pressures of being a new under-enrolled school meant that the school needed to find new ways to save money *(see "Financial Model" section for more detail)*. In order to meet these challenges, Alliance launched a distance learning experiment this past January, in which the lead teacher, Elsa Hernandez, has been both the subject of the experiment and its champion. "She has been on board with this for three years," said Pambello, who is now Vice President of Schools in charge of the BLAST model. "Her energy is what's pushing this." Hernandez sets up her class at Burton Tech and teaches to these students and to the ones at ATAMS simultaneously. Students from both schools respond to her questions and interact with one another. To assist in the model, Ms. Almeida, a non-certificated instructional aide, is on site at ATAMS and monitors the collaborative and online learning stations, under the direction of Ms. Hernandez's Digital Agenda, which all the students have downloaded. The two women meet every Wednesday at 1:30 (virtually, using the Cisco technology) to review the week and plan for the week ahead. Ms. Almeida writes up the minutes to these meetings and forwards them to Dr. Tubbs, the ATAMS Principal, for her review. This past year the

[15] Excluding the distance learning classes, each class is managed by just one teacher. In order to provide the one-on-one support described here, the teacher must briefly step away from the teacher-led instruction station, leaving the students there to continue the work at hand.

distance learning component was only offered in Spanish 2 and took place between the Burton Tech and ATAMS site , though the hope is to expand the practice to other subjects and potentially to other schools during the current year and the years ahead.

Extra Support: *After-School Tutoring and Saturday Academy Sessions Help to Foster Greater Individualization*[16]

After-school tutoring sessions are offered from 3:30 to 5:30 p.m. four days a week and are designed to meet the individual needs of students who are not passing classes or assessments, missing assignments, and/or falling short of their achievement goals (e.g., on pace to receive a C instead of an A). All students assigned to these sessions are expected to attend, something that is reinforced with teacher-parent phone calls whenever attendance is an issue. The composition of the sessions changes throughout the marking period, with more students coming toward the end of each term. The online programs Achieve 3000 and Revolution Prep are used in these sessions, but the sessions are not all computer-driven. Teachers and select students chosen as "Lead Tutors"[17] work with the students in small groups, covering the material in the online programs and providing individual tutoring when possible. Because of the fluidity of the student numbers in attendance, the student-teacher ratio ranges from 12:1 to 24:1, and the ratio of students to Lead Tutors stays relatively constant at 6:1.

ATAMS' Approach to Special Education Instruction

ATAMS employs a resource specialist to offer targeted instruction to the 13 percent of the student body who are eligible to receive Special Education services. The specialist uses a "push-in" intervention model, meaning she goes into the students' classrooms and works alongside them during the online station. This allows for very little disruption to the students' day.

ATAMS also offers a "Resource Lab" for special education students who need additional intervention. This is offered during their elective period.

Another opportunity for extra help provided by the school is its Saturday Academy, held from 8:00 a.m. to 12:00 p.m. three times each month to sharpen the students' core subject skills. These Saturday sessions include two two-hour classes on math and ELA and are mandatory for both students and teachers — all are expected to attend.[18] The individual classes at each session are divided based on instructional standards, allowing ATAMS to

[16] Note that ATAMS does not use an explicit Response to Intervention (RTI) strategy but rather handles individual students' needs on a case by case basis, often with a teacher assigning specific online work to a struggling student, to either slow down the pace of the work or target significant gaps in the students' learning.

[17] Students are selected as volunteer Lead Tutors due to their demonstration of mastery in the subject matter.

[18] Typically about 75 percent of the students show up; many of the others cannot come to school for work or family reasons. They are given work to do over the weekend and are otherwise accommodated after school during the week. This drop from everyday attendance leaves the student-teacher ratio for these sessions at about 24:1 for 9th grade and 36:1 for 10th and 11th.

assign students to classes based on the particular standards they still need to master. The actual instruction follows that of the in-class model: some students will work in small groups with Lead Tutors guiding them through a lesson; some will work collaboratively on standards-based exercises; some will work independently on online programs. The students do not rotate to different stations; they choose the station that works best for them and stay there for the two-hour period. The teachers rove around to different groups and to different classes, providing targeted support when needed. The teachers' behind-the-scenes work is critical, too. They coordinate the sessions on their own, assigning students to different classes based on daily and weekly assessment performance, setting up the online programs to focus on the given standard for each classroom, and preparing lessons as needed for small group instruction.

Promoting Independence and Student Responsibility*

For two-thirds of the students' core class time, they are allowed to operate without direct adult supervision. They download their own lesson plans for each week and e-mail their assignments to their teachers. They are entrusted with expensive Apple MacBooks. They are not assigned homework explicitly but are expected to "know their own data story," as Thomas has said, and to know what material they need to work on after school.[19] They are given the option of resetting their progression through Compass Learning lesson units and starting from scratch, in order to demonstrate improvement in the subject matter and pursue a higher grade.[20] Some students are given the privilege, which they seem to relish, of being Lead Tutors, responsible for helping their peers.

The teachers may be the glue which keeps the model together, but, according to Tubbs, a significant purpose of the model is to elevate the role of the students. Said Chavez, "The student responsibility aspect is so much greater here – there's so much more on their own shoulders. They need to have responsibility for their own learning. The model is teaching them, 'If you don't do this, no one's going to do it for you.'"

**Note that perceptions of student engagement are based on faculty observations and informal student feedback as opposed to formally-collected data.*

[19] Tubbs and Thomas estimate that more than 75 percent of the students have home internet access. Those who do not can use computers at ATAMS for up to two hours after the end of the school day. Tubbs has also loaned out Sprint Mobile Broadband cards to students who have computers at home but no internet access.

[20] Their grades are determined, in part, by the number of exercises they need to complete in order to "master" a given segment of instruction in their online curricular path. By giving them a second or third chance to work through a given segment, the school is allowing the students to try to do so in fewer exercises and earn a better grade.

Operational Model

Alliance College-Ready Public Schools

Operational Model

The BLAST acronym includes the words *school transformation*, and the instructional design of the BLAST model is meant to be transformative. But ATAMS and the other BLAST schools are not just instructionally innovative: they are operationally different from a traditional Alliance school as well. Critical enabling factors for the instructional model reside within the schools' operations.

These key enablers include the model's technology infrastructure, its use of human capital, its approach to professional development and model development, and its emerging system of data integration. The CMO, too, plays a major enabling role. These factors are described at length below.

Hardware Requirements: *Laptops and SMART Boards Enable a Range of Instructional Strategies*

1. **MacBooks:** Due to the need for students to take their work with them as they shift from station to station, desktop computers are not well-suited for ATAMS' instructional model. Using laptops, then, was an easy decision.[21] For Thomas, who has used computers in the classroom for most of his career, the choice of laptops was an easy decision as well. He says that he chose the more expensive MacBooks over PCs because, "They work more smoothly, they have a better operating system for kids, and you don't have to worry about viruses or any significant lag time when starting them up."

2. **SMART Boards:** The school invested in five SMART Boards, which are used across the school's Math, English, and Spanish classrooms. In Math classes, students and teachers will typically use them for writing out and solving equations. In English, ATAMS' teachers might use them to mark up magnified writing samples in order to show students how to proofread their work. In Spanish, Elsa Hernandez uses the SMART Board to enter the ATAMS classroom virtually and conduct her distance learning lesson.

3. **Cisco Telepresence:** ATAMS and Alliance Judy Ivie Burton High School rely on Cisco's Telepresence Management Suite and Movi software to enable Ms. Hernandez to appear in front of the ATAMS students for her Spanish lesson. This system is also used for the Art class.

[21] ATAMS also needed to bring in laptop carts, which have been set up in every class, used more for their functionality as docking/recharging ports than for their mobility.

4. Wireless Network and Access Points: Because of the school's location within a LAUSD complex, ATAMS could have leveraged the district network but chose to install its own. This has given the school more flexibility, in terms of the sites it can access, and has given the model more reliability. As Thomas noted, having its own network means ATAMS cannot be held captive by any district-wide network shutdowns. The school also needed to add up to three access points per classroom, to ensure that students would not get bumped from the network.

Human Capital: *The Model Is Supported by Fewer Teachers with Minimal Prep Time and a Large Number of Students*

The school's approach to its human capital is a pivotal component of the model. The long-term plan for the school is to accommodate 600 students with 17 teachers,[22] whereas in its traditional model ATAMS would need 24 teachers for that school size. Last year, ATAMS worked with 247 students and only eight classroom teachers[23] – two each in Math and English, and one each in Science, History, Physical Education, and Spanish. Each teacher typically covers five classes out of the six periods in the ATAMS two-day cycle, meaning they only have one "prep" period every two days, plus one on Wednesday, when all six periods are compacted into the early dismissal day. Given the 48-student size of most 10th- through 12th-grade classes, this means that some teachers are responsible for over 200 students. Thomas noted this as a concern but pointed out that the upfront work demands are balanced out on the back end by the classroom technology's ability to reduce the time spent grading and correcting.

The model requires tech-savvy teachers, who tend, for the most part, to be relatively new to teaching. The teachers here are all early in their careers, which is exactly how Dr. Tubbs wants it. "I wouldn't go after teachers who have been teaching for more than five years," she said, noting that younger teachers seem more inclined to take on the tech-infused model. Including the resource specialist, there were only nine instructors this past year; of those, only two had been teaching for five years, three had been teaching for two or three years, and four were in their first year of teaching.

Staff and Model Development: *Weekly Professional Development Sessions, Post-Benchmark Data Days, and Action Research Allow for Constant Improvement*

ATAMS provides professional development through a two-tiered approach featuring weekly PD meetings and periodic post-benchmark "data days." *(See Figure 4.)*

The school's professional development system is designed to develop the model, too, as many of the school's PD meetings focus on ways in which the BLAST model at the school can be improved.

[22] Upon reaching a student enrollment of 600, ATAMS also projects to have 6 academic support staff, including a BLAST learning coordinator, 2 instructional aides, 2 resource specialists, and 1 counseling clerk.

[23] The teaching faculty also includes the resource specialist and instructional aide mentioned previously.

Fig. 4

ATAMS' Two-Tiered Approach to Professional Development

ATAMS' Professional Development

WEEKLY

Every Wednesday, ATAMS dismisses its students at 1:30 p.m., and the full school staff (including teaching, office, and campus staff) meets for up to two hours of professional development. The topics for the teachers' PD sessions are driven by classroom observations, real-time student data, software updates and/or usage, or staff requests. Emerging best practices are shared and questions are asked, such as "What was a recent 'A-Ha' moment?" and "How can we be using data more effectively?"

