

School Turnaround in San Jose: Rocketship Education

OVERVIEW

Rocketship Education is a network of five public charter schools in San Jose, California. The school management organization, which opened its first school in 2007, serves roughly 2,200 students in kindergarten through grade five and seeks to “eliminate the achievement gap in our lifetimes, so that no student’s life is subject to the ‘destiny of demographics.’”¹ Rocketship plans to serve 15,000 students in the San Jose area by 2020 and to ultimately operate outstanding charter schools in all 50 states.

Rocketship Education is heavily centralized. All schools are tightly managed and share the “hybrid” learning model. Students, known as “rocketeers,” still attend brick-and-mortar schools, but they spend one-quarter of their school day working independently in learning labs or receiving tutoring. Rocketship believes that this blended-learning approach provides greater individualization and targeted interventions for students, and lets teachers spend less time on administrative or low-skilled tasks. It also allows schools to employ fewer certified teachers, which frees up resources to extend the school day and provide other key services.

Rocketship’s founder and Chief Executive Officer, John Danner, explains this strategy by noting that technology and great teachers aren’t interchangeable, but can be used together to strategically fill gaps and leverage resources:

There are things that the computer does best and things that teachers do best. We think that computers do basic skills best... Computers can adapt on the fly to an individual child’s mistakes or successes, and that would be impossible for a teacher in a class of 25-30 kids... We think [what teachers do best] is social and emotional learning, and helping kids to think critically, along with project-based learning and integrating skills. Very few teachers became teachers to teach basic skills. They became teachers because they like to work with kids and help them learn values—and take what they know and apply it to problems, and help kids understand and cement concepts. There is a big difference between that and what you will see in low-income schools, where teachers have to spend all their time on basic skills. We can do both.²

QUICK FACTS

- **SCHOOL TYPE:** Charter school management organization
- **NUMBER OF SCHOOLS:** 5 (2 of which opened in 2011-2012)
- **GRADES:** K-8
- **SIZE:** ~500 students per school at scale
- **DEMOGRAPHICS:** 78% of students are low-income; 80% are English-language learners; 6% are students with disabilities
- **LOCATION:** San Jose, CA
- **GENERAL ED FUNDING LEVEL:** \$9,987
- **STUDENT-TEACHER RATIO:** ~27:1
- **STUDENT TO STAFF RATIO:** ~23:1
- **SCHOOL DAY/YEAR:** 9a.m - 4pm
- **AVERAGE CORE CLASS SIZE:** 22 to 23

¹ Rocketship Education website, “Mission,” <http://rsed.org/index.php?page=mission>

² Excerpt from interview with Liz Wellen in *The Hechinger Report*.

The organization’s goal is that rocketeers leave fifth grade with the basic skills, higher-order cognition, and personal traits necessary to achieve their goals in secondary education and beyond. Rocketeers are expected to show high levels of mastery on state assessments and other exams (such as the Northwest Evaluation Association assessment, “the NWEA”), but school curriculum also emphasizes problem-solving, meta-cognition, and critical thinking, as well as growth in non-academic areas like relational skills, sense of self, and commitment to learning.

TURNAROUND RESULTS TO DATE

Students in Rocketship Schools, most of whom come from low-income families, outperform statewide averages and perform on par with their peers in Palo Alto, an affluent suburb nearby. In 2010, Rocketship’s first two schools ranked 5th and 15th in the state among schools serving low-income populations. Student performance on state tests also trends towards advanced; in 2010, no student at Mateo Sheedy Elementary School tested below basic in math, and 92 percent of students were proficient or advanced.³

Further, a recent independent study of the effectiveness of Rocketship’s primary instructional technology, Dreambox, showed that students who worked online for 40 minutes a day achieved gains on assessments that were higher than students who worked with teachers in classrooms on the same content. As Edutopia reported, “Kids who had the typical regimen of online math instruction, as opposed to those kids who received only traditional classroom math instruction, did better—more than five points in percentile ranking better (50 to 55.5 percent—on the NWEA’s math standards test).”⁴

