

**Preparing High School Students for College Success?  
Putting “Rigor, Relevance, and Relationships” to the Test**

**Phase I – Preliminary Findings**

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<sup>1</sup> This paper replaces an earlier version of a paper that was uploaded and available from the AERA conference webpage. A few errors have been corrected and additional text has been added.

## Abstract

“College and career readiness” is the new holy grail of 21<sup>st</sup> century schools, and even the federal government’s Investment in Innovation grant competition seeks to advance models that demonstrate that they can go beyond raising K-12 test scores to successfully prepare all students for college and careers. A number of school organizations have jumped into this race, asserting that their programs lead to better preparation for college and careers and that students who graduate from their schools are more likely to be successful in college. However, few organizations have the data to show that this is true. The Envision Schools Charter Management Organization, which runs four small public high schools based in the San Francisco Bay Area, seeks to address inequities in educational attainment for some of the most disadvantaged student populations, first-generation college bound, minority, and economically disadvantaged students by providing an academic program that requires all students to complete a college-prep curriculum while engaging them through technology, arts, and project-based instruction, compile a rigorous “college success” portfolio, and supports them through the college application process. In this graduate follow-up study, the organization puts its model of “Rigor, Relevance, Relationships, and Results” to the test, examining the results of a longitudinal tracking study to measure the enrollment and persistence of their graduates in post-secondary education as well as their academic performance based on analysis of their college transcripts. Preliminary findings (data collection will be completed in summer 2010) show that the first three graduating cohorts of Envision Schools enrolled in college at much higher rates (between 88-95 percent) and that the first two graduating cohorts persisted into the second year of college at much higher rates (94-100%) than would be expected in similar populations of students. Although small sample sizes limit the statistical power of the comparisons, it also appears that students who are the first in their families to attend college are performing as well as their peers whose parents attended college. Results of focus group and individual interviews show that students found several aspects of their high school preparation to have been most salient to their success in college: a focus on the “leadership skills” (21<sup>st</sup> century skills) such as project management and effective communication, a strong English language arts program that gave them experience with writing numerous research and analysis papers; and a rigorous “College Success Portfolio” that challenged and stretched them and gave them the confidence that they could meet the demands of college. Weaknesses in the Envision Schools model that were identified by students include the math and science curricula (which have since been revamped by the schools), which students felt did not prepare them to take college-level math and science courses; the ability to engage in and be successful in more traditional learning environments (lecture, note-taking, exams) that are typical in state and public colleges; and to some extent, preparation for students to handle the economic realities of financing college. However, overall, most students felt that their high school experience was rigorous, and prepared them for college for the most part.

**Preparing High School Students for College Success?  
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Phase I – Preliminary Findings**

Preparing students for college and career success is a key challenge facing America’s K-12 public educational system. With the new demands of a technology-driven and global economy, the need has never been greater for high schools to prepare students for success in postsecondary education. A long line of research studies has established that for high school graduates, earning a baccalaureate degree is the single most important step in the economic ladder (Bowen 1978; Bowen and Bok, 1998; Boyer and Hechinger, 1981; Nunez 1998; Nunez and Cuccaro-Alamin 1998; Pascarella and Terenzini 2005; Trow 2001). College graduates on average earn almost a million dollars more over the course of their working lives than those with only a high school diploma (Pennington, 2004). Policymakers indicate that at least two years of college are needed to function effectively in today’s workplace, a view affirmed by research and advocacy groups (Armstrong, 2005). A goal of vital importance to educators, policymakers, and researchers across the country is gaining a better understanding of **what high schools can do to better prepare students for college so that they persist and are successful in college**. To achieve this end, we need to understand both the needs of students at greatest risk of dropping out and the factors associated with persistence and success in postsecondary education.

**Purpose and Significance of the Study<sup>1</sup>**

**What specific features of high school preparation can have a significant impact on a students’ readiness for college?** Documentation of the practices and structures of high-performing high schools from across the nation highlight several features that support students’ successful completion of high school and enrollment in college: high levels of instructional scaffolding; individual advising and highly personalized relationships; a project-based curriculum approach; and rigorous, performance-based assessments (e.g. Wasley, et al., 2000; Darling-Hammond, Aness, & Ort, 2002; Barron & Darling-Hammond, 2008; Stevens, et al., 2008).

The Envision Charter Schools, the subject of this evaluation study, organizes itself around the goal of preparing students for the rigorous work of college. Envision Schools has four

high school sites in the San Francisco Bay Area (2 in San Francisco, 1 in Oakland, and 1 in Hayward), and targets underserved urban youth, particularly those who are first in their families to attend college, in communities of color and neighborhoods served by underperforming public schools. Their instructional model of “rigor, relevance, relationships, and results” seeks to create a high school experience that is highly personalized, coherent, engaging, and challenging. The schools offer only one high school track for students with widely ranging entering academic performance, designed around a rigorous core curriculum that will ensure that all students have met coursework and application requirements for California’s university system. This theory of action is consistent with research showing that participation in rigorous coursework at the high school level translates into more successful outcomes at the college level (Warburton, Bugarin, & Nunez ,2001). In fact, 100 percent of Envision graduates leave school having satisfied eligibility requirements to apply for University of California/California State University colleges (compared with 34 percent of all California high school graduates in 2008, and 23 percent for Hispanic and African American high school graduates) (California Department of Education, 2008).

Beginning in June 2008, we began to track graduates from Envision’s first (Spring 2007), second (Spring 2008) and third cohorts (Spring 2009) into their colleges to determine how well their high school experiences prepared them for the rigor of college-level work. Outcomes examined include rates of enrollment in college, academic persistence into the second year of college, and academic achievement (e.g., course grades, GPAs, number of remedial classes taken). Factors associated with these outcomes are explored through examination of demographic information about students, high school academic records, follow-up surveys, and interviews with students.

The results of this study will contribute to the knowledge base around key practices that support successful transitions from high school to college, particularly for first generation and minority students. Additionally, we will be able to assess the degree to which high school indicators of success (other than SAT scores) predict success at the postsecondary level. This study will yield both formative data that can be used to improve Envision Schools as well as research strategies for other educational organizations with similar evaluation goals.

## Perspectives

College graduates on average earn almost a million dollars more over the course of their working lives than those with only a high school diploma (Pennington, 2004). Policymakers indicate that at least two years of college are needed to function effectively in today's workplace, a view affirmed by research and advocacy groups (Armstrong, 2005). Among high school students, the desire and interest to attend college is universal. In 2005, results from the High School Survey of Student Engagement (HSSSE) indicated a high level of student aspiration: 83 percent of respondents planned to enroll in some form of postsecondary education. Yet, on average, only 40 percent of students who complete high school are attending college (National Center for Public Policy and Higher Education 2004; McCarthy and Kuh, 2006). According to the National Center for Public Policy and Higher Education (2004) out of every 100 ninth graders, 69 graduate from high school, 40 immediately enter college, 27 are still enrolled their sophomore year, and only 18 complete any type of postsecondary education within 6 years of graduating from high school. Once in college, a student's chances for graduating can vary widely. Only half of the students who begin their postsecondary studies at a community college attain a credential within 6 to 8 years (Hoachlander, Sikora, and Horn 2003) and 35 percent of the first-time, full-time college students aspiring to earn a bachelor's degree achieve their goal in four years (Knapp, Kelly-Reid, and Whitmore 2006).

In addition, there remains a significant gap in the college going and college graduation rates between minority and non-minority groups. Although college enrollment among minority groups has increased 50 percent between 1995 and 2005, from 3.4 million to 5 million, a significant enrollment gap remains between ethnic groups: Only 32 percent of African Americans and 25 percent of Latinos enrolled in college in 2006, compared to 61 percent of Asian Americans and 44 percent of white students (American Council on Education, 2008). ACE's report attributed the enrollment gaps to higher high school dropout rates for minorities. Indeed, though the pool of students is now wider and more diverse than ever, the enrollment and persistence rates of low-income students, African American, Latino, and Native American students lag behind White and Asian-American students, with Latino students trailing all other ethnic groups (Gonzales, 1996; Gonzalez and Szecsy 2002; Harvey 2001; Swail et al, 2005). The Consortium on Chicago School Research (2008) also found that Latino students have the

most difficulty maintaining college enrollment, suggesting Latino students may be more reliant than other students on teachers and their school for guidance and information. The study suggests that attending a high school with a strong college-going culture is a key factor that shapes students' participation in the college application process.

A growing body of research shows a disturbing mismatch between the student behaviors and experiences in high school and what is needed to persist and succeed at the postsecondary level. National surveys suggest that students drop out because they do not have sufficient preparation and core academic skills – reading, writing, basic math – to succeed in college. Even those who get to college are not well prepared: Three-fifths of students in public two-year colleges and one-fourth of those in four-year colleges and universities are required to take one or more years of remedial coursework (Adelman, 2005). 25 percent of four-year college students who have to take three or more remedial classes leave college after the first year (National Research Council, 2005). According to NCES (2007), other reasons for discontinuing postsecondary education included financial reasons (37 percent); family responsibilities (26 percent); lack of college supports, inconvenience, and dissatisfaction (28 percent); and academic problems (12 percent). 32 percent of the respondents reported, “other reasons,” indicating that more research is needed to understand fully the reasons that students drop out of college and the factors that will improve persistence and success.