POST-BENCHMARK "DATA DAYS"

Every 10 weeks, after the Alliance benchmark exams are given, the schools have a "pupil-free day," when faculty across the network meet to review the assessment data and plan for next steps. As the CMO's Director of Student Information Systems, Vireak Chheng, put it, "We basically pause the teaching three times a year to fill gaps." The BLAST schools have a separate meeting on these days, in which the model is further refined and teachers learn new ways to enhance their level of "BLAST implementation."

Every month the principals of all Alliance schools meet to review school and network data prepared for them by the central office. The topics of these all-day meetings vary but include issues like master scheduling, college-readiness, and teacher effectiveness. The BLAST principals also meet during these days and discuss the ways in which the model could be further leveraged to support greater personalization.

Additionally, Tubbs, her staff, and others across the Alliance network, have embraced something called "Action Research," through which they learn from the model and refine it as they go. This has led to a number of changes along the way, including a faculty-suggested switch from daily to weekly Digital Agendas; student-suggested tweaks in the online content, including a shift from Khan Academy to Virtual Nerd (the students found the latter to be more engaging); and the cost-cutting move toward distance learning mentioned earlier.

Data Integration: *Education Elements Plays a Critical Role in Orchestrating the Data Flow*

Just as the blended model is evolving, so too is ATAMS' system of data integration. Education Elements corrals all of the student-related technology in use at ATAMS and effectively puts it in one place – a "Launch Pad" portal for students and their parents, giving them single sign-on access to all of their programs, their grades, and important announcements.[24] The next step is to

[24] There is not a separate launch pad or dashboard for parents, but they are encouraged to log in to their child's launch pad portal frequently to access real-time academic and behavior information.

build the same one-stop-shop design for teachers and administrators – a data dashboard which will include ATAMS' student information system data from PowerSchool and student performance data from the online content providers. The delay in the project to date has been the providers themselves: the code from one program does not often work seamlessly with the code from another. Additionally, some programs measure performance against specific standards, some against subject skills, and some against clusters of standards or skills. Despite these challenges, Tubbs says that the dashboards should be completed soon and will allow teachers to "build a single data story on a student" rather than compiling and trying to synthesize from multiple data points.

ATAMS' Approach to Action Research

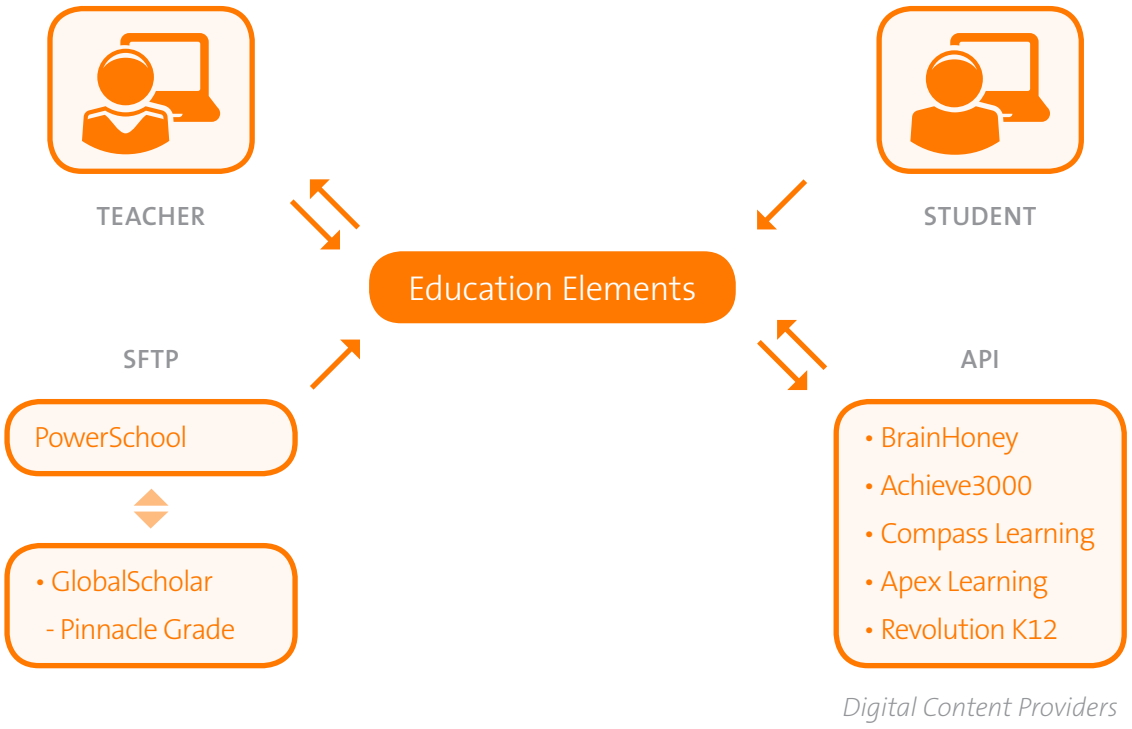
When a need or problem arises within the model (e.g., the teachers having difficulty creating Digital Agendas every day), ATAMS uses the following six-step iterative process to address the concern and refine the model:

1. Diagnosing
2. Action Planning
3. Taking Action
4. Observing
5. Evaluating
6. Reflecting

School leaders credit this approach for promoting the constant improvement to the model for which they strive. *(See Appendix 10 for a depiction of Action Research as used at ATAMS.)*

Fig. 5

Future State – The Projected Data Flow at ATAMS



Despite the lack of a teachers' dashboard, data from online programs are integrated, to an extent, with other assessment data to inform instruction. The teachers have access to student data reports through the content providers, and they use these reports to design lesson plans around the students' online performance, enabling the student data to directly inform teacher-led instruction. For example, if many of the 16 students in the teacher-led station struggled with the same Compass Learning science lesson the day before, then the teacher might revise his or her subsequent lesson plan to help promote student mastery. The best teachers can execute this kind of cross-station integration in almost real-time: they might observe some students being challenged in the online station[25] and then insert problems into the lesson for the subsequent teacher-led station that directly address these challenges.

Role of the CMO: *The CMO Provides Critical Financial Assistance and Data Analysis*

The Alliance home office helped ATAMS substantially at the beginning of this past year by paying for the wireless setup of the school, offering general financial support required when student enrollment numbers came in lower than expected, and providing operational guidance on working with the three-station model. The bulk of the CMO's direct support subsequently has been in the form of data integration and analysis. It takes on the following roles for all 20 schools in the network:

- Evaluating and assisting with annual school action plans and budgets
- Handling all state reporting and related paperwork
- Customizing individual school data needs
- Analyzing benchmark and state assessment results
- Warehousing all of the data coming into each site[26]

[25] At times, the teachers might leave the teacher-led station momentarily to provide targeted support to struggling students. When doing so, a teacher will give the students in the teacher-led station a problem or two to work through on their own.

[26] Alliance uses Pearson PowerSchool for much of this, where it hosts student demographic information, state data, and other back-end statistics. Pinnacle Grade sits on the PowerSchool platform and is used for attendance, grades, and other classroom-related functionality.

Financial Model

Alliance College-Ready Public Schools

Financial Model

Lower than projected enrollment has contributed to higher than projected per student costs and has negatively affected the model's financial results.

Alliance leadership emphasizes that the main impetus for the shift to blended learning was a desire to enhance student-centered instruction, but they also readily admit that the new direction was fueled in part by a need to balance the books. "We put the kids first when designing the model," said Burton, "but we were clearly looking for a more cost efficient model, too." Burton, Tubbs, and others hope that the BLAST approach will do both: support individualized instruction to promote an increase in student achievement, and generate enough cost savings to allow the school to rely solely on public funds and not on philanthropy.

Financial Impact of Blended Learning
per pupil

FINANCIAL BENEFIT

+ $788 *Three fewer teachers*
+ $94 *Zero textbook purchases*
+ $61 *Savings on other books and supplies*
+ $20 *Other human capital savings*

ADDED COST

- $314 *Laptops*
- $502 *Software expenses*
- $91 *Other technology*
- $136 *IT Support*
- $121 *Staffing*

POTENTIAL REINVESTMENT

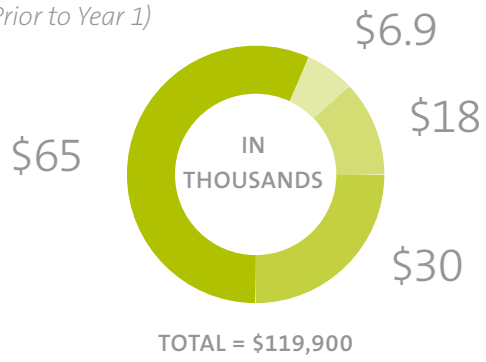
= (-$201) *Net loss per student*

Does not include upfront investments. Note: This negative differential is driven largely by under-enrollment in Year 1, as explained in the text.

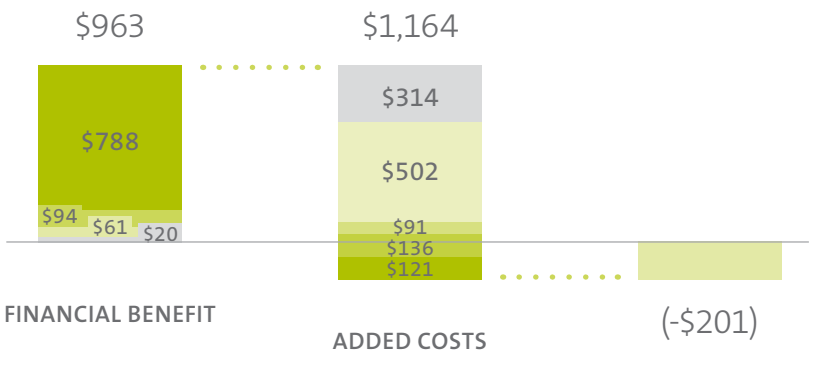
Fig. 6

The Financial Results of the BLAST Model, Year 1
(per pupil cost figures represent annual depreciation expenses)

Upfront Investments
(Prior to Year 1)



2011 – 12 Ongoing Financial Benefit and Added Costs
(per pupil - total enrollment of 247 students)



Note: All financial data are self-reported by ATAMS and Alliance College-Ready Public Schools.