SCHOOL DESIGN ELEMENTS

A blended-learning model that increases individualization and frees up school resources. Rocketship schools use a hybrid, or blended, learning model in order to target instruction. This model is predicated on the organizational belief that teachers generally spend too much time on tasks that don’t require a high level of skill, such as administering and scoring assessments, providing basic skills tutoring, or overseeing individual practice. Rocketship attempts to reduce this problem by focusing teacher time on direct instruction and skill extension (including application and critical thinking) and by freeing teacher time from all other parts of the cycle of instruction.

As illustrated in Figure 1, Rocketship students spend time in whole-class, small-group, and one-one-one instruction and also work independently in Learning Labs and receive targeted support in an afterschool Response to Intervention program. All but 90 minutes of the school day is focused on core subjects. Students spend 75 percent of their instructional time in core classes (consisting of two 100-minute blocks of literacy and one block of math, with an average student-teacher ratio of 23:1) and 25 percent of their time in Learning Lab (consisting of 30 minutes of online learning, 40 minutes of reading, and 30 minutes of physical education). A sample student schedule is shown in Figure 2.

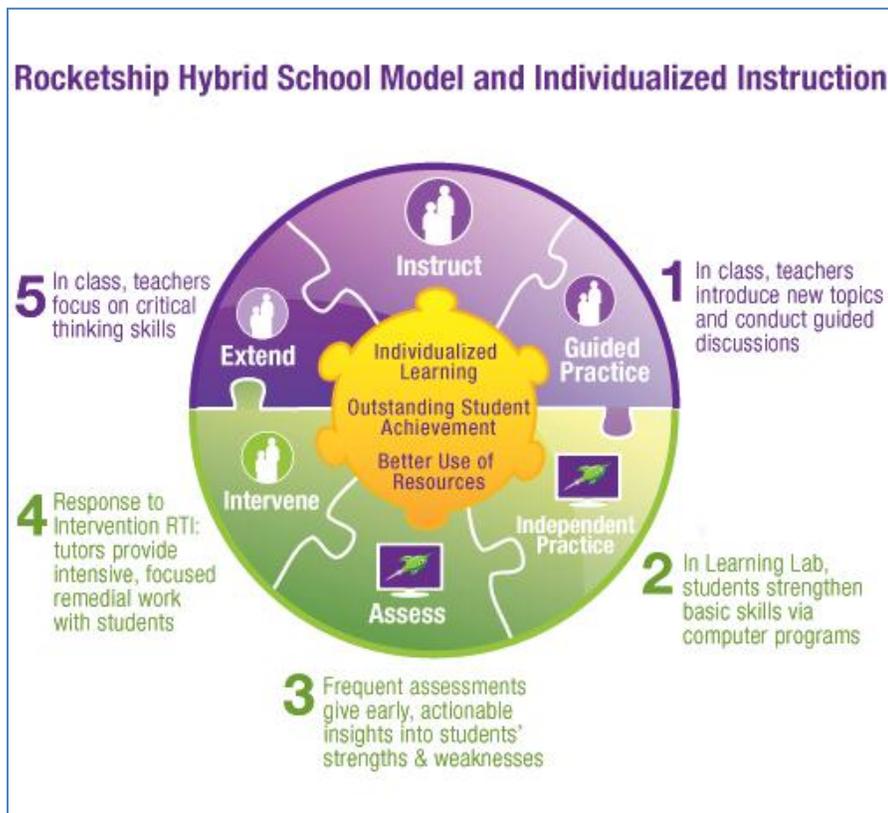
While each student’s Lab and intervention work is directed by instructional leaders and teachers, the Labs are overseen by three staff (who are at a minimum high school–educated), who earn ten to 12 dollars per hour. Up to four classes, or 100 students, are in the Learning Lab at any given time. Roughly 20 percent of students

³ http://www.sco.k12.ca.us/schooldirectory/charter/docs/Rocketship_Mateo_Sheedy.pdf

⁴ David Markus, “Research Findings: Rocketship Education Boosts Scores with Online Learning,” Edutopia, <http://www.edutopia.org/blog/stw-online-blended-learning-rocketship> (August 10, 2011).

are pulled out during the day or are kept after school from 4 to 6 p.m. for Response to Intervention time with teams of paid and volunteer tutors, who use scripted materials that are customized for each student.