Survey data from the Beginning Postsecondary Students Longitudinal Study (BPS) (Warburton, Bugarin, Nunez, 2001), the National Survey on Student Engagement (2007), and a research review by the National Postsecondary Education Cooperative (Kuh et al., 2006) indicated that there is a strong relationship between parents' education level and the likelihood that a student will take rigorous high school courses, and consequently enroll, perform well, and persist in 4-year postsecondary institutions. “First generation” students (the first in the family to attend college) are particularly at greater risk with respect to college persistence and degree attainment (Billson and Terry, 1992; Richardson and Skinner, 1992). Studies show that first generation students are at a particular disadvantage in terms of college knowledge, personal commitment and family support (York-Anderson and Bowman, 1991). Terezini and colleagues (1996) found that first-generation students tend to have weaker cognitive skills, lower degree aspirations, expect to take longer to complete their degree programs, and report receiving less encouragement from family than their traditional peers. In addition, compared with students

whose parents were college graduates, “first generation” students were less likely to have taken calculus and also less likely to take college entrance examinations such as the SAT or ACT (Warburton, Bugarin, and Nunez, 2001). Studies also show that first-generation students participate less in activities that contributed to their GPA, such as classroom involvement and time on task, although they also engaged less in activities that detracted from the GPA, such as involvement in social activities (Grayson, 1997). Low-income students tend to come from backgrounds of moderate to poor academic preparation; enroll at higher rates in a community college (with only 17 percent eventually transferring to a four-year institution) and have the lowest degree completion rates (Cabrera, La Nasa and Burkum, 2001). Other factors that negatively impact the persistence and success of low-income students include parental responsibilities and part-time or delayed enrollment (Terenzini, Cabrera, and Bernal, 2001).

However, there is a growing body of research on student engagement and motivation that shows that the kind of high school preparation a student receives – the rigor of coursework, approach to curriculum, and other key instructional practices such as assessment – are strong contributors to student success in postsecondary education. The Beginning Post-secondary Survey study (Warburton, Bugarin, and Nunez, 2001) found that among first generation students who took rigorous high school courses, students had first-year GPAs and remedial course-taking patterns that were *not* significantly different from non-first generation peers. The BPS study points to the rigor of high school curriculum and coursework as strong predictors of success in postsecondary education, accounting for more than 80 percent of students who persisted on track to complete a 4-year degree. Thus, while factors such as income and parent education may be important predictors of college enrollment and success, rigorous preparation in high school can substantially narrow the gap in postsecondary education outcomes between first generation students and their peers whose parents graduated from college.

National surveys of student engagement and motivation have identified particular activities and behaviors that enable students to persist and complete college, such as extended periods of reading, research, and writing. Among the activities found to prepare students for college level work include spending time outside of class reading for pleasure, writing three or more papers of 5 pages or more in length, and spending 13-14 hours a week on homework. However, national studies on students’ transitions to postsecondary learning indicate that a

significant majority of students are not receiving sufficient preparation or exhibiting those behaviors extensively in high school (NSSE, 2007).

What specific features of high school preparation can have a significant impact on a students' readiness for college? Research and documentation of the practices and structures of high-performing and highly effective high schools from across the nation point to several features of high schools that are strong levers in preparing students for post-secondary education: high levels of instructional scaffolding; individual advising and highly personalized relationships; a project-based curriculum approach; and rigorous, performance-based assessments. There is some initial evidence from a study conducted by the New York Performance Standards Consortium (Foote, 2005) that the kind of performance based approach to assessment utilized across the 28 schools in the consortium are leading to more successful outcomes for their graduates who enroll in college. In a comparison of the Consortium schools with all New York City public schools, the Consortium schools had a lower dropout rate (10.6 percent vs. 20.4 percent) and higher percentage of college-bound students (87.8 percent vs. 70.1 percent).

### **Background on Envision Schools**

Nonprofit charter school developer Envision Schools was founded in 2002 on a simple but powerful idea. In order to close the academic achievement gap and improve outcomes for traditionally underserved students, they sought to redesign the entire high school experience. While it employs many of the strategies used by other charter management organizations—such as a rigorous college-preparatory curriculum, small and personalized learning environments, and a focus on measureable results—Envision Schools offers an innovative model that emphasizes project-based learning, development of 21st century leadership skills, integration of arts and technology into core subjects, real-world experience in workplaces and a uniquely rigorous assessment system. Their approach is specifically designed to increase student engagement, deepen understanding, promote active learning and ensure meaningful results.

Today, Envision operates four college-preparatory high schools in California's Bay Area—City Arts & Tech and Metropolitan Arts & Technology in San Francisco, Envision Academy of Arts & Technology in Oakland, and Impact Academy of Arts & Technology in Hayward. Their mission is to transform the lives of its students, especially those who will be the

first in their families to attend college. Their schools are designed to be communities marked by intentional diversity, rigorous academic discipline and excellence at every level, where compassion and high expectations inspire and empower our students.

Envision Schools has continually demonstrated that the highest-need kids thrive within its education model. Envision specifically targets urban youth and neighborhoods where the only other choice is a low-performing public school. More than 50 percent of its 1200 students enter freshman year at least one grade level behind in math and English—and also struggle with significant behavioral, emotional and/or social issues. Some 68 percent are first-generation college bound. The schools serve 61 percent African-American and Latino students, compared to 55 percent in the districts where they are housed.

Envision holds all enrolled students to rigorous academic standards, while providing the necessary supports—academic and behavioral—so they can achieve success in college and life. All Envision students must complete the courses required for eligibility in the University of California and California State University systems before they are allowed to graduate.

### **Redesigning the High School Experience**

From the outset, Envision Schools has sought to redefine and redesign the college-preparatory high school experience to ensure that all students are actually ready to succeed, and not just enroll, in college. Under the guidance of Chief Executive Officer Bob Lenz, Envision Schools has developed an innovative model for college-readiness centered around four key R's:

Rigor: As a condition of graduation, all students must publicly demonstrate their subject mastery in addition to completing the course entrance requirements for California's public universities. In California, less than 35 percent of all students take the high school courses necessary to qualify for admission to the University of California or California State University. For low-income and first-generation college-bound students, the percentage is half that amount. To effectively assess each student's college-readiness, Envision developed the College Success Portfolio, which requires students to create a digital compilation of college-ready work to demonstrate their proficiency in all core academic subject areas as well as in leadership and workplace skills—such as critical thinking, creativity, effective communication, teamwork, time management and the ability to manage complex projects. Seniors publicly defend their portfolio

to peers and teachers. No other network of public high schools requires this level of accomplishment as a basis for graduation.

Relationships: To succeed, students need to be supported academically, emotionally and socially. Envision Schools offer safe, intimate learning environments of no more than 485 students, with an average class size of 24. Teachers serve as advisors, remaining with the same small group of students during the first two critical years of high school. Juniors and seniors enroll in an advisory class, called the Academic Seminar, which guides them through the required Workplace Learning Experience, the college application process and the College Success Portfolio. This is especially important for students who will be the first in their family to attend college and do not have anyone at home to help manage the complex process of college admission. For the 50 percent of its students who enter Envision a grade or more behind, reading and math interventions are provided, as well as a comprehensive wellness program for all students. A special education program model that fully and effectively includes all students in all classes has also been developed. The model focuses on diagnosing and addressing student learning needs early on—a process called response-to-intervention—and on supporting students in the transition to post-secondary education. All of the Envision Schools maintain Learning Centers that are open before, during and after school for all students requiring assistance.

Relevance: When students connect classroom instruction with real-world experience, they become more engaged and master the material more easily. Envision therefore emphasizes project-based learning throughout the curriculum, enabling students to find personal relevance in their course work while ensuring that teachers have the ongoing professional development to foster that. Technology and arts are integrated into all academic subjects; beyond the usual tests and assigned papers, students frequently demonstrate their knowledge through a play, video or other creative project. Numerous studies link arts education with enhanced cognition and the development of critical-thinking skills; the arts also bridge cultural gaps and support different styles of learners. Envision students take at least three full years of art, as opposed to traditional schools, which typically require only one year. To be fully prepared for college and life, students also must become proficient with technology. The importance of arts and technology to the Envision model is evidenced by the inclusion of both in the names of each of the high schools. Further, Envision requires that all juniors and seniors participate in an academically integrated internship—the Workplace Learning Experience—at a business or nonprofit agency of their

choice, where they work with a mentor on a real-world project in career areas of interest. Students are required to find and secure their own internships, helping them learn to advocate for themselves with adults who are not their teachers or parents, and also to experience the skills and demands of the workplace first-hand.

Results: The first three R's culminate in the fulfillment of Envision's ultimate goal—to transform the lives of students by preparing them for success in college and life. To ensure its success in achieving this mission, Envision is highly focused on measurable results. The organization rigorously and continuously assesses and documents student outcomes, education model and organizational structure, with the aim of multiplying its successes, as well as remedying problematic areas. Envision believes this is a key advantage of charter schools over the intractability of traditional public education—it has the flexibility to change direction as needed so to uncover and implement the approaches that truly succeed. Envision monitors student achievement closely, during their four years at Envision to ensure they remain on course, as well as after they graduate to track their college enrollment and completion of their degrees. Unlike many schools, Envision does not depend on self-reported data from graduates alone, but instead personally confirms college enrollment for every single student.