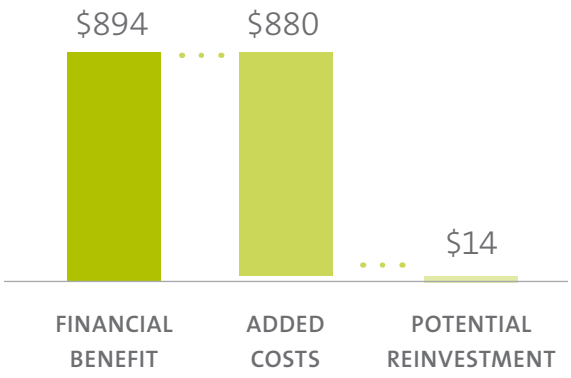
Alliance leaders hope that these savings will promote long-term financial sustainability for the existing BLAST schools while freeing up enough additional funds for the network to start new BLAST schools as well.[27] In this way, the approach is based on sustainability *and* reinvestment.

The model has created cost savings from reduced staffing levels, but it also brought with it new blended learning-related costs, including one-time startup costs and ongoing operational expenses. As of this past year, the costs exceeded the savings, a negative Year 1 differential that was due more to under-enrollment than to a flaw in the model. ATAMS is a charter school and very much operates like one, but it came into being as a public school choice charter school, meaning the district, which funded the development of the campus, has more control over student enrollment than the CMO does. LAUSD told Alliance to expect 450 students this past year, many of whom would be coming from nearby overcrowded district schools. But the district did not funnel as many students to ATAMS as it had projected, and the school had a Year 1 student body of only 247.[28] This has contributed to the negative difference between BLAST-related savings and costs and has made it difficult to predict when sustainability and reinvestment will occur.[29] The following reflects how the BLAST financial model would have worked at ATAMS had the school enrolled 450 students.

Fig. 7

2011 – 12 Ongoing Financial Benefit and Added Costs, Projected Year 1 Enrollment

(per pupil - total enrollment of 450 students)



Financial Impact of Blended Learning

per pupil

FINANCIAL BENEFIT

+ $894 *Savings (includes $721 from 5 fewer FTEs)*

ADDED COST

- $880 *Costs*

POTENTIAL REINVESTMENT

= $14 *Net investment per student*

Does not include upfront investments

Note: All financial data are self-reported by ATAMS and Alliance College-Ready Public Schools.

[27] As described here, sustainability refers to the ability to operate the school based only on public revenues, without any need for philanthropic support.

[28] The five schools on the Sotomayor campus were built in part to offset the overcrowding of the nearby schools. LAUSD told the five schools that they should expect about 1,800 students this past year; instead, the schools took in about 1,100. For ATAMS, which relies on per pupil funding from the state, the smaller enrollment hurt the school financially.

[29] The CMO's finance team estimates that BLAST schools should become sustainable by the first year they reach full enrollment. It is too early to tell whether this will happen for ATAMS, which is not projected to reach full enrollment until 2014-15.

- **Upfront Investments in Blended Learning:** There have been only four non-recurring costs in implementing the BLAST model. The network paid Anthony Kim $65,000 for the upfront consulting services he provided in helping to design and manage the initial launch in 2010-2011; the CMO paid $30,000 for the install of the Cisco videoconferencing equipment which makes the distance learning component possible; ATAMS paid $18,000 to Education Elements for the set-up of its hybrid learning management system (HLMS) software, needed for the data integration support provided to the school; and the school paid $6,900 in upfront fixed costs for different software packages. Under normal circumstances, the school would have likely incurred cabling installation costs as well as the costs of the backbone for the internet-based data architecture, but the district paid for the cabling/wiring of all five schools on the Sotomayor campus. Estimated by Alliance staff to be about $35,000, none of this cost had to be borne by the school or the network.

- **Ongoing Additional Costs Due to Blended Learning:** The BLAST model's most significant ongoing costs include BLAST-related staffing support and student-centered technology. In order to most effectively implement the model, ATAMS needed to hire IT support on an as-needed basis (the position is paid by the hour). ATAMS incurred a Year 1 cost of $63,600, or about $257 per student, from this position and the additional instructional aide position which was added to support the distance learning classroom. The MacBooks and software used in the model also amount to a significant expense. The upfront cost of the MacBooks and the built-in software is $942, but they are depreciated over three years, leaving a per-year, per-student cost of $314. This is exceeded at the per student level by the model's software subscription costs: educational software provided by Compass Learning and others costs $404 per student, and the HLMS platform from Education Elements, including ongoing data integration support, costs $98[30]. The following table lays out all of the recurring costs embedded in the model using the actual student body enrollment of 247 and the projected enrollment of 450:

Budget Item	Cost Per Student	
	247 Students	450 Students
IT Support	$136	$75
Paraprofessional Support*	$121	$66
Laptops *(including MS Office and headphones)*	$314	$314
Educational Software Licenses	$404	$310
HLMS Platform and Related Support	$98	$65
Video Conferencing System†	$51	$28
SMART Boards	$19	$11
Laptop Carts	$21	$11
TOTAL	**$1,164**	**$880**

** Includes benefits*

† Note that this cost will decrease in the future not only because of increased enrollment at ATAMS but because of additional schools using the BLAST model as well; a portion of this expense is fixed across the network, regardless of the number of schools using the service.

[30] ATAMS purchased 350 student licenses from Education Elements at a cost of $69.31 per student; the per student cost shown above reflects the total cost spread over 247 students, not 350.

- Ongoing Financial Benefit Due to Blended Learning: On average, each certificated teacher at ATAMS represents a total cost of $64,858 (including benefits). By using eight teachers last year instead of the 11 it would have likely used under the typical Alliance set-up, the school saved $194,575. When reaching full enrollment, this figure could grow to $454,009, due to using 17 teachers instead of 24. Additionally, the BLAST model requires no textbooks, which led to a savings of $93.75 per student or $23,156 overall. Reference books and other supplies are also unneeded, leading to further savings of $61 per student, or $15,067 overall. Finally, the need for fewer teachers has also led to a drop in substitute teaching and payroll costs, amounting to $20 in savings per student, or $4,950 overall.

  Taking both savings and costs into account, as of now ATAMS is not seeing any immediate financial benefit from the BLAST design, but that is temporary and is due in part to the enrollment shortfall referenced above. The school offset this by bringing in fewer teachers than expected but still faces a net blended learning cost of $201 per student or $49,697 overall. Alliance is confident that with rising enrollment in upcoming years, the expansion of the cost-saving distance learning component, and the addition of new BLAST schools, the financial benefit will be realized, promoting sustainability over time.

Across the network, Alliance expects that every $1M of philanthropic support invested in a BLAST school will be recaptured by the first or second year of full enrollment and reinvested in school expansion. Indeed, the CMO intends to loan each new school $1M over the course of the first few years, an amount that will be paid back when the school hits its enrollment capacity of 600 and the savings from the model are more fully realized. The goal is for BLAST to be self-propagating, for the financial success of one set of BLAST schools to foster the growth of new BLAST schools. *(See Appendix 9 for more detail on the financial model.)*

Lessons Learned

Alliance College-Ready Public Schools

Lessons Learned

The start-up of the BLAST model at ATAMS required a certain amount of comfort with uncertainty: some of the staff was not hired until the week before the school opened, and delays in construction[31] meant that Alliance did not receive approval for opening the school until three days before the start of the school year. The school dealt with these initial difficulties through innovation. The first two weeks of the year were dedicated to getting teachers and students up to speed on the model, and the first of the Saturday Academy sessions was used to inform the parents about the BLAST model and how it would create a different educational experience for their children. School leaders have said that they could have benefited from more time to train all parties involved, but they accepted the frantic nature of the first few weeks as part of the natural course of events. This willingness to accept uncertainty and to innovate on the fly kept the model moving in the right direction. Adaptability, openness to learning, and a propensity for quickly making changes based on that learning have helped ATAMS' leadership and staff build what looks to be a smoothly running blended learning model.[32]

Success Factors for Blended Learning at ATAMS:

Alliance and ATAMS staff suggest that several success factors have been critical to the adoption, implementation, and progression of the BLAST model:

1. **A Pre-Existing Model:** The school has benefited greatly from the fact that the BLAST model had already been in use for a year before ATAMS opened its doors. This prior experience has helped ensure a relatively smooth implementation and cut down on the required model's ramp-up time. Teachers at ATAMS have also been able to benefit from advice shared by their colleagues at the two preexisting BLAST schools. Additionally, Mickie Tubbs' experience as principal of another BLAST school was a great help in getting ATAMS up and running.[33]

2. **Constant Evaluation:** Tubbs and other school leaders, while satisfied with the broad outlines of the model, have pursued refinements to it from the outset. Their use of action research and willingness to test suggestions that emerge from this research

[31] Alliance had no control over the construction of the school as ATAMS was part of the district-funded Sotomayor Learning Academies campus development project.

[32] SRI International is currently engaged in an impact evaluation of ATAMS' blended learning model for the 2011-12 school year. The report, expected to be published in late 2012, will compare performance between Alliance's blended learning schools and a group of control schools.

[33] As mentioned earlier, Tubbs had been the principal of Alliance College-Ready High School #11, now Alliance Bill and Cindy Simon Technology High School.

have allowed them to continually look for areas for improvement. For example, the distance learning strategy was only an idea last fall, but the administration did not wait long to adopt it. They implemented it in January, halfway through the school year.

3. Adaptable Leadership and Staff: ATAMS' teachers had never taught in a blended learning classroom before, but they quickly adapted to it, and then continued to adapt as changes were made throughout the year. The action research approach has had some influence in shaping the model, but it is the school's leadership that has emphasized this approach, stressing the importance of being open to uncertainty. Said Tubbs, "You've got to understand that you don't have all the answers. Innovation is chaos. You've got to love the chaos."

4. Other Factors: ATAMS staff also cites as success factors the single-sign-on data architecture which Education Elements built for the students; the small-group stations which have allowed for more individualization; and the student-centered, engaging feel of the collaborative and online work areas.