Figure 1: Rocketship Hybrid School Model and Individualized Instruction



Source: Rocketship website. www.rsed.org

Figure 2: Sample Student Schedule

Period	Subject/Activity
8:00 – 8:15 am	Launch (a.k.a. morning assembly)
8: 20 – 10:00 am	First block literacy/social studies
10:00 – 11:40 am	Learning Lab - 30 minutes physical ed, health, music, or art - 30 minutes in reading center - 40 minutes in online learning lab (literacy or math)
11:40 am – 12:40 pm	Lunch and recess
12:40 – 2:20 pm	Second block literacy/social studies
2:20 – 4:00 pm	Math and science
4:00 – 6:00 pm	Afterschool Response to Intervention time (selected students)

CEO Danner explains the organization’s thinking behind the value of the Learning Lab:

We've put a ton of work into figuring out how to go from student assessments to individualized learning plans. When a learning plan accurately captures the next six to eight objectives a student needs at a fine grain (i.e., this student needs to work on short A sounds), then you set yourself up to deliver the right lesson at the right time. This process of figuring out exactly what a student needs to learn is the key. From that, the potential upside for the right lesson to each child at the right developmental level probably has the potential to be ten times more effective for the student than a classroom lesson targeted at what a child that age should be learning, or some scope and sequence that has been defined. For students who are the farthest behind, classroom lessons are almost never relevant. They just aren't there developmentally. So this ten-times potential increase in learning is what our model plays on.⁵

By using this blended design, Rocketship is able to serve more students with fewer teachers (five fewer per school), provide more time on instruction by extending the school day, and free up roughly a half a million dollars in resources for investment in other high-priority areas like school leadership, parent engagement, and talent development. Further, by using block scheduling and extending the school day, Rocketship is able to meet California seat-time and teacher-qualification requirements without adding additional costs.

Daily cycles of data collection and planning. Rocketship relies heavily on technologies such as dashboards and online learning programs to constantly collect, analyze, and respond to student data. Schools administer benchmark assessments every eight weeks, but collect formative data on a daily basis through information collected from online learning programs in Lab and daily DRA quizzes administered during Lab reading time. Every student at Rocketship has an Individual Learning Plan that is developed by his or her primary teacher in each core subject area (literacy and math) using an online Teacher Dashboard. This dashboard links to the assessment data collected during lab and is used for teacher planning (whole class and in-class pull-out) as well as for directing Lab work.

Teachers collaboratively analyze data once a week (Friday afternoons), but are expected to constantly review and adjust learning plans with assistance from the school Academic Dean. Individual student data are also displayed prominently on an “Assessment Wall” in the teacher’s lounge.