### **Methodology/Data Sources**

#### **Focus Questions:**

- To what extent does the Envision Schools model prepare students to enroll, persist, and succeed in college?
- What aspects of the Envision Schools experience are more or less supportive of graduates' success in college?
- What factors support college persistence and success for Envision graduates who are first-generation college bound, economically disadvantaged, and ethnic minorities?

Several strategies are used to address the focus questions for this research study:

**Enrollment & Attainment:** Enrollment data for most graduates who are enrolled in post-secondary institutions were obtained from the National Student Clearinghouse. (In some

cases, when the Clearinghouse did not have certain colleges or post-secondary training schools in their database, the students were tracked down individually using other strategies, such as contacting parents or through online social networking sites.)

**College Success:** Transcripts were collected from colleges or post-secondary institutions attended by consenting graduates to examine their academic performance after high school and to assess college persistence and performance (course grades, GPA, percentage of remedial courses taken).

**Interviews of Graduates:** Focus groups and telephone interviews were conducted by research staff unacquainted with graduates to assess their feelings of preparation for college, the challenges they faced in college so far, and to identify the specific components of their high school experiences that they felt were most useful in preparing them for college.

**Follow-up Survey:** An online survey asks graduates to rate their preparation for college and to report on college experiences and behaviors associated with college success. Many of the items in the survey replicate items from national surveys such as the Beginning Post-secondary Student Survey and the National Survey of Student Engagement so as to provide a means to make comparisons with a national group. (Results of the survey are not reported in this paper because of low response rates.) Once additional responses have been submitted, this analysis will be completed.

Results of quantitative data are disaggregated by graduating class and high school attended, first-generation status, ethnicity, and eligibility for free and reduced lunch. The total student population in the 2007-08 graduating classes includes 154 graduates from three schools. Inclusion of the 2009 graduating cohorts from two schools adds 150 students to the study sample.

## Preliminary Findings & Conclusions

Data collection for the first two graduating classes (2007, 2008) has been completed, with one more round of data collection to be completed for the class of 2009 in summer 2010 (first-year college transcript collection and survey administration). Table 1 below displays the initial college enrollment and persistence rates. It also includes information about college transfers if available.

**Table 1. Enrollment and Persistence in College, Envision Schools Graduates 2007-2009**

Graduating Class	2007 (MSAT)	2008 (CAT, Metro)	2009 (CAT, Metro)
Total Graduates	69	85	91
Total Enrollment in College <sup>1</sup>	62 (90%)	83 (98%)	80 (88%)
2 Year College	34 / 62 (55%)	31 / 83 (37%)	21 / 80 (26%)
4 Year College	28 / 62 (45%)	52 / 83 (61%)	59 / 80 (74%)
Total Persistence into 2 <sup>nd</sup> Year of College <sup>2</sup>	62 / 62 (100%)	78 / 83 (94%)	collected in September 2010
2 Year College	34 / 34 (100%)	27 / 31 (87%)	collected in September 2010
4 Year College	28 / 28 (100%)	45 / 52 (87%)	collected in September 2010
Transfers	Unknown	6 / 83 (8%) <sup>3</sup>	collected in September 2010
Missing data (likely non-enrolled)	n/a	2 / 85 (2%)	2 / 91 (2%)

<sup>1</sup> Total enrollment rates are based on the total number of graduates from each graduating class.

<sup>2</sup> Total persistence rates are based on the total number of college enrolled students from each graduating class.

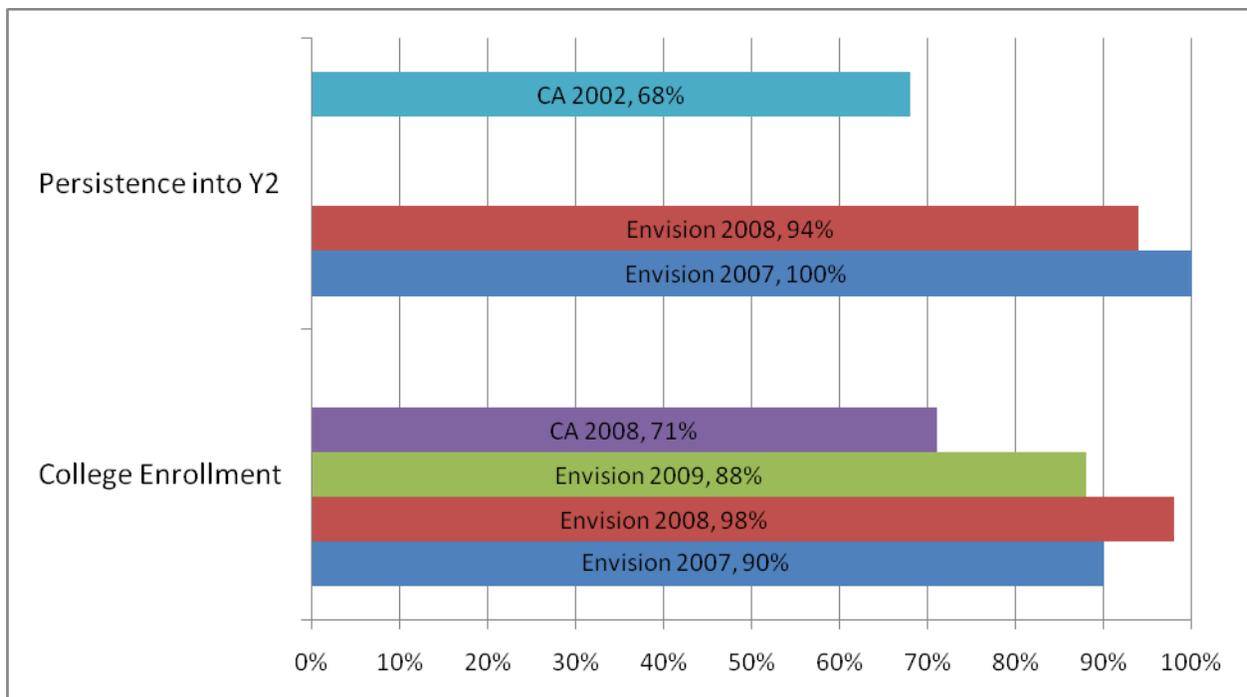
<sup>3</sup> 1 student transferred from 2-year to 4-year college, 5 students transferred from 4-year to 2 year colleges

Errata: In a previous version of this paper (available for download on the AERA paper repository), persistence rates for the 2007 graduating class into the second year of college was erroneously reported as 89 percent based on outdated figures. The actual persistence rate was 100 percent.

**Enrollment and Persistence.** In the first graduating class (Marin School of Arts and Technology, 2007), 90 percent of the 69 graduating seniors enrolled in a two- or four-year college. Among those students, 100 percent persisted into the second year of college, though we

do not know how many of these students actually completed the second year. In the second graduating classes (2008), 98 percent (83 out of 85 graduates) enrolled in a two- or four-year college and 78 of those graduates persisted into the second year of college, meaning that 92 percent of the 85 graduates were enrolled at the beginning of the second academic year (fall 2009) following graduation. (See Table 2 below for percentages disaggregated by the two schools that had graduates in those years.)

These college enrollment and persistence figures are remarkable when compared with California’s overall 2008 college-going rates of 71.1 percent of all high school graduates (with 38 percent of high school graduates attending 2-year colleges and 33 percent of high school graduates attending four-year colleges) (Mortenson Seminar, April 2010). Although we do not have current persistence rates into the second year of college, in 2002, approximately 53 percent of California high school graduates entered college immediately, and 68 percent of those students were still enrolled their sophomore year (meaning that 32 percent had dropped out after their first year). Only 51 percent of California students who enrolled completed their bachelor’s degree within six years (National Center for Public Policy and Higher Education, 2004).



**Figure 1. College enrollment and persistence rates into the sophomore year – Envision Schools (2007-2009) and California (2002, 2006).**

Data sources: Envision Schools data: National Student Clearinghouse and individual follow-up; California data: Mortenson Seminar (June 2008) and National Center for Public Policy and Higher Education (2004)

**Table 2. College Enrollment and Persistence by High School, Envision Schools 2008-2009**

	2008	2009
<b>Number of Graduates</b>		
City Arts & Tech (CAT)	61	65
Metropolitan Arts & Tech (Metro)	24	26
<b>College Enrollment</b>		
City Arts & Tech (CAT)	59/60 (97%)	56/65 (86%)
Metropolitan Arts & Tech (Metro)	24/24 (100%)	24/26 (92%)
<b>Persistence into sophomore year</b>		
City Arts & Tech (CAT)	56/59 (95%)	
Metropolitan Arts & Tech (Metro)	22/24 (92%)	

Note: In 2008, graduates from Metro were all transfers from the Marin School of Arts & Technology, which closed its doors in 2007 due to a non-renewal of the charter by the host district. The small size of the Metro graduating class in 2009 reflects loss of enrollment (student transfers) due to relocation of the school to a different part of the city.