Lessons Learned for Blended Learning at ATAMS:

Alliance and ATAMS staff speak in glowing terms about what blended learning has allowed them to achieve, but they also readily admit that there were key lessons which they learned along the way and challenges which needed to be resolved. These include:

1. Need for Increased Rigor in the Collaborative Station: One of the goals of the collaborative station is to promote the *application* of what the students are learning, not just the learning itself. But whereas the direct and online settings foster rigorous instruction on state standards, Alliance and ATAMS staff have acknowledged that the collaborative station might lack this element of rigor. Tubbs and Burton openly questioned the rigor of the station, especially at the beginning of the last school year. Their complaint was that the station seemed less aligned with specific learning outcomes and more oriented toward projects and presentations that may only touch on the relevant standards. As evidence of action research and model development, the ATAMS leadership took steps to curb this perceived flaw in the model through a multipronged approach aimed at making the station more academically robust and making the students more accountable for their work. These mitigating steps have included:

   a. Designating student roles such as Discussion Director and Illustrator for each collaborative station task *(see Appendix 3 for an ATAMS form listing the various roles)*

   b. Creating specialized rubrics to assist the teachers in grading the final product of each collaborative task

c. Creating rubrics used by the students to grade themselves and their partners *(see Appendix 3 for an example of a collaborative station self-assessment)*

d. Dividing collaborative work into component parts, each with its own requirements (this allows teachers to more easily gauge where students are with each assignment)

e. Instituting reflective exit slips for each station, not just one for all three

2. C+ Software: ATAMS' teachers and students speak fondly about the engaging nature of the online curriculum and are excited about how some programs link directly to state standards (e.g., Compass Learning) and others backfill important learning gaps (e.g., Revolution K12). There is, however, an acknowledgement that the software is not as rich, adaptable or aligned as it could be. "There's no A+ software out there. Most of it is C+ or below," said Tubbs, who added that textbooks also have limitations, perhaps even more than the software. The quality and availability of online English content have been a particular concern for the school. ATAMS students, on average, did not perform well on their English benchmarks through the midpoint of this past school year, leading to two design and content changes:

a. The English teachers began a pilot project in the spring adopting three "signature practices" stressing writing, vocabulary, and presentation skills. The new approach to these areas is more dependent on face-to-face instruction, so they are using only the direct and collaborative stations during the full, two-hour class periods, relegating the online station to Wednesdays, during the compacted, 47-minute class time.

b. The school still relies heavily on Achieve 3000 during the now-shortened online station time (mainly to improve students' reading skills), but it has recently supplemented this with an internet-based writing program called My Access! Vantage Writing.

3. Need for Sufficient IP Addresses and Access Points: In order to avoid student access problems, the school learned that it needed at least as many IP addresses as students and had to ensure that at any one time there were not more IP addresses trying to access the network than the network would allow. Similarly, the school needed to have at least two (and in some cases three) access points in every classroom.

Blended Learning and the Future of Alliance College-Ready Public Schools: *Blended Learning Will Expand within ATAMS due to Larger Enrollment and Across the Alliance Network due to School Expansion*

ATAMS will continue to modify the content and design of the model, but it seems that most of the changes ahead will be growth-related. For example, ATAMS added a 12th grade for the recently begun 2012-13 school year. School leaders expect that this

grade expansion coupled with continued student recruiting efforts will lead to an enrollment increase from 247 last year to nearly 600 by 2014-15. *(See Appendix 1 for more detail on the school's and network's projected growth.)* The size of the teaching staff will likewise increase, projected to reach a target goal of 17 by that same year.

Meanwhile the network will be expanding as well, and the BLAST model will be growing along with it. Alliance recently added another high school to the network (Alliance Susan & Eric Smidt Technology High School opened this month) and is projecting to add ten schools over the next five years. All new schools will follow the BLAST design, and some existing schools will be switching to it, too. Jack H. Skirball Middle School, Alliance Middle School #5, and Christine O'Donovan Middle School are all making the switch to the technology-based station-rotation model this year, and other existing schools are likely to transition to BLAST beginning in 2013-14.

Appendix

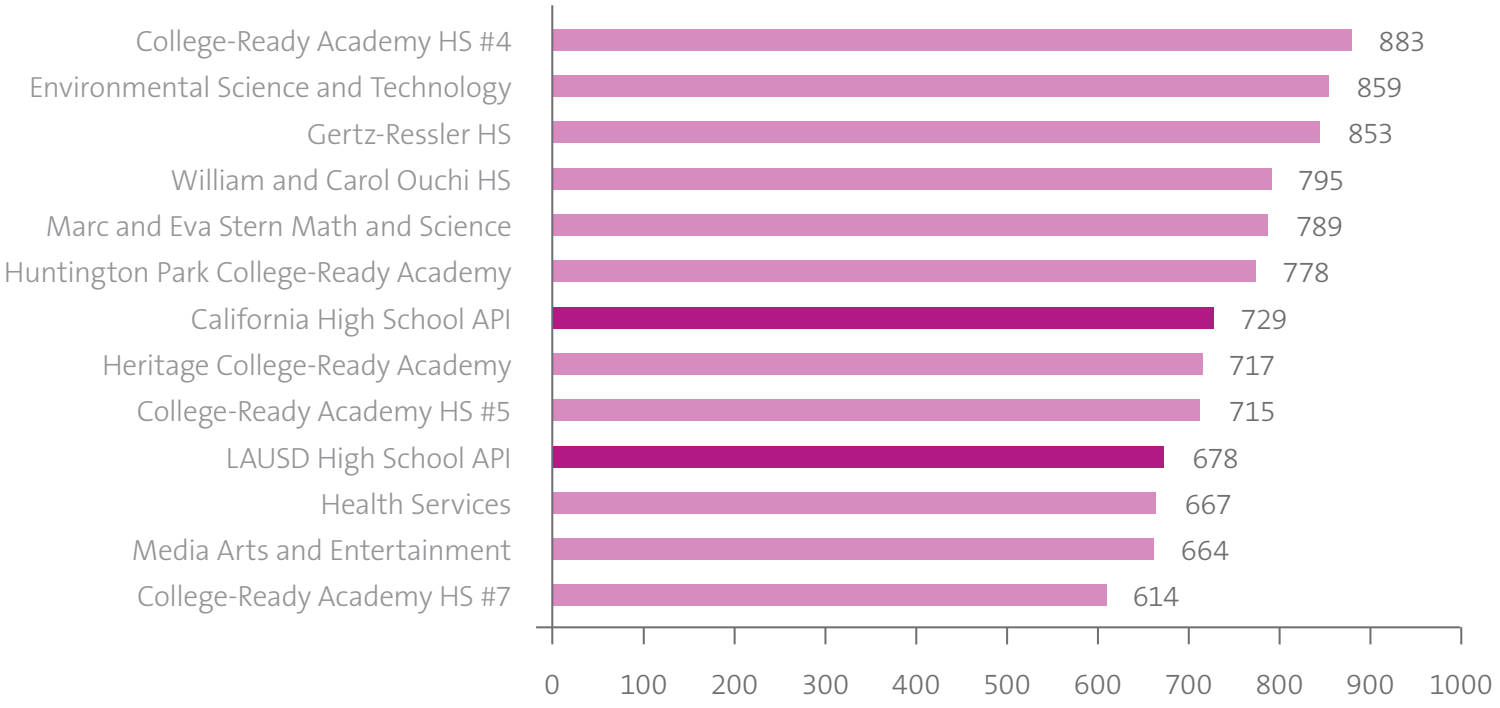
Alliance College-Ready Public Schools

Note: Many of the appendices in the following have been provided by Alliance College-Ready Public Schools

Appendix 1:
Historical Results and Future Growth

2010 California Academic Performance Index (API) Results[34]
Many Alliance High Schools Surpass District and State Averages

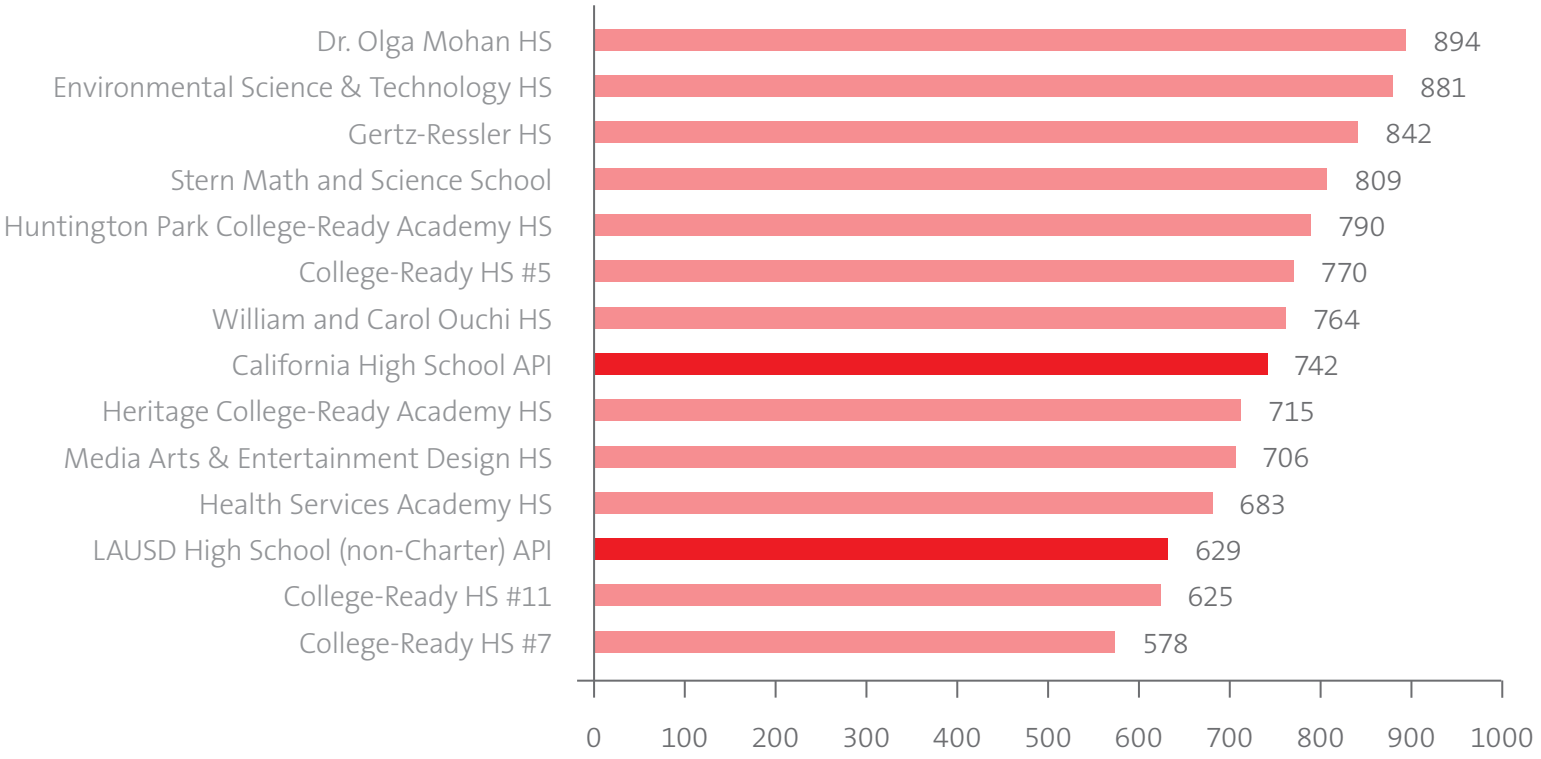
(API score range: 200 – 1000)



[34] California's Academic Performance Index (API) is a single measurement of a school's overall performance, based heavily on state testing results.

