Student-Centered Learning:
City Arts and Technology High School

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Overview

About SCOPE

The Stanford Center for Opportunity Policy in Education (SCOPE) was founded in 2008 to foster research, policy, and practice to advance high quality, equitable education systems in the United States and internationally. SCOPE engages faculty from across Stanford and from other universities to work on a shared agenda of research, policy analysis, educational practice, and dissemination of ideas. SCOPE is an affiliate of the Stanford University Graduate School of Education and the Center for Comparative Studies in Race and Ethnicity (CCSRE) at Stanford.

About Student-Centered Practice

Student-centered practice is a school reform approach driven by student learning and a commitment to equity. Student-centered practices are flexible and responsive to students' needs. They emphasize positive and supportive relationships between students and adults in schools, which enable students to persist and succeed in academic environments that are challenging, relevant, collaborative, student-directed, and applied to real-life situations. Research shows that this is the type of setting necessary for students to develop the skills to succeed in college, career, and life. Students are assessed on their mastery of knowledge and skills and have multiple opportunities to demonstrate that mastery. Educators are supported in creating a student-centered learning environment through opportunities for reflection, collaboration, and leadership.

Student-centered practices are more often found in schools that serve affluent and middle-class students than those located in low-income communities. Addressing the opportunity gap for low-income students and students of color requires an examination of how to implement student-centered practices in schools serving those students with the most to gain from them.

Student-Centered Schools Study

The Student-Centered Schools Study, funded by the Nellie Mae Foundation, looks closely at four California high schools that use either the Linked Learning or Envision Schools model to achieve positive outcomes for all their students. These schools all serve predominately low-income students and students of color. These signature models of student-centered learning can inform efforts to address the national opportunity gap through student-centered practices.

Case Study Schools

School Type	School	Location
Linked Learning	Dozier-Libbey Medical High School	Antioch, CA
	Life Academy	Oakland, CA
Envision Schools	City Arts & Technology High School	San Francisco, CA
	Impact Academy	Hayward, CA

Linked Learning began as a state-wide district initiative funded by the James Irvine Foundation to support implementation in nine districts across the state. The program has expanded through state funding since 2011 to include nearly 70 additional local educational agencies. Linked Learning integrates rigorous academics with career-based learning and real-world workplace experiences.

Envision Schools is a small charter network focusing intently on creating personalized learning environments in which educators also create project-based assignments that foster development of 21st century skills such as critical thinking, problem solving, and collaboration.

Both of these models show clear evidence of engaging and developing high levels of proficiency for students of color, English learners, and low-income students at levels that far exceed traditional schools serving similar students. In addition, the schools in this study provide the types of learning experiences that prepare students for college and meaningful careers as well as graduating students of color, English learners, and low-income students at rates that exceed similar students in their districts and California.

Case Studies and Research Methodology

This case study is one of four written by SCOPE about student-centered practices in schools.

The case studies address the following questions:

1. What are the effects of student-centered learning approaches on student engagement, achievement of knowledge and skills, and attainment (high school graduation, college admission, and college continuation and success), in particular for underserved students?

2. What specific practices, approaches, and contextual factors result in these outcomes?

The cases focus on the structures, practices, and conditions in the four schools that enable students to experience positive outcomes and consider the ways in which these factors are interrelated and work to reinforce each other.

The researchers employed mixed methods to look at the micro-level of classrooms and schools. Data collection for this study was conducted between March 2012 and September 2013. Quantitative analysis was used to compare short- and long-term student outcomes in the case-study schools with similar students in other schools in the same district. Qualitative data collection activities included formal interviews with administrators, teachers, students, parents, and community members; observations of instruction, advisory, professional development, teacher collaboration, student exhibitions and defenses, community events, and graduations; and a review of essential documents.