**Academic Outcomes.** To assess the “college success” of graduates from the first two graduating classes, we collected, coded, and analyzed the college transcripts of students who provided consent to participate in the study. The consent rates were low for the first two graduating classes (2007, 2008) due to difficulty in contacting students who had graduated from the school and a lack of up-to-date contact information. Table 3 below shows that 38 percent of students in the first two graduating classes have provided consent to participate in the study and to provide permission to collect their academic transcripts. Additional students are being contacted from among these graduates to improve the consent rates for these first two classes, particularly for the class of 2008, in order to raise the consent rate for this graduating class to 60 percent. Despite the low consent rate, the demographic characteristics of the sample that we draw from to conduct transcript analyses is fairly comparable to the demographic characteristics of the entire sample of graduates. The sample slightly over-represents students who qualified for Free and Reduced Lunch.

Table 4 shows that among the 59 students who provided consent, 58 percent were attending four-year colleges and 42 percent were attending two-year colleges. Since two-year community colleges admit all students who apply, 42 percent of students were attending “Non-competitive” colleges based on Barron’s Selectivity Index. Among those who were attending four-year colleges, most were attending colleges with a “competitive” ranking on the index.

**Table 3. Demographic Characteristics of the Sample for Transcript Analysis  
(Classes of 2007, 2008)**

	Total number	Percentage of the Sample	Percent of 2007-08 Graduates
<b>Sample</b>	<b>56 / 154</b>		<b>38%</b>
<b>School</b>			
MSAT 2007	18	31%	45%
CAT 2008	28	47%	40%
Metro 2008	12	20%	16%
<b>Ethnicity</b>			
White	36	61%	63%
Latino/Hispanic	6	10%	12%
African American	6	10%	9%
Asian American/ Pacific Islander	7	12%	12%
Other	1	2%	1%
Unidentified	3	5%	3%
<b>Free and Reduced Lunch</b>			
Yes	13	22%	15%
No	46	78%	85%
<b>First Generation College Bound</b>			
Yes	23	39%	38%
No	33	56%	54%
Unknown	3	5%	8%

**Table 4. Characteristics of Colleges Attended by Envision Graduates (Classes of 2007, 2008)**

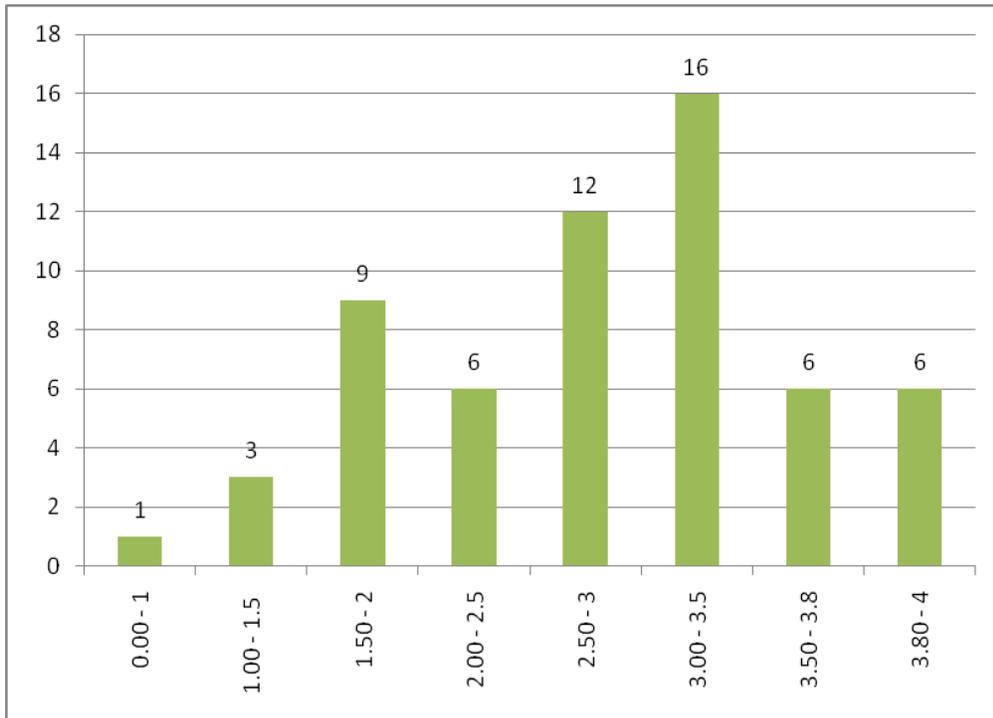
	Total number	Percentage of the Sample
<b>Sample</b>	<b>59</b>	
<b>Type of College</b>		
2 Year	25	42%
4 Year	34	58%
<b>Barron's Selectivity Ranking</b>		
1=Noncompetitive	25	42%
2=Less Competitive	2	3%
3=Competitive	16	27%
4=Very Competitive	5	8%
5=Highly Competitive	4	7%
6=Most Competitive	4	7%

In terms of college majors, since most transcripts were collected following the first year of college for most graduates, close to 40 percent of students had not declared a major. Of those that had declared a major, there was a wide range of majors represented, including:

- Animation and Digital Arts
- Architecture
- Art (3)
- Baking and Pastry
- Communications (Entertainment Studies)
- Communications (Public Relations)
- Criminal Justice Studies
- Digital Media
- Environmental Studies
- Film & TV Production
- Graphic Communication
- History & English
- Hotel & Tourism Management
- Industrial Arts (Product Design & Development)
- Liberal Arts
- Media Studies
- Pre-Business Economics & Pre-Psychology
- Psychology (4)
- Sound Arts
- Symbolic Systems

Remarkably, there are very few students in this sample who are majoring in hard sciences, mathematics, or even the humanities. Most of the majors seem to be career-oriented, many of them being related to the arts, media, or communication. This is not surprising, given the fact that the Envision Schools focus on the arts, digital media, and technology, drawing more students with interests in these fields, and subsequently producing more students with confidence and interest in these fields).

Table 5 below shows the results of the transcript analysis, including average GPAs, number of courses taken, passed, and failed, number of units/credits earned, and number of remedial courses taken in mathematics and English. These results are displayed for students who had completed at least one year of college (class of 2007 and 2008) as well as for students who had completed two years of college (Class of 2007). The average Year 1 GPA (2.83), a B-minus average, is neither encouraging nor discouraging, and it tells us little about the range of GPAs that were earned by Envision graduates. Figure 3 below shows the distribution of first-year GPAs, showing that close to 50 percent of students had GPAs that were in the B- to B+ range. There were at least 10 students (17 percent of the sample) that had fairly high GPAs (3.5 or higher), and 13 students (22 percent) who had a GPA of 2.0 or lower.

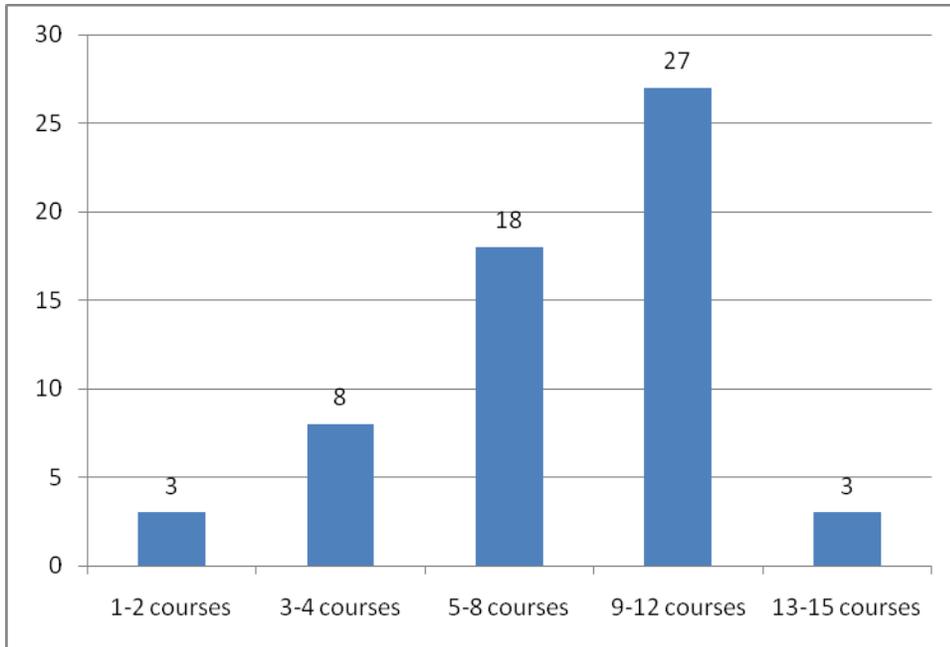


**Figure 3. Distribution of First-Year GPAs earned by Envision Graduates in the First Year of College (Class of 2007, 2008)**