Appendix 1:
Historical Results and Future Growth (cont'd.)

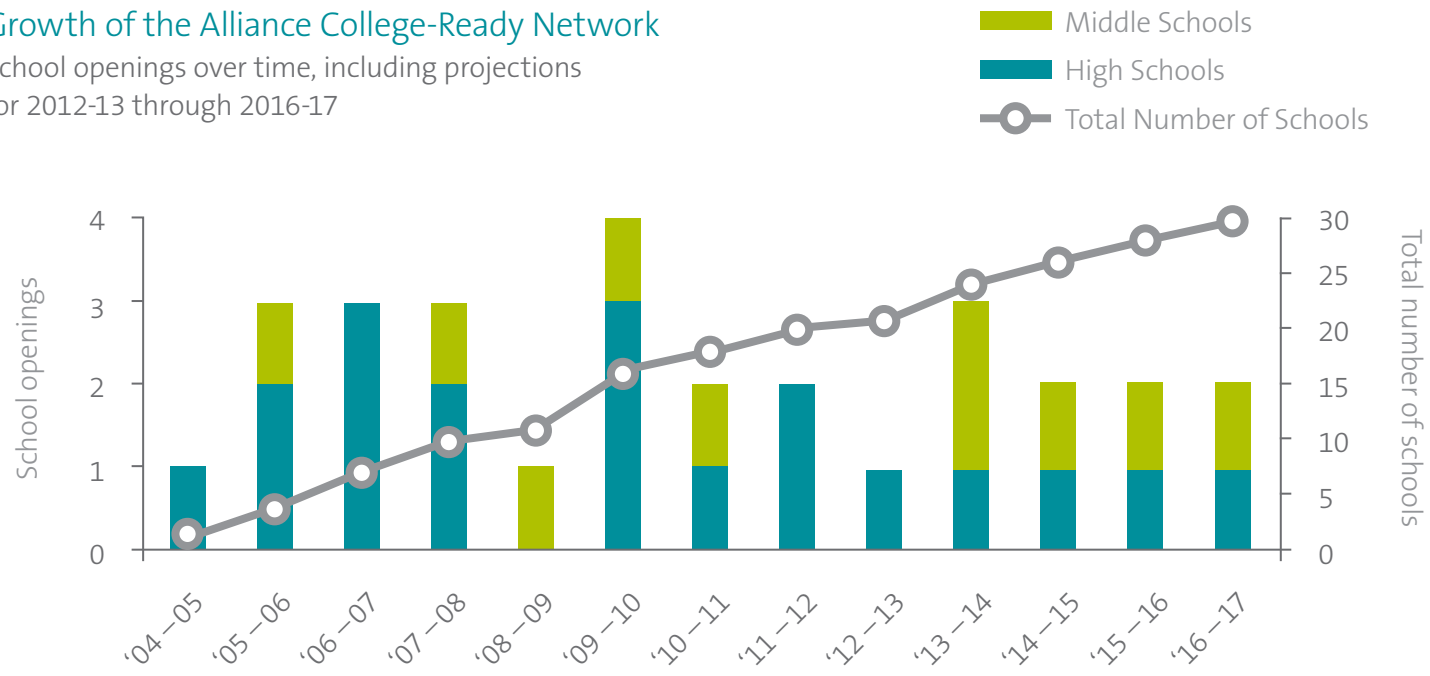
2011 California Academic Performance Index (API) Results
Many Alliance High Schools Exhibit Growth from 2010 and Again Surpass District and State Averages



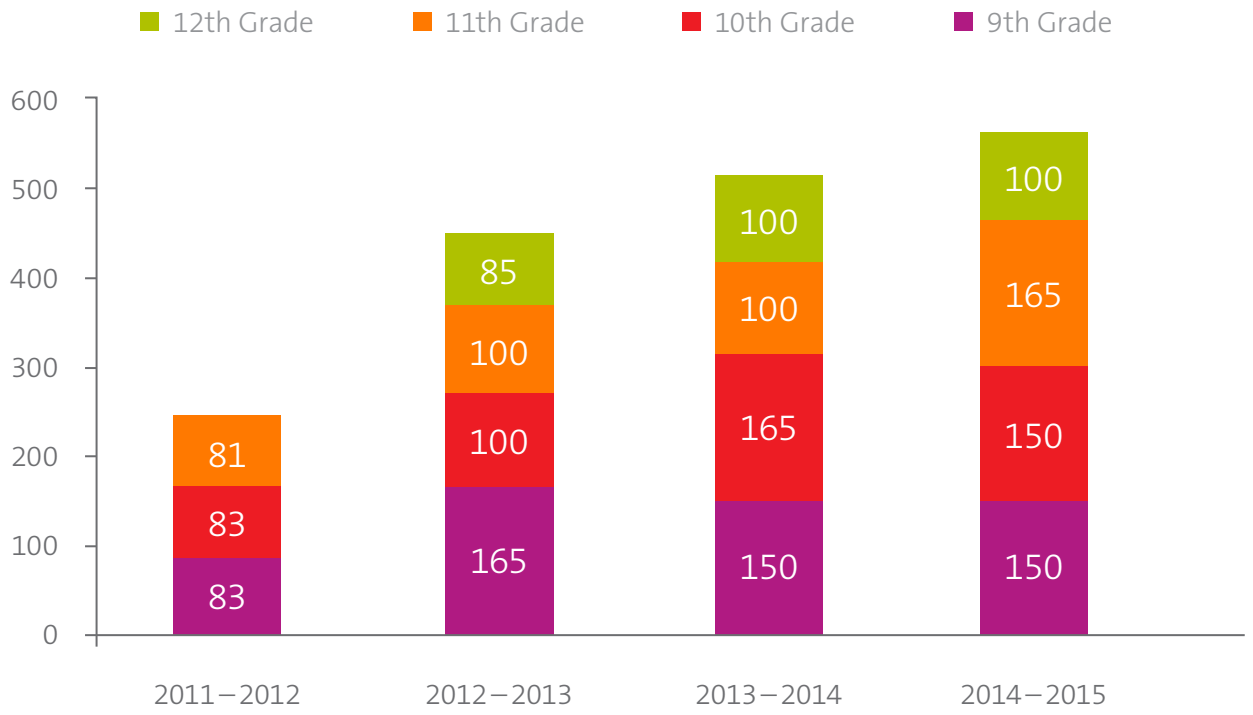
Appendix 1:
Historical Results and Future Growth (cont'd.)

Growth of the Alliance College-Ready Network

School openings over time, including projections
for 2012-13 through 2016-17



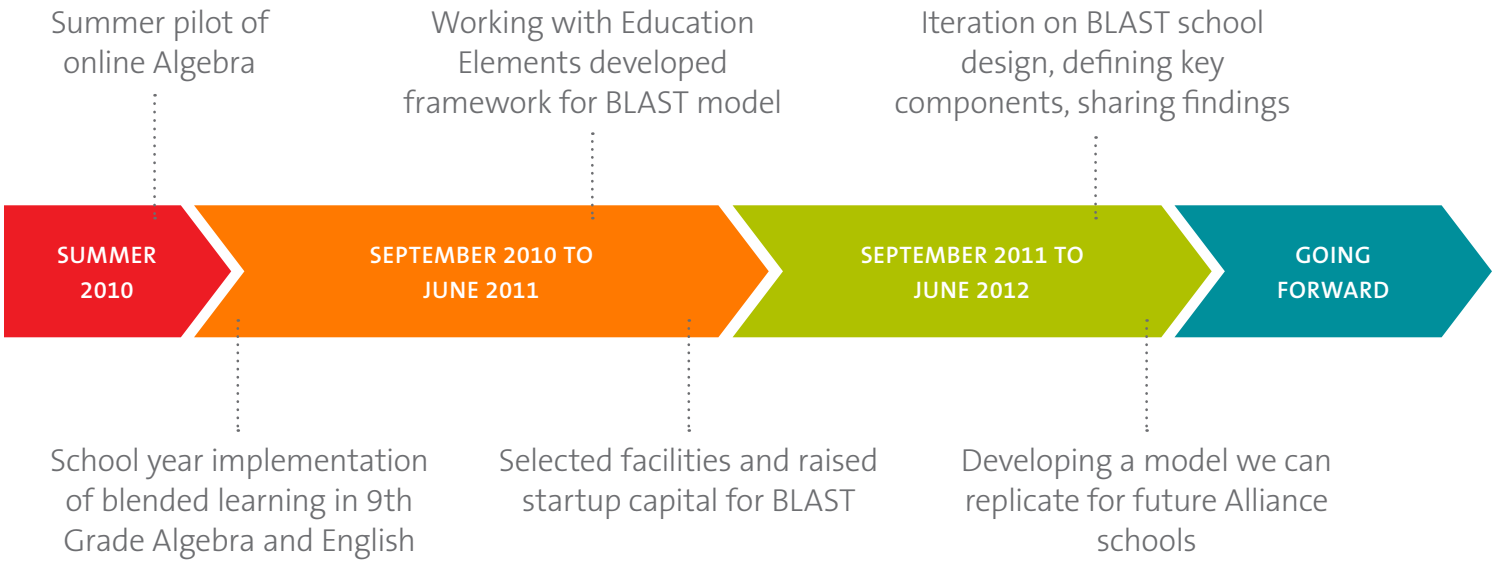
ATAMS' Projected Enrollment Growth



Appendix 2:
Project Plan for Launching Blended Learning

Why Alliance Developed BLAST

The following two frameworks were developed by Alliance to illustrate the path the CMO took to launch blended learning and why it chose to adopt blended learning:



Accelerate	Ability to accelerate proficiency on high priority content standards in core subjects through individualized pacing using digital content
Differentiate	Create more opportunities for teachers to differentiate instruction and manage small groups where students broaden learning and higher order thinking skills
Human Capital	Test how Alliance can maximize the reach of our best school leaders and teachers
Efficiency	Design a more efficient model for operating schools from staffing to facilities

Appendix 3:
Instructional Model – Details on Instructional Materials and Assessments

ATAMS' Online Content Providers

	English	Math	Science	Social Studies	Language, AP, Credit Recovery
CORE CONTENT	Compass Learning	Compass Learning	Compass Learning	Compass Learning	Compass Learning
SUPPLEMENTAL CONTENT	Achieve 3000; My Access! Vantage Writing; RevolutionK12	RevolutionK12; Virtual Nerd; Brain Honey	My Access! Vantage Writing; Brain Honey; Achieve 3000	My Access! Vantage Writing	My Access! Vantage Writing

ATAMS only uses offline curriculum in its Advisory classes. This is based off of the "Character Counts" curriculum, which fosters character building and other life skills. Advisory periods also feature much of the school's college guidance and goal-oriented exercises, as exemplified by the following sample lesson:

Week 10: March 12 – 16

Monday: Grade Checks

Tuesday/Thursday: Physical or Digital Vision Board Activity

A vision board is a poster made to identify your personal dreams and goals. The key to a vision board is visualizing your goals so that they seem more tangible. Some examples of items on a vision board would be your dream house, a photo of a doctor if you plan to go to medical school, inspirational words or quotes, and the Eiffel Tower if you dream of visiting Paris. Everyone's vision board will be unique. Materials required for this activity would be poster paper, markers, old magazines, scissors, and glue. This activity can be done digitally as well on Power Point using images from the internet. If students finish within one class period, they may write a reflection in their Advisory journals on Thursday (What did this activity help you to learn about yourself? What steps will you take to achieve the goals you represented on your vision board?). Or students can share/explain their vision boards by bringing them to the front of the class or presenting them on the SmartBoard during Thursday's Advisory.