Post-graduation data were a critical component to understanding the long-term impact of the schools' practices. We surveyed and interviewed graduates from each school and tracked their higher-education enrollment through the National Student Clearinghouse. Additionally, two of the schools in this study were simultaneously participating in the Study of Deeper Learning Opportunities and Outcomes funded by the William and Flora Hewlett Foundation and conducted by American Institute of Research (AIR). Rather than survey these schools twice, we used their survey results of teachers and students and used the AIR survey to collect data from the other two schools. Employing this survey enabled us to draw on the full data from the survey, which included a comparison sample of 12 additional schools.

The case studies have been verified with key members of each of the schools for factual accuracy. Details about the data collection activities for this study can be found in Appendix A.

Resources

Findings from the Student-Centered Schools Study are published in four case studies, a cross-case analysis, a policy brief, and practitioner's tool. Visit http://edpolicy.stanford.edu/projects/633 to view these products.

Introduction

In an algebra class at City Arts and Technology High School (CAT) in San Francisco, a diverse group of students enters class, gets materials out, and begins silently working on a "do now" graphing problem that is on the front board. The objective of the day's lesson, which is to teach students to solve percent-mixture problems[1], is written on the front board, as is an agenda and desired outcomes. All the students are calm and focused as the teacher dives into his lesson for the day, starting with a real-life illustration of what percent mixtures look like using colored liquids, and moving on to a series of sample problems. Using the workshop method of instruction, the teacher does a sample problem for students in front of the class, modeling and talking through the thinking process involved in understanding what the question is asking, setting up the equation, and doing the operations to solve the problems.

Once he has a solution, he asks the students to revisit the problem to see whether the answer makes sense, saying, "Let's talk about this answer. Let's understand what this means…. Always ask yourself, when you are done with the calculation: 'Does that make sense?'" Once he has worked through one more problem, the teacher releases students to do problems on their own, saying, "If you are getting help from a neighbor, then you should be whispering, voice level one," while he circulates among students, quietly helping those with raised hands. At the back of the room the teacher has an "Ask the expert" table, where student volunteers who are confident with their skills to solve the problems sit and assist those students who have questions.

The teacher describes, "Students self-select to go back there and get help. It's a secondary resource, and then I can roam the room and really help the kids who are either too afraid to go back there or who I know definitely need help." The class closes with an "exit slip," in which students do a problem based on the content of the day's lesson, and also write down how they feel about the lesson and any aspect of the lesson that is still unclear. The teacher says, "[The exit slips] help me check in with kids because they'll be more honest writing than talking to me verbally."

As illustrated by this classroom example, student-centered instruction at CAT is about creating opportunities for students to practice skills and get one-

City Arts and Technology High School Demographics 2012-2013	
Size:	397
Latino:	59%
African American:	18%
White:	8%
Filipino:	5%
Asian and Pacific Islander:	5%
English Language Learner:	12%
Free/Reduced Lunch:	73%

Source: http://dq.cde.ca.gov/dataquest/

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[1] Solving percent mixture problems is standard 15 in California state math standards.

on-one guidance, while also helping to keep cross-classroom expectations for students consistent. As a charter school, CAT was founded with a strong emphasis on authentic assessments (such as student exhibitions and portfolios), ongoing teacher professional development, grade-level teacher collaboration through weekly "family meetings," quarterly parent-teacher conferences, and expectations that every graduate will complete the necessary coursework to be admitted to the University of California. Among teachers, CAT has a reputation as a place that embraces instructional innovation and that supports professionalism by providing teachers with discretion over class curriculum and content. In recent years, CAT has instituted more school-wide practices, like the "do now" and class agenda, designed to create consistency in structure and expectations for students (and for teachers) across CAT's classrooms.

This case study describes the unique strengths of CAT's approach, the challenges and trade-offs they have experienced, and the implications of CAT's experience for other schools seeking to implement different aspects of a student-centered approach. The case includes a description of the school and its outcomes; instruction, with a focus on student-centered approaches; personalization; and collaboration and professional development. See Appendix A for a detailed description of the data sources for this case study.