**Table 5. College Academic Outcomes for Envision Graduates 2007, 2008**

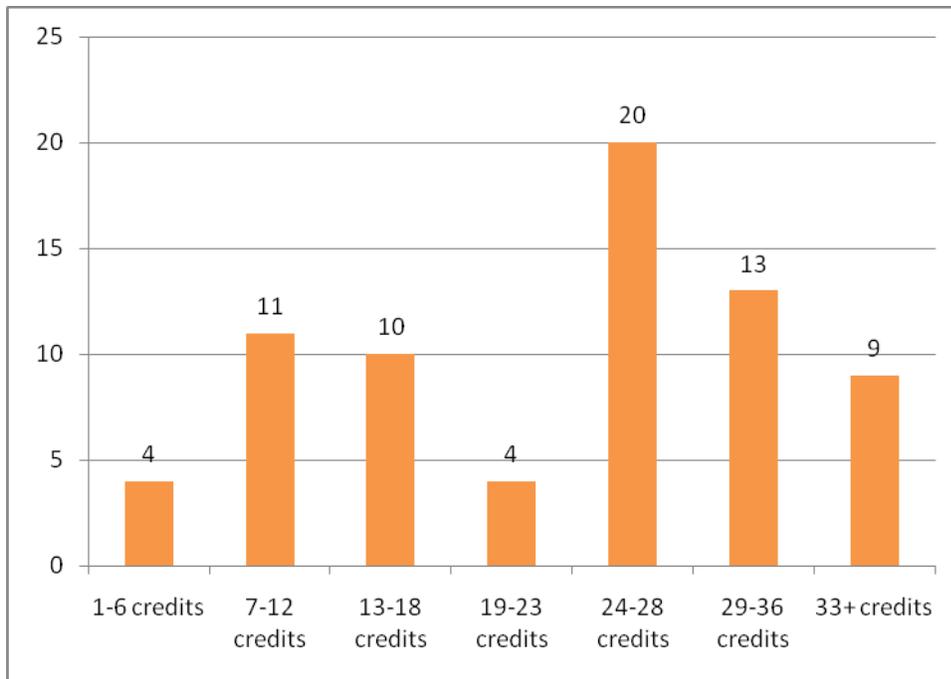
	<b>Mean</b>	<b>Std Dev</b>	<b>Min</b>	<b>Max</b>	<b>N</b>
Year 1 GPA	2.83	0.803	1.00	4.00	59
Year 1 Major GPA	3.11	1.028	.00	4.00	18
Year 1 Number of Courses Taken	7.98	3.277	1	15	59
Year 1 Number of Units Earned	22.13	11.926	1	56	58
Year 1 Number of Courses Passed	7.46	3.441	1	15	59
Year 1 Number of Courses Failed	0.51	0.935	0	5	59
Year 1 Number of Remediation Courses Taken	0.50	0.800	0	3	58
Year 1 Number of Math Remediation Courses Taken	0.43	0.728	0	2	58
Year 1 Number of ELA Remediation Courses Taken	0.07	0.256	0	1	58
Year 2 GPA	3.04	1.016	.80	4.00	12
Year 2 Major GPA	3.08	1.090	1.50	4.00	5
Year 2 Number of Courses Taken	8.08	3.088	4	15	12
Year 2 Number of Units Earned	23.46	11.531	7	48	12
Year 2 Number of Courses Passed	7.42	3.088	3	12	12
Year 2 Number of Courses Failed	0.45	1.036	0	3	11
Year 2 Number of Remediation Courses Taken	0.33	0.888	0	3	12
Year 2 Number of Math Remediation Courses Taken	0.25	0.622	0	2	12
Year 2 Number of ELA Remediation Courses Taken	0.08	0.289	0	1	12

On average, students took eight courses during their first year, and earned an average of 22 units, though there is a large standard deviation, indicating that this is wide variability in the number of credits earned. A close examination shows the following distribution (see Figure 2).



**Figure 4. Number of courses taken by Envision graduates in the first year of college**

There was also wide variation in the number of credits earned by Envision graduates during the first year of college. Figure 4 below shows the distribution. To be “on track” to complete college in four years, a student needs to earn at least 24 credits a year (the equivalent of 8 three-unit courses). The distribution in the chart below shows that almost 50 percent of students are not earning sufficient credits to be on track for finishing college in four years. However, it is not uncommon for many students in state universities to take five years to complete college. It is also quite common for students enrolled in two-year colleges to attend school less than full-time, combining part-time or full-time work with their studies to raise sufficient funds for their studies and their living expenses. Given that 42% of students in this sample are enrolled in two-year colleges, it is not surprising to find a large percentage of students who are not earning a full year’s worth of education credits. This would explain why there are two median values in the distribution, one centered around 7-12 credits (less than half-time course credits) and 24-28 credits (full-time course credits).



**Figure 5. Number of credits earned by Envision graduates in the first year of college**

One important indicator of “college readiness” is whether or not students are required by their colleges to take non-credit-bearing remedial courses based on their performance on college placement tests. In this sample, one-third of students were required to take at least one remedial course to bring them up to speed and to meet pre-requisites for moving on to credit bearing courses. It was more typical for students enrolled in two-year community colleges (44 percent) to be required to take remedial courses than it was for students enrolled in four-year colleges (27 percent). Previous research has found that nationally, an average of 60 percent of students enrolled in public 2-year colleges and 25 percent of students in 4-year colleges were required to take at least 1 year of remedial coursework (Adelman, 2005; Horn and Berger, 2004; U.S. Department of Education, 2004). This national data is a bit dated, however.

In comparison to the previous national data, Envision graduates in 4-year colleges are comparable to the general population in the percentage taking remedial courses during the first year of college, while a smaller percentage of students in 2-year colleges took remedial courses (relative to the national average). Previous research has also found that more than a quarter of 4-year college students who are required to take three or more remedial classes drop out of college after the first year (Adelman, 2005; Community College Survey of Student Engagement

(CCSSE), 2005; National Research Council,2004). Only one student (2 percent) in this Envision Schools sample took 3 or more remedial courses during the first year. However, low sample sizes do not permit us to generalize to the entire Envision graduate population.

In most cases, Envision graduates had to take a remedial course in mathematics. This speaks to the gaps in preparation for college-level mathematics of the Envision Schools mathematics curriculum (the Interactive Mathematics Program, a problem-based curriculum), which the organization has since abandoned in favor of a more traditional curriculum. Based on students' performance on the California exit exam as well as the mathematics Content Standards Tests, Envision Schools chose to revise its approach to the teaching of mathematics in the fall of 2009. The very low number of students taking remedial courses in English (4 out of 59) affirms the strength of Envision's humanities and writing program. Envision students have traditionally done well on the English portion of the California exit exam as well as the Content Standards Tests, outperforming their peers in other schools with similar demographics.

**Table 6. Remedial Courses Taken by Envision Graduates in the First Year of College**

	Percent of Graduates
Percent Taking Remedial Courses – Year 1	20 / 59 (34%)
2-Year College Students	11 / 25 (44%)
4-Year College Students	9 / 34 (27%)
Number of Remedial Courses Taken - Year 1	
None	66%
1	17%
2	14%
3	2%
Number of Mathematics Remedial Courses Taken – Year 1	
None	69%
1	15%
2	14%
Number of English Remedial Courses Taken – Year 1	
None	92%
1	7%

Note: Year 2 remedial courses were not included because of the small sample size.

**Equitable Outcomes for All?** One of the key questions that this evaluation study seeks to answer is whether the Envision Schools is able to close the achievement gap and support the success of those least likely to enroll, persist, and succeed in college. The academic transcript data were disaggregated to provide us with the ability to determine whether there are any significant differences between college academic outcomes for students from varying economic and social backgrounds. There were no statistically significant differences in academic outcomes for First Generation College Bound students versus students who had one or more parents who had attended college. Table 7 below displays the average academic outcomes for both groups. Tables 8-11 below show that there were also no differences between these two groups in whether or not students took any remedial courses or the number of remedial courses taken (total, as well as in mathematics and ELA). These results are somewhat different from those found in other studies that compare the college attainment and achievement of first-generation students and their non-first-generation peers. A reported published by the U.S. Department of Education (2001) found that first-generation students had significantly lower GPAs than non-first-generation students (2.6 vs. 2.8), although the gap between the GPAs of students with “rigorous” high school preparation (course-taking beyond the “core basics”) was

much narrower (3.0 vs. 3.1). Among Envision graduates, the difference in first-year GPA between first-generation graduates and their non-first generation peers was similarly narrower (0.14 point) and were not significant in our dataset (2.77 vs. 2.91). In addition, US DOE (2001) found that among college students with low average entrance examination (SAT/ACT) scores, first-generation students were much more likely to take remedial coursework in their first year (38 percent vs. 28 percent), but among college students with middle entrance exam scores, the differences were lower, and there were no significant differences between first-generation students and their non-first-generation peers (11.4 percent vs. 8.7 percent). The difference in remedial course-taking disappears for students with high SAT/ACT scores (3.9 percent vs. 2.1 percent). US DOE (2001) also found that among first generation students, those with rigorous course-taking in high school had a higher likelihood of persisting in and completing college (only 8 percent leaving college within 3 years of enrollment). While small sample sizes limit the generalizability of these findings, the fact that few differences were found between the college academic performance of Envision graduates who were first-generation and their non-first-generation peers in the study sample is a hopeful finding, and seems to bode well for their persistence through college.