Friday: Community circle- "Money Talk" If you had all the money in the world but still had to have some kind of job, what would you choose to do?

Appendix 3:
Instructional Model – Details on Instructional Materials and Assessments (cont'd.)

ATAMS' Assessment and Differentiation System

ASSESSMENT	Exit Slips, Online Quizzes	Weekly Collaborative Projects	Internal Benchmarks (across Alliance schools)	Pre- and Post-Tests	State Assessments, AP Exams
FREQUENCY	Daily	Weekly	Every 10 weeks	Every Semester	Annual

- Improved student grouping in class stations
- More targeted direct instruction
- Refined Personalized Learning Plan (PLP)
- Student assignments to after-school tutoring
- Data-based cohort strategy for Saturday Academy sessions

Student Accountability through Self-Assessments and Roles

The following is an excerpt of a self-assessment form that students must fill out after each station. The actual form includes questions similar to the ones below for the direct and online stations as well.

Collaborative Station:

- What specific tasks did you perform in this station?
- What type of content did you learn in this station? Please state more than 3 examples.
- Explain the process of what happened during this project-based learning, and explain how you collaborated with others and how you plan to collaborate with others to create a final product.
- What else do you think can help you learn better in this station, what can I improve to make this station a better learning experience?
- On the scale of 1-5 please rate yourself on how competent you feel in the content that was presented today.

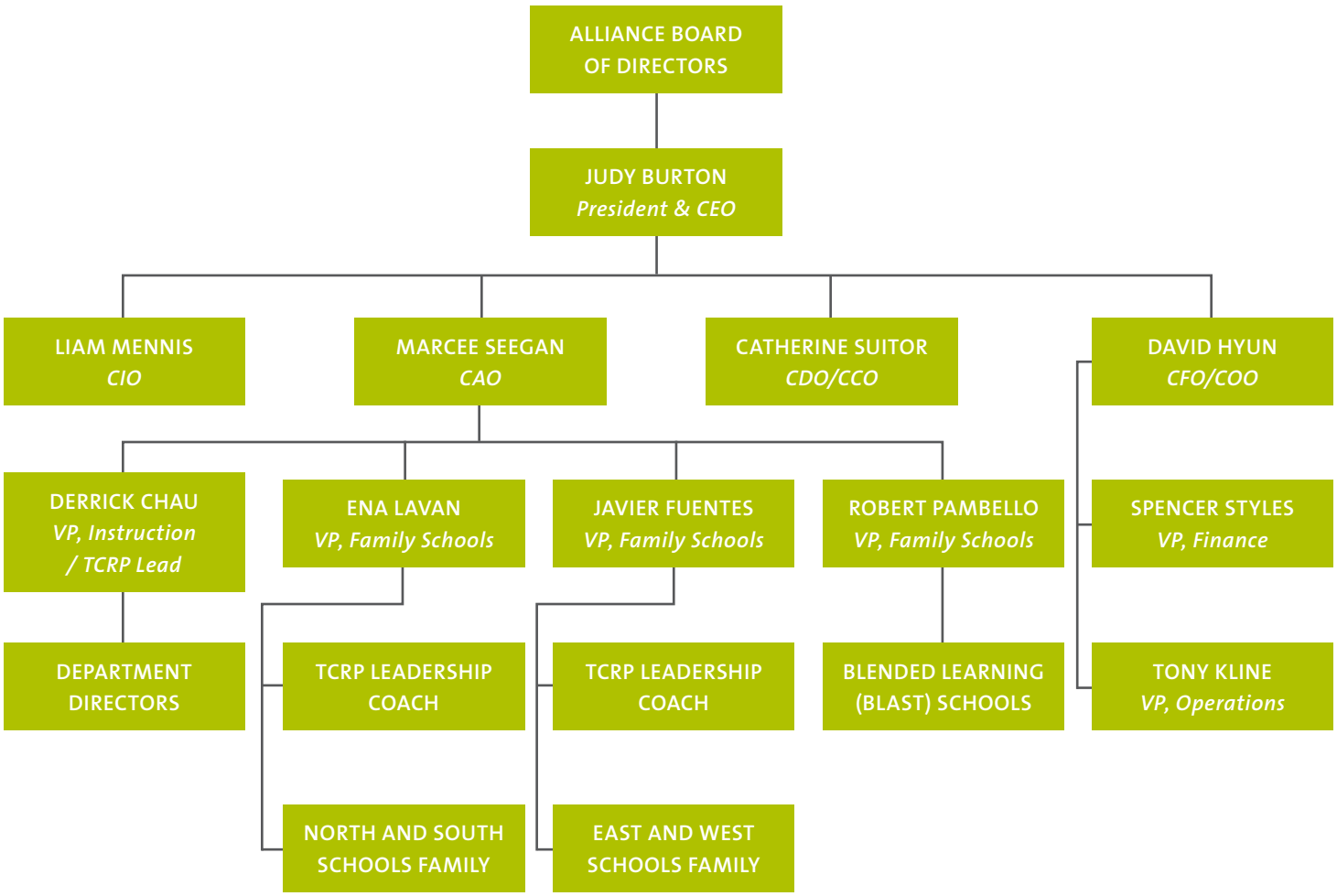
5	4	3	2	1
Advanced Proficient	**Proficient**	**Basic**	**Below Basic**	**Far Below Basic**
The student has full mastery of the standard	The student has understanding of the standard, but lacks some mastery	The student somewhat understands the standard	The student needs help in understanding the main concept of the standard	The student does not meet the CA Standard that's being tested

Appendix 3:
Instructional Model – Details on Instructional Materials and Assessments (cont'd.)

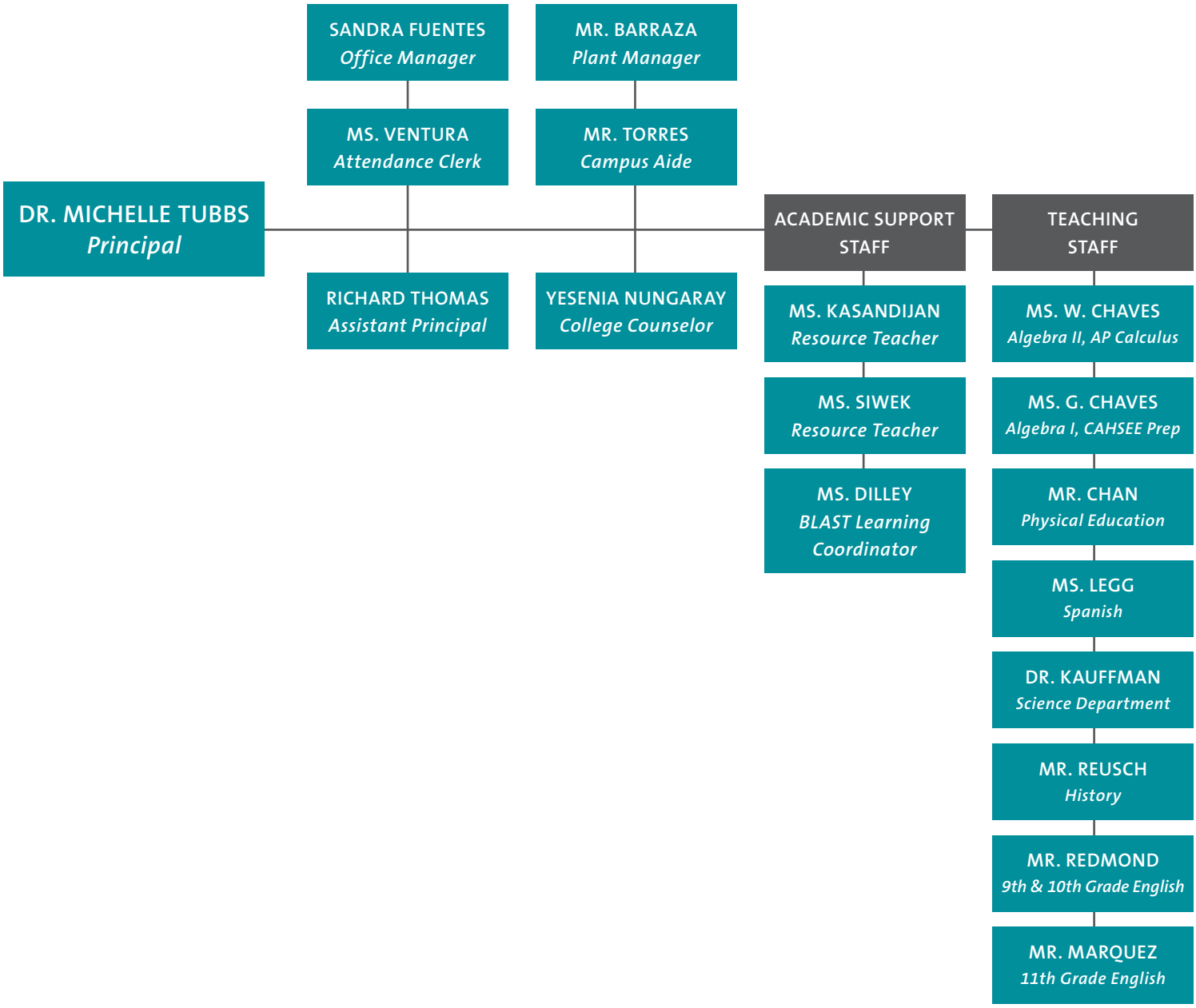
Collaborative Group Role Expectations Protocol