School Description and Community Context

CAT is a small charter school, founded in 2004, that is located high on a hillside in the Excelsior District of San Francisco. CAT shares a beautiful light-filled building with June Jordan School for Equity, and its hallways are lined with brightly painted murals with themes embracing diversity, civil rights, and community empowerment, as well as posters promoting college attendance and academic success. The Excelsior community where CAT is located is one of the most ethnically diverse neighborhoods in San Francisco, with large Latino and Filipino populations. CAT is also located on the border of the Visitacion Valley neighborhood of San Francisco, a predominantly low-income African American community. The neighborhood has a mix of single-family houses and apartments, and also borders the Sunnyvale housing project, which has a history of crime and gang violence.

CAT is one of three small high schools operated by Envision Education, a charter school management organization in the Bay Area of California founded in 2002. Envision Education's philosophy is built around a focus on the "four R's" of education: (1) *rigorous* college-prep curriculum; (2) strong *relationships* supported through small, personalized learning environments; (3) *relevant* coursework that motivates and supports deep learning; and (4) high academic standards that lead to positive *results*. Furthermore, instruction at Envision Education is designed to support an iterative cycle of learning described as "Know, Do, Reflect," where students build *knowledge* on a topic, actively *demonstrate* their understanding through applied learning opportunities, and *reflect* on what they have learned and how they can continue to improve.

In keeping with the Envision Education model, CAT supports academic rigor by requiring that all students complete the necessary coursework to get admitted to the University of California and California State University systems. As a small school of 400 students, relationships at CAT are supported through an advisory class and through tight-knit grade-level teacher teams that coordinate closely with one another to support student success. Relevance at CAT is supported through the social and political content of courses and through the school's arts and technology theme, which includes mandatory coursework in Digital Media and Visual Arts. To assess student learning, CAT uses a variety of different authentic assessment tools, each of which requires students to demonstrate content knowledge and to reflect on their learning.

There are several key rites of passage for students at CAT: 10th graders complete and defend a benchmark portfolio of work before moving to the 11th grade, 12th graders complete a college success or graduation portfolio, and 11th and 12th graders are required to complete internships for work-based learning experience. Students also participate in several interdisciplinary grade-level exhibitions, which parents and other community members attend. Each of these opportunities requires students to share reflections on what they have learned and identify areas for improvement. A 12th-grade student described, "CAT is really big on reflecting on your work and on yourself and

thinking critically. With all the community-based exhibitions, you're speaking out a lot and then you're working on communication skills."

CAT is a public, open-enrollment school with limited spaces for each grade. In the fall, parents are encouraged to participate in informational sessions on the school and then to fill out a short application. If the applications exceed the available spaces, the school holds a lottery to determine admission, though students who are waitlisted are still very likely to gain admission. Parents and students said they were attracted to CAT because of the small size, the location, and the focus on arts and technology. Many CAT students have attended small elementary and middle schools, and they applied to CAT because they and their families were looking for a similarly small and supportive high school environment.

CAT's mission to serve students of color and low-income students is reflected in the school's demographics: More than 90% of students are students of color, and more than 70% qualify for free or reduced-price lunch. Since 2008, CAT has seen a steady rise in its Latino student population (from 33% to 59%) and a steady decrease in its White student population (from 20% to 8%). Generally, parental education levels are low: Among the 154 students who completed the student survey, 29% had a father who did not complete high school, a rate nearly twice as high as that of other schools in San Francisco. According to the principal and the CAT learning specialist[2], 20% of students qualify for special education services, a percentage that is almost twice that of SFUSD, where the average is 11%.[3] The principal said that parents of special education students are attracted to CAT because of the school's reputation for personal and nurturing relationships, and the school's focus on art.

Although the expectation is that all CAT students will go to college, incoming CAT students vary significantly in their academic skill levels and readiness for college preparatory work. A ninth-grade teacher said that while they have a handful of students who are performing above grade level, "the majority of our kids are reading between sixth- or seventh-grade reading level, and we have a couple of kids who are at about second to fourth grade." The choices that Envision Education and CAT have made in recent years to focus their attention on instructional quality and consistency of behavioral and academic expectations are designed to help address the challenges of getting students who are at different baseline skill levels to college. Appendix B details the school's bell schedule, course progression, and graduation requirements.