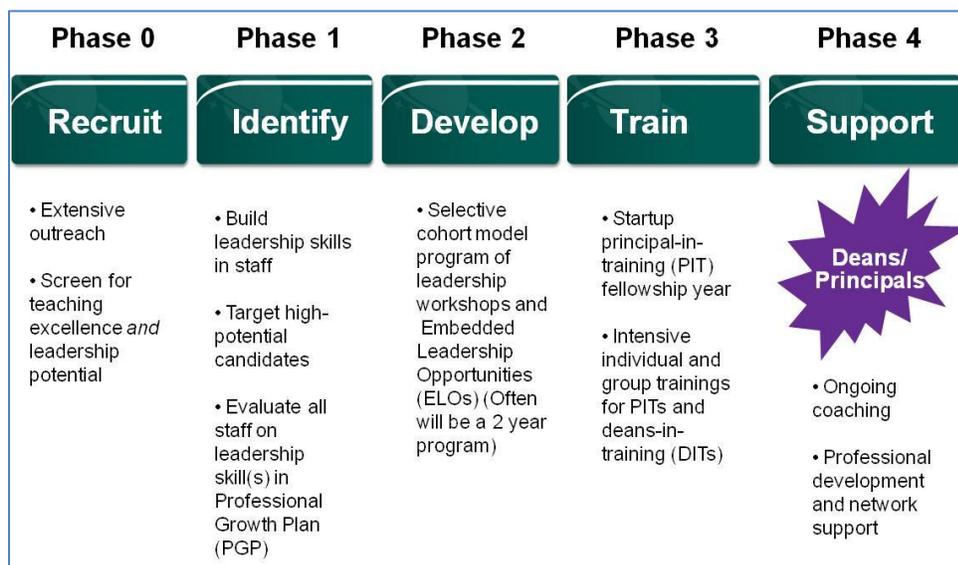
Leadership Development. Each school is led by a principal who is responsible for academic performance, culture, and in-school leadership development, and an academic dean who provides coaching to teachers, manages staff professional development, and runs the Response to Intervention program. Given this model, Rocketship’s plans for growth depend heavily on having a strong pipeline of school leaders. The organization has therefore developed a five-phase staff development model that clearly articulates characteristics, competencies, and career-path opportunities from the teacher to leader level. (Every teacher is considered a potential school leader, so Rocketship places all new hires into the first phase of the model.)

The five-phase model is illustrated in Figure 3. Every staff member works with the principal to develop a customized Professional Growth Plan that is reviewed every eight weeks and works with the principal throughout the year to identify opportunities for low-level “embedded leadership opportunities” (ELOs),

⁵ John Danner, Schools 2.0, <http://schools20.rsed.org/2011/04/key-to-rocketship-model.html> (April 2011).

such as leading a homework group, throughout the school year. The principal reviews performance in ELOs as well as performance in the classroom, and identifies participants for later phases of the program. (Rocketship assumes that one of every three staff will eventually move on to the next level of leadership development.)

Figure 3: Rocketship Education Leadership Development Model



Source: School Leader’s Toolbox. “Rocketship Education: Leadership Development Program Description.” Retrieved online from: <http://schoolleaderstoolbox.org/toolkit/partner/rocketship-education>

Teachers selected for the Leadership Training Program (LTP) meet monthly for leadership trainings with the principal and participate in more formal ELOs, such as acting as a teaching mentor or manager of school culture. They also engage in 360 assessment programs to identify goals for their Professional Growth Plans.

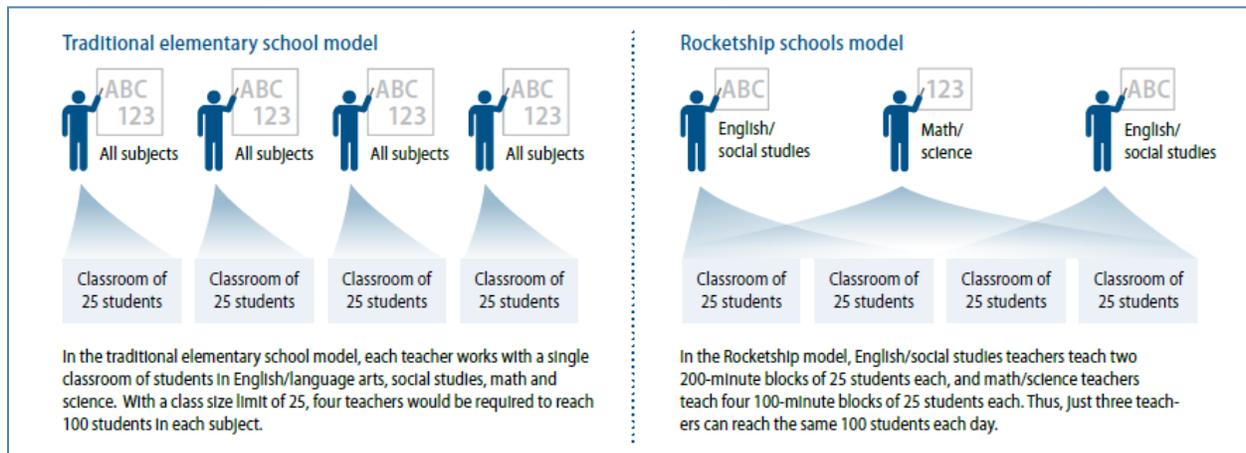
Assuming growth goals are met, candidates self-select into one of three tracks for the upcoming school year: Dean-in-Training (DIT, with a focus on academic leadership and facilitating adult learning), Startup Principal-in-Training (S-PIT, who focuses on incubating a new school and shadowing principals, and is excused from all teaching duties), or Takeover Principal-in-Training (T-PIT, who continues to teach but is trained to assume leadership of an existing school). All three tracks receive ongoing coaching from their host principal and participate in two to three “takeover weeks” per year. DITs and T-PITs are embedded within their existing schools for the training year. S-PITs are removed from their existing schools, participate in a summer institute, and work on starting up their new school as well as on discrete, school-based leadership projects over the course of the school year.