ROLE	DESCRIPTION
Discussion Director	Lead the group in discussion of questions assigned by the teacher or provided by the author or develop your own questions over confusing concepts and processes.
Bridge Builder	Help the group make connections to prior math concepts studied in other units, which have been learned earlier in this class or in previous classes. What bridges or applications can you make between this information and the "real world"?
Example Finder and Creator	Find at least 3 good examples that help clarify information in this section. Create 3 of your own examples for each concept.
Vocabulary Expert	Find and share complicated or important terms and vocabulary concepts. Have at least five words from the reading and have everyone start building their own vocabulary PowerPoint or Prezi ongoing presentation, including the definitions and how the words might be used on a test. When it is your turn to lead the discussion, have everyone find the word in their reading and then talk about what the word might mean. After your discussion write down what you think the word means from context, and then add additional examples or information about the word from the web.
Process Server	Pay attention to processes and procedures in the section. Be prepared to share an application of the process or procedure that you have created.
Illustrator/Graphic Organizer Creator	Provide a graphic organizer/think map or artistic representation of the key ideas and processes in the text. Show your illustration to the others in your group. Ask them to interpret your diagrams and tell how they relate to the major concepts and processes in the text, and have them write the explanation out in full sentences in paragraph form (at least 1 six-sentence paragraph).

Appendix 4:
Alliance College-Ready Public Schools Organizational Structure



Appendix 5:
Alliance Technology and Math Science High School Organizational Structure



Appendix 6:
Detailed School Schedule

Innovation in the Class Schedule at ATAMS

Blended Learning is not ATAMS' only twist on traditional schooling. The school's class schedule also looks different from what you might normally see. The students have five main subjects —Math, ELA, Science, Social Science/History, and Spanish — and one lab/elective class. They have these classes three times per week, broken out into two two-hour blocks and one 47-minute block, as shown below:

MONDAY	TUESDAY	WEDNESDAY *(early dismissal)*	THURSDAY	FRIDAY
Computer Checkout 7:45 am – 7:50 am (5 minutes)	**Computer Checkout** 7:45 am – 7:50 am (5 minutes)	**Computer Checkout** 7:45 am – 7:52 am (7 minutes)	**Computer Checkout** 7:45 am – 7:50 am (5 minutes)	**Computer Checkout** 7:45 am – 7:50 am (5 minutes)
American Lit/ Contemporary Comp 7:53 am – 9:53 am (120 minutes)	**U.S. History AP** 7:53 am – 9:53 am (120 minutes)	**American Lit/ Contemporary Comp** 7:55 am – 8:42 am (47 minutes)	**Online Learning Lab** 7:53 am – 9:53 am (120 minutes)	**Spanish 3** 7:53 am – 9:53 am (120 minutes)
Nutrition 9:53 am – 10:08 am (15 minutes)	**Nutrition** 9:53 am – 10:08 am (15 minutes)	**U.S. History AP** 8:45 am – 9:32 am (47 minutes)	**Nutrition** 9:53 am – 10:08 am (15 minutes)	**Nutrition** 9:53 am – 10:08 am (15 minutes)
Chemistry 10:11 am – 12:11 pm (120 minutes)	**Geometry** 10:11 am – 12:11 pm (120 minutes)	**Chemistry** 9:35 am – 10:22 am (47 minutes)	**Chemistry** 10:11 am – 12:11 pm (120 minutes)	**Geometry** 10:11 am – 12:11 pm (120 minutes)
Advisory 12:14 pm – 12:49 pm (35 minutes)	**Advisory** 12:14 pm – 12:49 pm (35 minutes)	**Geometry** 10:25 am – 11:12 am (47 minutes)	**Advisory** 12:14 pm – 12:49 pm (35 minutes)	**Advisory** 12:14 pm – 12:49 pm (35 minutes)
Lunch 12:49 pm – 1:19 pm (30 minutes)	**Lunch** 12:49 pm – 1:19 pm (30 minutes)	**Lunch** 11:12 am – 11:42 pm (30 minutes)	**Lunch** 12:49 pm – 1:19 pm (30 minutes)	**Lunch** 12:49 pm – 1:19 pm (30 minutes)
Online Learning Lab 1:22 pm – 3:22 pm (120 minutes)	**Spanish 3** 1:22 pm – 3:22 pm (120 minutes)	**Online Learning Lab** 11:45 am – 12:32 pm (47 minutes)	**American Lit/ Contemporary Comp** 1:22 pm – 3:22 pm (120 minutes)	**U.S. History AP** 1:22 pm – 3:22 pm (120 minutes)
Computer Return 3:25 pm – 3:30 pm (5 minutes)	**Computer Return** 3:25 pm – 3:30 pm (5 minutes)	**Spanish 3** 12:35 pm – 1:22 pm (47 minutes)	**Computer Return** 3:25 pm – 3:30 pm (5 minutes)	**Computer Return** 3:25 pm – 3:30 pm (5 minutes)
		Computer Return 1:25 pm – 1:30 pm (5 minutes)		

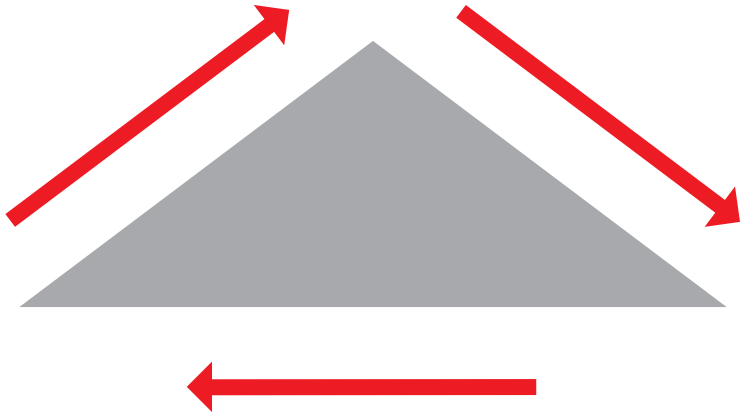
Note that the students pick up their laptops at the beginning of the day and return them at the end.

Appendix 7:
Support for Blended Learning

ATAMS Support Systems

LEADERSHIP INFRASTRUCTURE

- Vice President of BLAST schools
- BLAST Administrators
- BLAST Learning Coordinator



FORMAL SYSTEMS

- Weekly Professional Development
- Alliance-wide Professsional Development
- Monthly BLAST principal's meetings

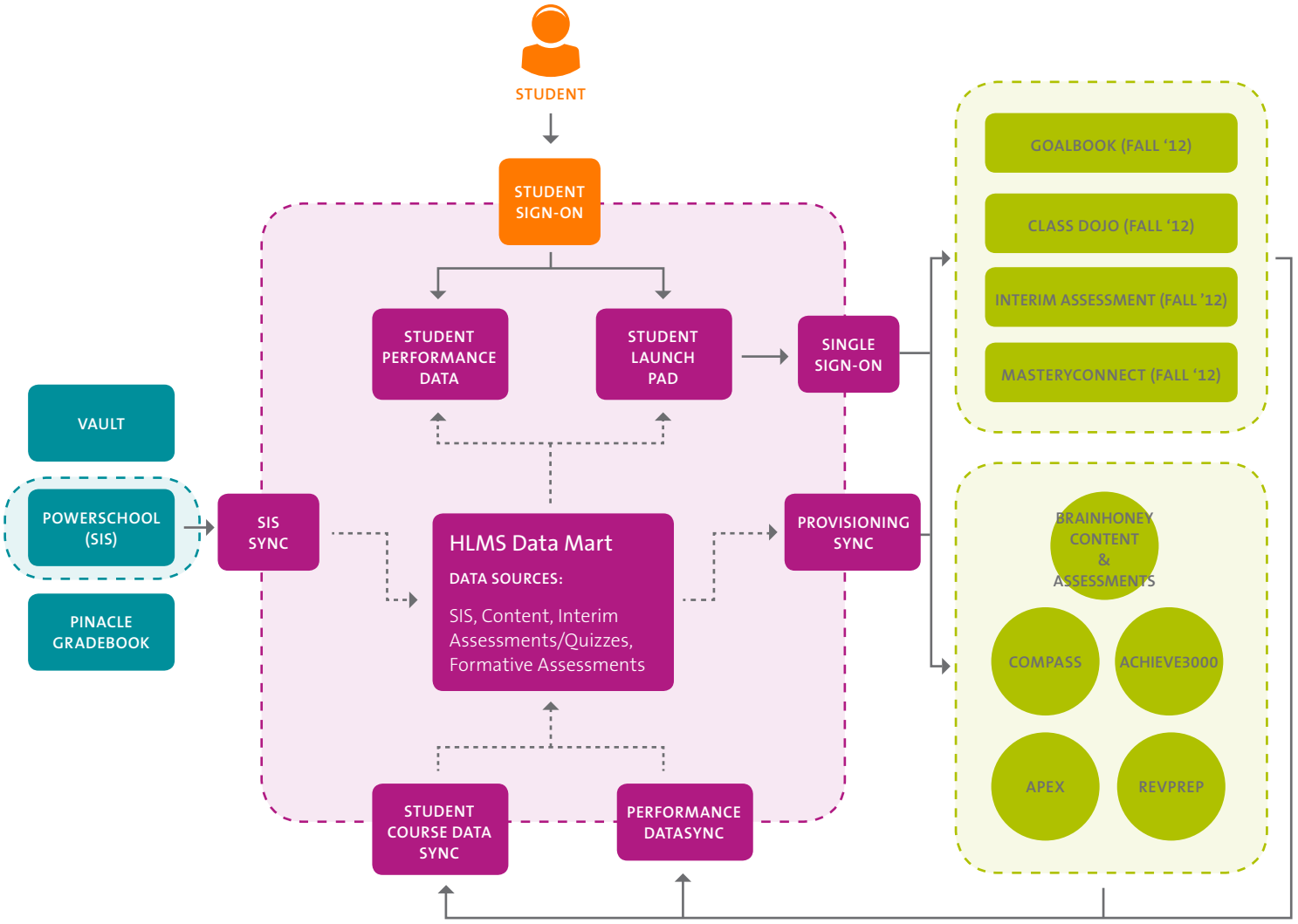
INFORMAL SYSTEMS

- Classroom observations and walk-throughs
- Cross-curricular planning
- Nutrition/Lunch sharing and brainstorming

BLAST LEARNING COORDINATOR

- Work with principal and teachers to improve all aspects of BLAST model
- Guide students as they are engaged in independent and collaborative stations
- Help students master instructional materials

Appendix 8:
Technology Stack



KEY

- *SSO, provisioning, and data extracts*
- *HLMS*
- *Data extracts (only)*
- *SSO and provisioning (only)*

Appendix 9: Financial Detail

The following is a pro forma income statement which Alliance drafted this past year to illustrate the BLAST model's ability to generate $1M in cash reinvestment over a five-year period. This projection is not specific to ATAMS nor to any particular school; it is a projection of what a typical BLAST high school might be expected to look like during its first five years, during which time it would grow its enrollment, its faculty size, and its grade range (i.e., adding one grade each year).