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[2] A learning specialist at CAT is an educator who is skilled and experienced in supporting students who struggle with learning differences. Learning specialists at CAT work individually and in groups with Individualized Education Program (IEP) students to provide support and also work with teachers to modify curriculum and instructional approaches for students with IEPs or other students who have other specialized learning needs.

[3] Audit of Programs and Services for Students with Disabilities San Francisco Unified School District. September 2010. Urban Special Education Leadership Collaborative (the Collaborative).

School Outcomes: Aligning Expectations and Practice

> Our mission is to transform students' lives by preparing them for success in college and in life. That's the mission statement. And we believe that core to that is preparing first-generation students, often students of color…for success in college.
>
> —*Daniel Allen, CAT principal*

In a statement on CAT's website, the principal says that CAT's goal is to "ensure that every graduate of CAT moves on to a 4-year college equipped with both the core academic competencies and leadership skills that will ultimately transform students' lives and society." Toward that end, CAT tries to equip its students both with academic skills and with leadership skills, including public speaking and leadership skills honed through classroom observations, portfolio defense, and community exhibitions. More details on these skills can be found in Appendix C. Since Daniel Allen took over as principal in 2011, the school has placed an increasing focus on skill development and standards and has seen increases in some of its test scores, including the CST (California Standards Tests), the state's standardized test administered annually, and the CAHSEE (California High School Exit Examination), a test required for high school graduation (see Table 1, page 6).

Across the board, CAT's test scores show stronger than average results for Latino and African American students. As illustrated in Table 1, in 2011-2012, CAT saw a dramatic increase in the percent of students who scored proficient or above on the algebra CST exam. Compared to the average for San Francisco schools, CAT has a particularly high rate of algebra proficiency among Latino and African American students. The English language arts CAT scores are more mixed, with scores climbing in 2011-2012, and then falling again in 2012-2013. As was true of the math scores, however, CAT appears to be doing quite well, compared to other San Francisco schools, at supporting Latino students.

As illustrated in Table 2 (page 7), CAT's overall cohort graduation rate is comparable to San Francisco high schools, but it is considerably higher than the city average for African American and Latino youth. According to a school administrator, CAT works hard to balance its "hand-holding" of students with "systems to hold kids a little bit more accountable and to put the onus more on students." Similarly, CAT's completion rate for UC/CSU courses among Latino and African American students is three to four times the average for San Francisco schools.

CAT has been successful at achieving its goals around getting students to college. According to the National Clearinghouse data, for the first five graduating classes, between 2008 and 2012, the percentage of graduates enrolling in any college (including career

Table 1: CST and CAHSEE Proficiency and Pass Rates

Assessment	Types of students	CAT			San Francisco Schools		
		2010-11	2011-12	2012-13	2010-11	2011-12	2012-13
CST Gr 11 ELA % Proficient or Above	All	40%	51%	36%	52%	56%	54%
	African American	17%	50%	21%	21%	20%	23%
	Hispanic or Latino	44%	54%	38%	28%	33%	31%
	White	56%	--	--	70%	75%	62%
	English Learners	--	--	--	7%	6%	5%
	Economically Disadvantaged	34%	52%	31%	44%	48%	45%
CST Algebra % Proficient or Above	All	9%	43%	52%	39%	39%	40%
	African American	7%	56%	58%	12%	13%	15%
	Hispanic or Latino	5%	37%	45%	17%	17%	18%
	White	9%	--	--	48%	46%	47%
	English Learners	6%	32%	--	22%	23%	12%
	Economically Disadvantaged	8%	41%	52%	35%	36%	28%
CAHSEE Gr 10 ELA % Passing	All	91%	80%	80%	77%	80%	88%
	African American	--	81%	57%	54%	55%	56%
	Hispanic or Latino	94%	81%	82%	62%	70%	66%
	White	88%	--	--	90%	93%	87%
	Economically Disadvantaged	90%	82%	80%	72%	72%	74%
CAHSEE Gr 10 Math % Passing	All	73%	72%	82%	82%	84%	84%
	African American	--	50%	64%	45%	50%	52%
	Hispanic or Latino	75%	78%	83%	60%	66%	67%
	White	--	--	--	90%	93%	90%
	Economically Disadvantaged	69%	72%	84%	78%	82%	82%