Successful Phase 3 candidates move on to deanships and principalships. They receive professional development during weekly Achievement Team Meetings (which consist of all leaders and central office staff) as well as weekly coaching and check-in meetings with their immediate supervisors.

Structuring the teaching job and supporting teachers to maximize effectiveness. Rocketship classrooms are semi-self-contained; teachers teach literacy and social studies or math and science.

Literacy/social studies teachers work with two groups of students per day, and math/science teachers work with four. In addition to allowing teachers to develop specialized subject expertise, this structure allows teachers to iterate on the same lessons. In a typical elementary school, a teacher might develop a lesson once and then only have an opportunity to teach that same lesson again the following year. Rocketship believes that having teachers teach the same lesson to different classes offers a teacher double the opportunity (or in the case of a math/science teacher, quadruple the opportunity) to receive feedback, collect data on the effectiveness of her lessons, and hone her craft.

Figure 4: Staffing model at a traditional elementary school versus a Rocketship School



Source: Kowal and Brinson (2011), *Beyond classroom walls: Developing innovative work roles for teachers*, Center for American Progress, http://www.americanprogress.org/issues/2011/04/pdf/staffing_models.pdf.

Rocketship provides intensive, school-based professional development. Total time set aside for school-wide professional development is 150 hours throughout the year. In addition to full PD days, the school meets to analyze student data and work on professional development in areas that the staff have agreed they want to focus on from 2 to 5 p.m. every Friday for development and collaborative work. Teachers also participate in four weeks of professional development prior to the start of school.

Teachers are observed informally by the academic dean weekly and meet with the dean for an hour after school every two weeks for coaching. Additional sessions are scheduled based on observations and teachers' progress against their Professional Growth Plans. While the academic dean has responsibility for coaching, formal evaluations are completed by the principal.

Recruiting the best teachers by making the job more attractive through reduced administrative work, higher salaries, and performance pay. Given its high expectations for achievement and plans for aggressive growth, Rocketship sees the recruitment and development of excellent teachers as central to its success, and has structured the teaching role and compensation to attract high performers. Danner asserts, "Rocketship teachers are high-achiever graduates from prestigious colleges. They're innovative, adaptive, ambitious, and are passionate about eliminating the achievement gap. Rocketship believes that teaching should be a well-compensated white collar profession; accordingly, we seek to pay our teachers above-market salaries."⁶

⁶ John Danner, Ed100, <http://www.ed100.org/develop/> (March 28, 2011).