Also, note that the CMO would issue a loan to the school, taken from philanthropic revenue, to offset the BLAST technology costs of the first four years. This loan would total roughly $1M over time and would be paid back by Year 5, whereupon it would be recycled to invest in new BLAST schools.

Finally, though the initial BLAST equipment costs are depreciated over time, this is not reflected below, since this is based on projected cash flows. All such costs are shown as Year 1 expenses; the BLAST capital expenses in Years 2-5 represent the new laptops needed for each year's incoming students.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
ENROLLMENT	**150**	**300**	**450**	**600**	**600**
REVENUE					
Private Grants and Contributions	250,000	-	-	-	-
Federal Revenue	842,781	599,747	741,029	969,689	971,214
State Revenue	914,174	1,755,388	2,633,082	3,540,738	3,616,392
Local and Other Revenue	209,146	418,426	627,846	845,199	865,054
TOTAL REVENUE	**2,216,101**	**2,773,561**	**4,001,957**	**5,355,626**	**5,452,660**
EXPENSES					
Salaries	643,900	1,017,603	1,452,659	1,707,162	1,749,842
Benefits	172,782	261,192	369,406	427,057	437,734
Books and Supplies	187,304	358,037	531,900	710,665	719,276
Sub-agreement/Pupil Services	29,550	58,783	89,173	121,347	124,380
Professional/Consulting Services	214,478	279,092	391,009	512,206	521,764
Facilities, Repairs, and Other Leases	173,850	348,054	522,623	697,751	698,695
Administrative	106,750	145,780	186,522	229,751	234,869
Interest	300	612	936	1,280	1,312
TOTAL EXPENSES	**1,528,914**	**2,469,243**	**3,544,228**	**4,407,219**	**4,487,872**
TOTAL SURPLUS	**687,187**	**304,318**	**457,729**	**948,407**	**964,788**
CAPITAL ADDITIONS					
Facility Capital Additions – Infrastructure	(756,194)	-	-	-	-
BLAST Capital Additions	(400,870)	(156,535)	(156,535)	(156,535)	(141,266)
TOTAL CAPITAL ADDITIONS	**(1,157,064)**	**(156,535)**	**(156,535)**	**(156,535)**	**(141,266)**
BLAST LOAN	**524,630**	**156,535**	**156,535**	**156,535**	**-**
BLAST LOAN REPAYMENT				**(497,117)**	**(497,119)**
Total Change in Cash	54,753	304,318	457,729	451,290	326,404
Cash, Beginning of Year	-	54,753	359,071	816,800	1,268,090
CASH, END OF YEAR	**$ 54,753**	**$ 359,071**	**$ 816,800**	**$ 1,268,090**	**$ 1,594,494**

Appendix 9: Financial Detail (cont'd.)

Notes on the previous chart:

1. *The revenue figures include two non-recurring grants: a start-up grant for $250,000 from the Walton Family Foundation and a federal Charter School Program Replication grant for $552,945 in Year 1 and $87,055 in Year 2; when removing these grant figures from the chart, it is easier to see the gradual increase in the school's operating surplus over time.*

2. *"Facility Capital Additions – Infrastructure" represents the school's projected wiring/network costs. These costs and a portion of the BLAST Year 1 capital additions ($20,998, for videoconferencing equipment) are eligible for e-rate reimbursement from the federal government; this reimbursement is reflected in the Federal Revenue total.*

3. *The charts on pages 26 and 27 of the text suggest modest or even negative net savings from the BLAST model, though these savings increase with student enrollment. The chart above suggests far greater savings over time. This apparent discrepancy is due to three primary factors:*

    a. *The text deals only with those elements directly related to the BLAST model; the chart above covers all of the financial elements of a typical BLAST school, including those not specifically related to blended learning.*

    b. *The text is specific to ATAMS only, while the chart above is representative of a hypothetical BLAST school. ATAMS has a different revenue and cost structure than a typical Alliance school, due to its connection to the district (e.g., the rent expense per student is higher at ATAMS than it is at other schools in the network).*

    c. *As mentioned above, the pro forma income statement illustrates the actual cash flows projected at a new BLAST school and therefore does not take depreciation into account. This means that the school would incur a significant net loss in Year 1 were it not for the BLAST loan and realizes significant net gains in later years. The results are not smoothed out over time as would be the case if depreciating the capital expenses. The table below illustrates this point and indicates that the average per student gain, over the first five years, would be $144, not far removed from what would be seen at ATAMS if working under a different revenue and cost structure and with higher enrollment.*

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
ENROLLMENT	**150**	**300**	**450**	**600**	**600**
Total Surplus	687,187	304,318	457,729	948,407	964,788
– Capital Additions	(1,157,064)	(156,535)	(156,535)	(156,535)	(141,266)
NET CHANGE IN CASH (WITHOUT LOAN)	**(469,877)**	**147,783**	**301,194**	**791,872**	**823,522**
NET GAIN (LOSS) PER STUDENT	**(3,133)**	**493**	**669**	**1,320**	**1,373**
AVERAGE NET GAIN (LOSS) PER STUDENT, YEAR 1 – 5	**144**				

Appendix 10:
Action Research Diagram

What is Action Research?

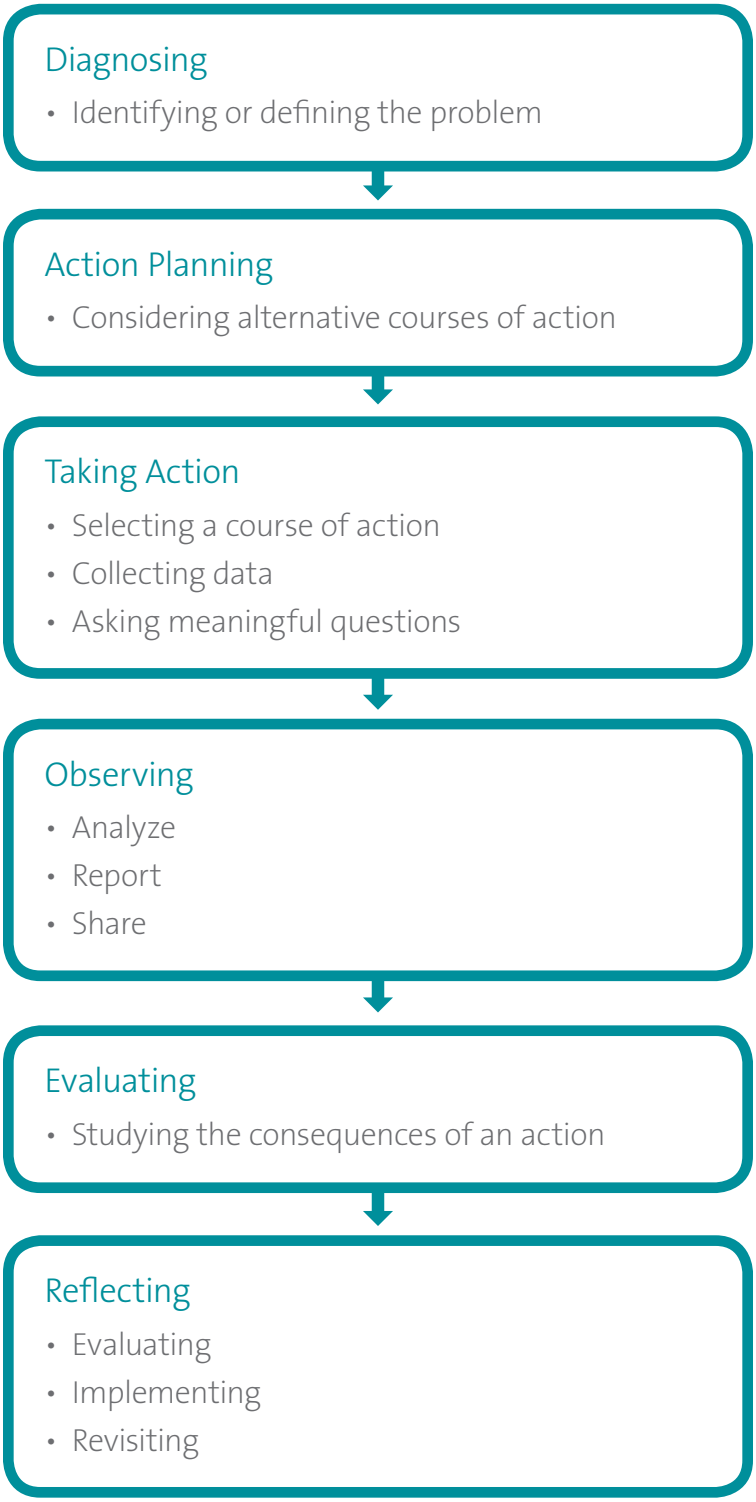
- A problem-solving practice
- A reflective process
- Involves actively participating in problem solving while simultaneously conducting research for change

Why?

- Promote Reflective Practice
- Improve professional development
- Enrich curriculum development
- Encourage democratic leadership

Result:

- The best solution...



About Michael & Susan Dell Foundation and FSG

Inspired by their passion for children and by a shared desire to improve the lives of children living in urban poverty, Michael and Susan Dell established their Austin, Texas-based foundation in 1999. In its early years, the foundation's work focused on improving education and children's health in Central Texas. But within a few short years, our reach expanded, first nationally and then globally. To date, the Michael & Susan Dell Foundation has committed more than $700 million to assist nonprofit organizations working in major urban communities in the United States, South Africa and India. We focus on opportunities with the greatest potential to directly and measurably transform the lifelong outcomes of impoverished urban children around the globe.

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