Similar to the comparisons above, there were no significant differences in college academic outcomes (including remedial course taking) between students who were eligible for Free and Reduced Lunch during high school (economically disadvantaged) and those who were not, although this is probably due to small sample sizes and large standard errors. On a few of the variables, Number of course taken, Number of courses passed, and Number of units earned, it appears that economically disadvantaged students had a modestly lower average than those who were not economically disadvantaged. In addition, economically disadvantaged Envision graduates were more likely to attend a two-year college than a four-year college (though this analysis is again limited by small sample size). These results make sense, given that students with few financial resources are unlikely to be able to pay the tuition at four-year colleges, and while attending college, are more likely to take courses on a part-time basis (both because they cannot afford the full tuition and because they need employment to pay for tuition, fees, and living expenses).

The same analyses were conducted using students' ethnicity as a factor. Because of very small sample sizes for Latino/Hispanic, African American, and Asian/Pacific Islander groups,

the results have no statistical power. However, based on this very small sample, it is apparent that there may be some differences between ethnic groups in their college academic outcomes. White and Asian/Pacific Islander students were more likely to attend four-year colleges than Latino/Hispanic and African American graduates. African American students were the most likely to attend two-year colleges. Latino/Hispanic students were more likely to take remedial courses, while Asian/Pacific Islander students were least likely to take remedial courses. Last, while first year GPAs for Latino/Hispanic students were slightly lower than that of other ethnic groups, the biggest difference was in the number of courses taken and credits earned. On average, Latino/Hispanic and African American students took fewer courses and earned half of the number of units that White and Asian/Pacific Islander students earned on average (15 units for Latino/Hispanic students and 17 units for African American students versus an average of 23 units for White students and 31 units for Asian/Pacific Islander students). This is likely to be explained by economic issues, with students enrolled in two-year colleges being more likely to work, resulting in lower course loads and fewer credits earned.

**Table 7. College Academic Outcomes for Envision Graduates 2007, 2008 by First-Generation College-Bound (FGCB) Status**

		<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error</b>	<b>95% Confidence Interval</b>	
<b>Year 1 GPA</b>	Non-FGCB	33	2.91	0.752	0.1309	2.643	3.176
	FGCB	23	2.77	0.868	0.1811	2.392	3.143
	Unknown	3	2.40	0.968	0.5589	-0.008	4.801
	Total	59	2.83	0.803	0.1046	2.619	3.038
<b>Year 1 Major GPA</b>	Non-FGCB	15	3.29	0.744	0.1920	2.882	3.705
	FGCB	3	2.17	1.878	1.0843	-2.499	6.832
	Unknown	0	.	.	.	.	.
	Total	18	3.11	1.028	0.2423	2.594	3.617
<b>Year 1 Number of Courses Taken</b>	Non-FGCB	33	8.73	3.044	0.5299	7.648	9.807
	FGCB	23	7.35	3.393	0.7074	5.881	8.815
	Unknown	3	4.67	2.517	1.4530	-1.585	10.918
	Total	59	7.98	3.277	0.4267	7.129	8.837
<b>Year 1 Number of Units Earned</b>	Non-FGCB	32	24.84	11.079	1.9585	20.849	28.838
	FGCB	23	19.85	12.645	2.6367	14.380	25.316
	Unknown	3	10.67	4.163	2.4037	0.324	21.009
	Total	58	22.13	11.926	1.5660	18.993	25.265
<b>Year 1 Number of Courses Passed</b>	Non-FGCB	33	8.24	3.260	0.5675	7.087	9.398
	FGCB	23	6.78	3.516	0.7331	5.262	8.303
	Unknown	3	4.00	2.000	1.1547	-0.968	8.968
	Total	59	7.46	3.441	0.4479	6.561	8.354
<b>Year 1 Number of Courses Failed</b>	Non-FGCB	33	0.48	0.755	0.1314	0.217	0.753
	FGCB	23	0.52	1.201	0.2505	0.002	1.041
	Unknown	3	0.67	0.577	0.3333	-0.768	2.101
	Total	59	0.51	0.935	0.1218	0.265	0.752

**Table 8. Remediation Course-Taking During First Year of College by First-Generation College-Bound (FGCB) Status**

	<b>No</b>	<b>Yes</b>	<b>Total</b>
<b>Non-FGCB</b>	21	12	33
	63.6%	36.4%	100.0%
<b>FGCB</b>	16	7	23
	69.6%	30.4%	100.0%
<b>Unknown</b>	3	0	3
	100.0%	.0%	100.0%
<b>Total</b>	40	19	59
	67.8%	32.2%	100.0%

**Table 9. Number of Remediation Courses Taken During First Year of College by First-Generation College-Bound (FGCB) Status**

	None	1 course	2 courses	3 courses	Total
<b>Non-FGCB</b>	21	6	5	1	33
	63.6%	18.2%	15.2%	3.0%	100.0%
<b>FGCB</b>	16	4	3	0	23
	69.6%	17.4%	13.0%	.0%	100.0%
<b>Unknown</b>	2	0	0	0	2
	100.0%	.0%	.0%	.0%	100.0%
<b>Total</b>	39	10	8	1	58
	67.2%	17.2%	13.8%	1.7%	100.0%

**Table 10. Number of Mathematics Remediation Courses Taken During First Year of College by First-Generation College-Bound (FGCB) Status**

	None	1 course	2 courses	Total
<b>Non-FGCB</b>	23	4	6	33
	69.7%	12.1%	18.2%	100.0%
<b>FGCB</b>	16	5	2	23
	69.6%	21.7%	8.7%	100.0%
<b>Unknown</b>	2	0	0	2
	100.0%	.0%	.0%	100.0%
<b>Total</b>	41	9	8	58
	70.7%	15.5%	13.8%	100.0%

**Table 11. Number of English Remediation Courses Taken During First Year of College by First-Generation College-Bound (FGCB) Status**

	None	1 course	Total
<b>Non-FGCB</b>	30	3	33
	90.9%	9.1%	100.0%
<b>FGCB</b>	22	1	23
	95.7%	4.3%	100.0%
<b>Unknown</b>	2	0	2
	100.0%	.0%	100.0%
<b>Total</b>	54	4	58
	93.1%	6.9%	100.0%

The focus group and individual interviews of Envision graduates attending college allow us to probe students' perceptions and feelings of their preparation for college, as well as explore factors that may facilitate or impede their persistence and success in college, including specific aspects of their Envision high school experiences.

**Focus Groups.** Two focus groups were conducted in January 2009, with approximately 6 participants from each of the two graduating classes (2007, 2008). One consistent refrain in these focus groups was the positive effects of adult-student relationships in Envision schools. When asked to rank features of their high school experiences in relation to their effectiveness for college preparation, students consistently placed teachers and advisors at or near the top. These relationships helped students master some course content, but more importantly, they set the stage for helpful interactions with adults in college. Several students reported being better equipped to access supplementary academic services on campus such as tutoring because of their relationships in high school. One student in a focus group described how he has been able to interact with faculty: "I had close relationships with a lot of the teachers [at MSAT]. And I've actually carried that into college. All four of my professors this semester, I would talk to them after class, sometimes just 'cause I felt like talking to them." This comment speaks to the importance of Relationships and a family-like community that is so central to Envision School's "4 Rs" model.

In addition to referencing their relationships to teachers/advisors and the strong feeling of community in their high schools, students also reported the following high school supports as being most helpful for preparing them for college work: the Workplace Learning Experience internship, research projects, project-based learning and exhibitions (oral presentations), working collaboratively, and the College Success Portfolio. Many students cited the research projects and exhibitions as important experiences for learning how to manage projects and time, how to collaborate with others, and for preparing them for public speaking and presentations. These skills speak to the power of Envision's other R -- Relevance -- and the schools' emphasis on the "Leadership Skills" (the 21<sup>st</sup> century skills), which are threaded throughout the curriculum.

The College Success Portfolio was cited by several students as an experience that was grueling and stressful, but also as a rite of passage that ultimately helped them to feel confident and prepared for the demands of college. The demands of their teachers and advisors to "revise,

revise, revise” to get a piece of work to be “Proficient” on the scoring rubrics, the hard work that went into compiling all 18 entries required in the portfolio, the stress associated with the race to the finish, and the experience of defending their portfolios to a public panel were cited as important experiences in the process of completing their portfolios. This unique assessment system and the demands that it places on students are a reflection of another of Envision’s R -- Rigor. While projects, exhibitions, technology, and the arts provide the Relevance that students need to be engaged in their academic work, the process of compiling “college ready” papers, having their work assessed on rigorous criterion-referenced standards, reflecting and revising, and defending their work to a public audience provides a culminating experience like no other that stretches and challenges students to do their best and serves as an antidote to “senioritis.”

On the other hand, students also reported gaps in their preparation for college: mathematics (with strong critique of the particular math curriculum used in their schools), writing research papers, time management, and setting their own milestones to get the work done. Opinion was divided on the Envision School’s model in terms of whether it prepared students to work independently. Some students reported feeling strong in this capacity, while several others complained that Envision's emphasis on project-based group work and heavy scaffolding of projects did not adequately prepare them to do independent work in college.

Students’ experiences in college seemed to vary based on the type of colleges they attended. Most of the students enrolled in large public institutions agreed that the types of work expected in college (e.g., sitting in lectures, taking notes, taking mid-terms and final exams) were less engaging and more passive than they had experienced in high school (e.g., being pushed to participate in discussions and to ask questions). Students attending private or liberal arts colleges were more likely to report taking seminar classes where they felt comfortable participating in discussions and asking questions. One student at a competitive four-year college summed up the academic difference: "My learning style has had to adapt and change, I think, from MSAT. Instead of having an umbrella project where you learn a bunch of skills along the way ... it's much more focused on academic knowledge. Rote learning, I guess."