In addition to having created clear, supported leadership development structures, Rocketship compensates competitively. Teachers are paid salaries that are roughly 20 percent higher than surrounding districts, with ten percent of base salary connected to student performance on state exams. Thirty percent of this bonus is dependent on school-wide achievement of Academic Performance Index targets. The remaining 60 percent of bonus dollars are attached to student growth on the NWEA and internally created interim assessments. By moving assessment and basic-skills tutoring off of the plates of teachers and leveraging technology more effectively, Rocketship believes it makes the teaching job more enjoyable and rewarding overall.

Further, by reducing the number of teachers needed per school through the blended learning model, Rocketship lowers the number of effective teachers it needs to recruit for each new school and to fill vacancies. The organization also relies heavily on a partnership with Teach for America: Each school hires four new corps members a year, meaning that up to half the staff of a school are corps members.

High parent and community engagement. Rocketship believes that family engagement in student learning is a critical component of extending the growth trajectory of students through upper grades and college. Because of this, the organization invests heavily in structures and routines that connect families to the school. Rocketship organizes monthly community meetings (and targets 90 percent attendance at these events), and invites parents to participate on school boards and in Parent Leadership Groups. Teachers conduct home visits prior to the start of the school year and are interviewed by parent leaders as part of their hiring process. The organization employs a full-time parent-empowerment liaison who recruits parent leaders, coordinates parent-engagement programming to educate families about school choice and the achievement gap, and works with PACT, a community-organizing partner.

Centralized monitoring and support mechanisms. Rocketship provides schools with intensive academic and operational supports. The Rocketship central office provides schools with all academic systems, operational and financial services (including vendor negotiation and contracting), technology, and Learning Lab management. The office also recruits teachers and students, and provides programming for the teacher- and leadership-development programs.

The district pairs these supports with close monitoring of school data through dashboards as well as through visits and meetings with central office staff. The organization has an “Achievement Team” that convenes with all principals weekly to problem-solve and discuss student data. The central office also collects data and seeks feedback on its services. It surveys teachers annually to get feedback on the quality of supports provided at the school and supervisory levels, asking teachers to rate the school against a series of support goals such as, “I have adequate resources available to me to realize 1.5 years of growth with my rocketeers” and, “My immediate supervisor supports me in my professional growth plan (IPDP).”

FUNDING

Innovative use of resources lies at the heart of Rocketship’s model. All schools are funded through regular public resources without the support of additional philanthropic dollars, and the organization has figured out ways to save on traditional costs to provide more effective instruction with less. CEO Danner summarizes the approach:

Schools are zero-percent-margin businesses. It's pretty hard to do good research and development and fund expansion of a zero-percent-margin business. We think there will be half a dozen charter networks capable of creating 1,000 schools or more. To get to this kind of scale, you have to do something differently than the typical zero-percent-margin school. At Rocketship, we reinvented the elementary school and created what we call a hybrid school, with 25 percent of the school day online in our Learning Lab and 75 percent in a traditional classroom. Since Learning Lab does not require certificated teachers, we save 25 percent of our salary costs, which amount to \$500,000 per year. This is just like getting a check each year for \$500,000 to reinvest in the quality of your school. We use it to give our principals a year of training, have an Academic Dean at each campus, pay our teachers 20 percent above districts, and run a two-hour Response to Intervention (RTI) program for our bottom 20 percent of students. That's allowed us to create schools that outperform surrounding high-income districts.⁷

As a charter school system, Rocketship schools are non-unionized, so Rocketship has significant flexibility to alter work rules, run a longer school day, and pay teachers high salaries and to base pay on performance. Over time, Rocketship hopes that students will be able to spend even more time learning online, which will free additional resources up for enrichment services and human capital investments.⁸ Danner has predicted that “we will see an equal split in time between basic skills online and thinking skills in a classroom. This 50/50 online/classroom hybrid model has a lot of properties that helps us scale. First, we will have ten teachers at each campus instead of 20. With ten teachers on each campus, we have much less need for talent. With the extra money we save (\$1,000,000), we can double teacher pay to well over \$100,000 per year.”⁹

Given interest in the school model, Rocketship had received several million in dollars from philanthropists like Reed Hastings of Netflix and from foundations such as Broad, the Charter School Growth Fund, and NewSchools Venture Fund. Because Rocketship schools open without the need for additional funding, the organization is able to invest these funds into innovation and growth, developing new technology platforms (like Dreambox), leadership programming, and parent/community engagement, with the ultimate goal of closing the achievement gap for students across the United States.