In non-academic areas of college preparation, students had a wider range of experiences. A few students, especially those at private four-year institutions, felt very prepared for college life and reported being happy and well-adjusted. Many more were surprised by the challenges

presented by college outside of the classroom. Some had learned to manage these challenges; others continued to struggle with them.

Social interactions with peers were a clear area of difference. Graduates who lived in campus housing at four-year institutions generally reported establishing a network of supportive friends. Others, however, reported more social difficulties, especially the students at community colleges and non-residential colleges. One of these students, when asked to use one word to describe his college experience, chose "lonely." Others in this category reported feeling disconnected from classmates and isolated from campus life due to their living with parents or other family.

Students' reports of their non-academic college experiences were more positive. Several students mentioned their ability to interact with new people of different backgrounds, which they attributed to their high schools' close-knit and diverse communities. Many students cited specific teachers or advisors who helped them prepare for their postsecondary education and life on a personal level.

**Case Study Interviews.** Five graduates were selected from among those who consented to participate in the study (one student from the class of 2007 and four students from the class of 2008) for case study interviews. These students were selected based on a) their status as First Generation College-Bound students; b) their ethnicity (all were minorities); and c) to represent a range of college types. Table 12 below summarizes the demographic characteristics of the five graduates that were interviewed.

Envision graduates who participated in the interviews displayed a wide range of postsecondary experiences and reported both positive and negative experiences with college. Every interviewed student had undertaken some postsecondary coursework at institutions ranging from local community colleges and state universities to private universities or private proprietary colleges. In some cases, student experiences differed depending on their chosen postsecondary institution, although some themes transcended those distinctions.

Every Envision graduate interviewed had generally positive memories of their high school experience. While some students criticized certain aspects of the schools (the lack of extracurricular activities, the mathematics program), all had strong positive feelings about the

Envision model. One student, Pedro<sup>2</sup>, who struggled significantly in college, reported that his school was not to blame: "At the school, everything was perfect to help the student out and accomplish. I guess it was just on me to put a little bit more effort when I was in high school. I mean, I wouldn't change anything about the school."

**Table 12. Demographic Characteristics of Interview Subjects**

	<b>Grad Year</b>	<b>FGCB / FRL</b>	<b>Ethnicity</b>	<b>College</b>	<b>Other Information</b>
<b>Pedro</b>	2007	Yes / Yes	Latino	4-year Private proprietary college, not ranked; also 2-year community college	Lives at home. Worked FT during first year, stopped out of school one semester. Worked PT during second year. Studies PT, online courses. Major: Cinematography.
<b>Cecilia</b>	2008	No / No	Latina	California State University, competitive	Lives at family home, works PT, studies FT, father employed by the CSU (6 unit credit). Wants to major in Child/Adolescent Dev't (Youth and Family Services)
<b>Malcolm</b>	2008	Yes / No	African American	Private out-of-state college, less competitive	Lives away from home. Studies FT. Does not work. Major: Psychology (Child Dev't). Aspires to be a teacher.
<b>Deanna</b>	2008	No / No	African American	Public 2-Year College (CA)	Works PT odd jobs. Studies PT. Aspires to be therapist.
<b>Maria</b>	2008	Yes / Yes	Latina	Private college in CA, competitive	Lives on campus. Work Study. Studies FT. Major: Political Science / Women's Studies

Note: All names have been changed.

**Supports for College Readiness.** When asked about what aspects of college they felt they had the most success, most students cited their success in particular courses, and in particular the courses that required research papers or projects. Several students reported that the expectations for college writing were actually less demanding than the papers and projects they had to complete in high school. Deanna cited as one of the few interesting courses in her 2-year college a Latin American history class in which she wrote an original research paper on the Aztecs. Malcolm cited the ease with which he was able to break down a large writing assignment into his own "milestones" so that he could pace himself while his classmates were daunted and inexperienced with such writing projects. Confidence in researching and writing papers was apparent in the systematic approach to tackling a research paper described by

<sup>2</sup> All student names have been changed.

students. Maria reported feeling well prepared for reading across the content areas (with the exception of her science courses) and also cited an experience with an international relations class in which she was able to apply multiple lenses and interdisciplinary perspectives to understand and explain a particular set of events. These positive experiences in writing and in the humanities speak to the strength of Envision's humanities courses and instruction. Every humanities course (English, History) has at least 2 major writing assignments associated with them and by the 12<sup>th</sup> grade, students have completed at least 8 major pieces of writing in each course. Clearly, the humanities and writing programs are strengths in the Envision Schools, as evidenced by the very low number of students who were required to take remediation courses in English during their first year of college (see transcript analysis).

However, it was clear in the ways that graduates described their successes that the skills that had helped them to be successful in college were really the "soft skills" that could be connected back to Envision School's "Leadership Skills". Managing complex projects, confidence in public speaking and participating in class discussions, creatively injecting relevance into an otherwise humdrum assignment, and dealing with stressful situations were repeatedly mentioned as student strengths and successes. Exhibitions were frequently cited as important sources of these skills, but Envision's Graduation Portfolio assessment was universally named a major formative moment for this type of preparation. Every student agreed that this daunting task had instilled in them valuable skills for managing pressure that they were finding helpful in college. Passing this rigorous and grueling assessment process was a clear point of pride and built their confidence in themselves as "college ready". Another "soft skill" that was cited by several students was the ability to ask questions and seek out help. Two students, Maria and Malcolm, both enrolled in small private liberal arts colleges, cited taking advantage of tutoring services and instructors' office hours. Maria also reported that reflecting on what worked and didn't work for her on a particular assignment (metacognition) had become a natural way of thinking for her and strengthened her academic work.

**Gaps in College Preparation.** Conversely, students were almost universally critical in their evaluation of Envision's mathematics curriculum, the progressive, problem-based IMP (Interactive Math Program). Despite passing their high school classes, students felt unprepared for college-level math and in many cases struggled through remedial courses. (Envision has since abandoned IMP and began implementing a new math curriculum in Fall 2009.) To a lesser

extent, students also reported that their science preparation had been inadequate. In the focus group interview, one graduate suggested that perhaps Envision's science curriculum was "too relevant" – not grounded in what he called the "book learning" emphasized in college courses. Another student, Maria, who had struggled in her private four-year college with both biology and psychology courses, reported feeling poorly prepared for her science courses: "I feel like that was a disservice because I didn't have the tools and I didn't know how to learn the scientific material before I got to college." (In the fall of 2009, Envision also moved away from its integrated science program to a more traditional science course sequence and curriculum.)

Another challenge for some students was the markedly different learning environments they encountered in some college courses, and particularly in public, non-residential campuses. In some cases, students struggled to adapt to lecture classes, where note-taking, book-learning, and exams were the norm. Coming from an environment that was almost all project-based, collaborative, and involved active engagement and continuous challenge, this "culture shock" is not surprising. Deanna, enrolled in community college, described a particularly disappointing class: "Everything was boring and people just didn't, you know, so much going on in class, no one cared in class, no one cared who taught the class. And I just realized I just gotta get over it. I just thought 'It's not gonna be some kind of nice place.'" Deanna identified this as a marked difference from her high school years, when teachers genuinely cared about their students and connected with students on a daily basis instead of lecturing at a blackboard.

In non-academic areas of college preparation, students had a wider range of experiences. Cecilia, who was attending a four-year state university in California, summed up her Envision experience as not direct college preparation, but rather "preparing me for life," which enabled her to manage new situations, overcome setbacks, and ultimately succeed in college. Both Malcolm and Maria, who lived away from home at their private liberal arts colleges, were more engaged in campus life and had found their own social niches (Malcolm was planning to pledge for a fraternity, while Maria co-founded a Latin-American students association). On the other hand, the students at two-year and proprietary colleges (Deanna and Pedro) struggled with other areas of postsecondary life, including managing their time and accessing academic and financial supports. Financial difficulties were a consistent problem for these students, as they struggled to finance their educations without a clear understanding of the options available to them. Pedro reported that his college did not have a financial aid office, which was incorrect. Deanna pointed

to confusion with the college application process, including applying for financial aid, for her enrollment at an unsatisfactory community college:

"It's not CAT's responsibility to help me for college, but I think I could have really used the help when I was going through it. There was two days, for an hour, that we did applications for college, but I didn't really understand all the things that I needed for college. Like I didn't understand that there was a second application, a second process after the application that I needed to do. And I think, honestly, I filed them, but I never got the results of whether I made it or not because I didn't do the aftermath. And I don't think it really mattered, because even if I did get into them I had no financial support, so I needed help with that as well. You know, finding a way to get the money to support it because, what is it even gonna matter if I don't have money to back it up?"

Deanna and Pedro were both under-enrolled in school and underemployed. Deanna raised money for her tuition and fees by cleaning houses, sweeping floors, babysitting, and selling her clothes in a garage sale. Pedro sold products door-to-door. These students struggled both financially and academically. Without enough money to pay for their tuition, they were not able to enroll for more than two courses at a time, stopped out of school for one or more semesters, were disconnected from campus life because they were attending non-residential, commuting colleges, and were less engaged in their studies. That said, these students remained committed to earning a B.A., and recognized that their options were quite limited without a college degree. In contrast, the students who were more successful academically had their parents' financial support for college, work-study jobs, or tuition remission through a parent.

In sum, students reported that their years in an Envision high school were positive ones. They cited numerous "21<sup>st</sup> century skills" that were helping them succeed in their postsecondary educations as well as strong preparation in their English language arts and writing programs. However, a small minority of students (particularly those with financial challenges) found themselves struggling to finance and stay engaged in their college work. At the same time, there was a clear sense of commitment among all students to stay in college and to complete their education in order to achieve their career aspirations.

## Discussion

It is clear from the focus groups and case studies that the students graduating from an Envision School leave high school with high engagement in their education, confidence in their abilities to face the future, a strong set of tools for success in college-level writing, and the personal resources to approach and manage most of the challenges of college level work. Much of this success can be attributed to the Envision School's model of Rigor, Relevance, and Relationships. On the other hand, there were some clear gaps in the Rigor of students' preparation – weak experiences with mathematics and science were the most obvious ones. This variation in students' academic preparation clearly shows up in students' academic transcripts. Few students were headed toward careers that depend on their ability to perform well in these two content areas, and when students took remedial courses, it was almost always in mathematics. While the IMP and integrated science courses were highly engaging for students, there was clearly too much of a disconnect between the methods of teaching and learning that students became accustomed to in high school and the more traditional methods encountered in college. Envision Schools has already addressed this disparity in preparation by completely revising their mathematics and science curricula. Improving students' performance on the math placement tests will obviate the need for remedial course-taking, which research shows is a major impediment to persisting and succeeding in college. Improving students' chances of success in entry-level college math and science courses will also open up career options that were previously unattainable.

Another, less obvious, gap in students' preparation for college relates to their ability to independently navigate the real-life adult challenges that they will face after leaving the comfort of a small, tight-knit community, where their education is free and their concerns are few. For all the Rigor, Relevance, and Relationships that support students in completing the rigorous Envision high school program, applying for and enrolling in college, it seems that the biggest challenge for the most disadvantaged students is the lack of cultural capital<sup>2</sup> and the ability to manage their time and resources in ways that will allow them to navigate the financial aid system, raise enough money to take more than one or two courses at a time, and earn enough credits so that it doesn't take them ten years to complete college, or so that they don't drop out before they can transfer to a four-year college. The disheartening financial and academic challenges that were illustrated in two of the case study interviews resonated with the disparities

that we saw in the transcript data analyses that showed that economically disadvantaged and minority students were more likely to enroll in two-year colleges than four-year colleges, take fewer courses at a time, and earn far fewer credits than their more financially stable, non-minority peers.

Still, overall, it appears that Envision’s model works very well to promote much higher levels of college enrollment and second-year persistence for their students than would typically be found in more traditional high school settings and for these populations of students. With revisions in its math and science curriculum, this track record is likely to be maintained and even improved.

### **Conclusions & Implications**

At the beginning of this paper, the following question was posed: **What can high schools do to better prepare students for college so that they persist and are successful in college?** To achieve this end, this study sought to understand both the needs of students at greatest risk of dropping out and the factors associated with persistence and success in postsecondary education. There remains one more graduating class to include in this study’s analysis and evaluation of Envision’s “4 R’s” model, and the sample sizes included in the transcript analysis were too small to draw conclusions about the efficacy of the model for the most disadvantaged, minority populations that the model seeks to support. Given this gap in the strength of the research evidence, we refrain at this time from making definitive recommendations about what Envision Schools can do to better prepare its students for college.

However, the revisions that Envision Schools has already made to its math and science programs seems to be a strong step in the right direction, as we saw that most of the remedial course-taking was in mathematics, and few students were majoring in the sciences or math tracks. Overall, it appears that students are strongly prepared for their college work in the humanities and career-oriented majors, and that their success in these areas have likely to supported their persistence in college (at least into the second year of college). There is also some evidence that Envision graduates are leaving high school with a strong set of “21<sup>st</sup> century skills”, particularly in the areas of project management and effective communication. These skill sets have also apparently supported students’ confidence in their ability to tackle college-

level work and supported their success in managing the heavy workloads they encounter in college.

Preliminary findings from this study suggest several factors that appear to support Envision graduates' success in college:

- a) strong academic preparation in the humanities and inculcation of the 21<sup>st</sup> century skills;
- b) family support (particularly with financing college); and
- c) college learning environments that are more congruent with their experiences in high school (small classes, discussion-based seminars, accessible faculty, access to tutoring and other supports, challenging yet personalized assignments, and opportunities to build supportive social networks).

The findings also suggest some factors that may be impediments to Envision graduates' success in college:

- a) gaps in their preparation for college-level mathematics and science that lead to remedial course-taking in mathematics;
- b) difficulties financing college and subsequent under-enrollment in college courses;
- c) isolated experiences (due to few opportunities for social engagement in commuter college communities); and
- d) college learning environments that are a vast departure from their high school learning experiences (more traditional lecture-based courses).

It is unclear the extent to which Deanna and Pedro's stories are "typical" of Envision graduates with similar financial challenges. (A follow-up survey that will be administered more widely will provide us with a sense of how typical such challenges are among Envision graduates as a whole. In addition, in the next phase of the study, we plan to follow up with students who have left college to further explore the factors that impede persistence in college.) However, the stories of these students illustrate the possibility that an Envision Schools education, while leveling the playing field for most students in terms of their academic preparation for college, cannot completely insulate the most disadvantaged students from the

real-world challenges they face when they are trying to navigate their way through post-secondary institutions that are not designed to support them, either financially or academically. The implication is that Envision Schools could be doing more to prepare students not only for the rigor and academic challenges of college but also to help students: a) select the right college for them; b) follow through on their applications for financial aid; c) learn how to manage their resources and time more strategically (e.g., how to effectively manage part-time work and college studies); and d) be better prepared for learning in more traditional environments (lecture-based classes).

**Challenges of conducting this study and implications.** There were a number of challenges that were expected and encountered in conducting a longitudinal study of this type, mostly stemming from the (lack of) ability to gain access to students who are no longer attending the Envision Schools. Because of the FERPA privacy laws that protect students' college academic transcripts from being released, the research staff members were required to obtain hard copies of informed consent forms from students being recruited into the study. During the second year of the study (for the Class of 2009), this task was simplified by administering and collecting consent forms prior to graduation. In this case, almost 100 percent of students returned a signed consent form. This was much more difficult to obtain for the first two graduating cohorts (2007, 2008) because the students had already graduated (class of 2007), or were about to graduate (class of 2008) when the study was first initiated. Strategies for reaching out to graduates included using fellow graduates to recruit students into the study, organizing alumni events to invite students to the study and to hold focus groups, using former advisors/teachers to reach out to former students, and the use of social networking sites. As a consequence of low consent rates in the first two graduating classes so far (2007-2008), our analyses of transcript are quite limited by low sample sizes, particularly for the analyses that focus on assessing differences between groups (first-generation status, Free and Reduced Lunch status, ethnicity). In the next round of data collection for the Class of 2009 (which had a close to 100 percent consent rate), this sample will be high enough to draw more robust conclusions based on transcript analyses.

It has also been quite challenging to get students to complete the online follow-up survey which is administered following the first full year of college, even with incentives provided for completion. We do not report results from the survey here because of the low response rates.

Last, while the National Student Clearinghouse Student Tracker database provides information about most of the students in our sample, the NSC network of colleges is not comprehensive and thus, there were a number of missing students. The NSC network does not include overseas colleges and some proprietary colleges and post-secondary training programs. Consequently, our research staff had to supplement missing enrollment information by contacting graduates' parents and friends, as well as through social networking media. As can be imagined, this additional follow-up was labor intensive and costly, and it does not provide a scalable model for conducting large-scale follow-up studies of this kind.

Many educational programs and school systems are motivated to assess the effectiveness of their educational models and reforms, particularly in terms of long-term educational and career outcomes for students. However, just as there are impediments to tracking individual students within a K-12 system, it has proven even more challenging to make links between the K-12 system and the higher education system. In order for school organizations to adequately document the outcomes of their programs in relation to the enrollment, persistence, and achievement of their graduates, changes in the current means by which graduates can be tracked are needed to simplify and facilitate follow-up studies of this kind. The National Student Clearinghouse, for example, which is a private organization, has limited ability to enforce that all higher education programs register and report to their organization. In addition, the information that it provides is not public, meaning that it is unable to share aggregate reports about college enrollment information to other interested organizations other than the contracting school district itself. For example, there is no way that Envision Schools can currently compare its own enrollment and persistence rates with the rates of the districts in which it operates (e.g., San Francisco, Oakland, Hayward), unless those districts make their enrollment and persistence rates public. A more transparent, comprehensive student tracking service would provide the means to more easily access information about graduates' college enrollment and persistence.

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<sup>2</sup> “Cultural capital” was coined by Pierre Bourdieu and refers to non-financial social assets and cultural knowledge which serve to confer power and status in society and to advance one’s social mobility. For example, knowledge about how to apply for and be accepted to college and to secure financial aid and college scholarships can be considered cultural capital.