⁷ Interview: John Danner, CEO, Rocketship Education, EdReformer, <http://www.datanc.net/edreformer/2010/05/interview-john-danner-ceo-rocketship-education/>

⁸ Tom VanderArk, “A Rocket for change,” *Huffington Post*, 2010 (http://www.huffingtonpost.com/tom-vander-ark/a-rocket-for-change_b_621906.html).

⁹ Interview: John Danner, EdReformer.

SOURCES

This case study draws upon interviews completed with key staff at Rocketship Education (conducted January 12, 2001 with staff members Preston Smith, co-founder and Chief Achievement Officer; Maricela Guerrero, principal of Rocketship Mateo Sheedy Elementary School; and Melissa McGonegle, principal of Rocketship Si Se Puede Academy), as well as from a number of online sources and publications, including:

Rocketship Education website: www.rsed.org

John Danner, Schools 2.0 Blog, April 2011, <http://schools20.rsed.org/2011/04/key-to-rocketship-model.html>.

Kowal and Brinson, *Beyond classroom walls: Developing innovative work roles for teachers*, Center for American Progress, http://www.americanprogress.org/issues/2011/04/pdf/staffing_models.pdf (2010).

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<http://schoolleaderstoolbox.org/toolkit/partner/rocketship-education>

Liz Wellen, Q&A with Rocketship Education’s John Danner: ‘There are things that the computer does best and things that teachers do best,’ *The Hechinger Report*, June 2011
(http://hechingerreport.org/content/qa-with-rocketship-education%E2%80%99s-john-danner-%E2%80%98there-are-things-that-the-computer-does-best-and-things-that-teachers-do-best%E2%80%99_5904/).

Appendix A

Rocketship School Staffing & Budget¹⁰

School:	Standard Rocketship Model
Grade configuration:	K-5
Total number of students:	547
Student-teacher ratio:	34:1
Student-staff ratio:	20:1
Average expenditure per pupil:	\$7,144

SCHOOL BUDGET			
Position	FTEs	Total Salary with Bonus	Average Position Costs
Principal	1	\$120,000	\$100,000
Academic Dean	1	\$85,000	\$70,833
Assistant Principal	1	\$77,916	\$70,833
Core classroom Teachers - Non-TFA	8	\$63,800	\$58,000
Core classroom Teachers - TFA	8	\$53,075	\$48,250
Learning Lab Coordinators ¹¹	3	\$21,280	\$21,280
Office Manager	1	\$52,800	\$48,000
RTI Tutors	3	\$21,280	\$21,280
Lunch Staff	2	\$14,400	\$14,400
<i>Total Personnel Compensation Costs</i>	28	<i>\$1,434,280</i>	
Total Personnel Compensation with Benefits (~ 25%)		\$1,793,846	
Non-Personnel			
Materials and supplies			\$381,953
RSED management and service fees			\$580,417
Facilities payments to Launchpad Development Corporation (nonprofit school real estate organization)			\$748,925
Other non-instructional operating costs			\$402,754
<i>Total Non-Personnel</i>			<i>\$2,114,048</i>
TOTAL EXPENDITURES			\$3,907,894

¹⁰ School staffing and budget information pulled from information provided by Rocketship Education to Santa Clara County Office of Education. Salaries with bonus are estimated and assume 100 percent of allotted bonus is awarded. Retrieved online August 16, 2011:

http://www.sccoe.k12.ca.us/depts/charter/docs/SCCOE_Questions_for_Rocketship.pdf

¹¹ Oversee learning labs and teach art, music, and PE.