Source: California Department of Education, Dataquest. http://dq.cde.ca.gov/dataquest/

training programs and the military) for any length of time ranged from 86% to 98.4%.[4] This compares favorably to a national average college going rate of 40% for all students, 32% for African American students, and 25% for Latino students.[5]

Table 3 (page 7) shows that the college persistence of CAT graduates is quite high. Among CAT graduates who enrolled in a college or training program, the majority of students persisted over multiple years. In the class of 2008, 70% of students persisted

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[4] Data derived from National Student Clearinghouse, supplemented through personal contacts with students themselves, and former teachers of the students who know of their whereabouts. http://www.studentclearinghouse.org/about/

[5] American Council on Education (2008). Minorities in Higher Education 2008. Twenty-third Status Report. http://www.rpi.edu/dept/grad/docs/AcademicAdvising_MinoritiesReport.pdf.

Table 2: Cohort Graduation Rate and A-G Course Completion

Graduation rate and course completion rate	Types of students	CAT		San Francisco schools		California	
		2010-11	2011-12	2010-11	2011-12	2010-11	2011-12
Cohort graduation rate for students of that year	All	85%	82%	82%	82%	77%	79%
	African American	78%	84%	64%	71%	63%	66%
	Hispanic or Latino	86%	83%	68%	68%	71%	73%
	White	91%	88%	85%	82%	86%	86%
	English Learners	92%	84%	68%	68%	62%	62%
	Economically Disadvantaged	82%	87%	81%	80%	71%	73%
Percent of students who complete all courses required for UC/CSU admission	All	100%	99%	52%	56%	37%	38%
	African American	100%	100%	22%	28%	28%	29%
	Hispanic or Latino	100%	100%	36%	36%	27%	28%
	White	100%	93%	58%	62%	44%	45%
	Economically Disadvantaged	100%	100%	50%	54%	27%	30%

Source: http://dq.cde.ca.gov/dataquest/

Table 3: Persistence of Graduates Among Those Who Enrolled in College or Post-Secondary Training

Years of College Enrollment	Percentage of Enrolled Graduates				
	2008	2009	2010	2011	2012
5 years of enrollment	48.3%	--	--	--	--
4 years of enrollment	23.3%	84.5%	--	--	--
3 years of enrollment	8.3%	5.2%	67.6%	--	--
2 years of enrollment	3.3%	1.7%	8.1%	72.7%	--
1 year or less of enrollment	16.7%	8.6%	24.3%	27.3%	100.0%
Total N of enrolled graduates	60	58	37	77	70

Source: National Student Clearinghouse, supplemented through personal contacts with students themselves, and former teachers of the students who know of their whereabouts. http://www.studentclearinghouse.org/about/

for 4-5 years (and may still be enrolled), while 30% did not persist past 3 years of enrollment. In the class of 2009, nearly 85% of graduates who enrolled in a college persisted for at least 4 years, while 15% of students did not persist past 3 years of enrollment. In the class of 2010, 68% of graduates have been enrolled for at least 3 years, while 32% did not persist past 2 years. In the class of 2011, 73% of graduates persisted into the second year of college while 27% did not enroll for more than 1 year. This compares fa-

Table 4: Type of College Attended by Graduates Enrolled in College or Post-Secondary Training

Types of Colleges Attended	Percentage of Enrolled Graduates				
	2008	2009	2010	2011	2012
2-year college	45%	37.9%	37.8%	54.5%	45.7%
4-year college	53.4%	60.4%	62.1%	44.2%	52.8%
Training programs	1.7%	1.7%	0%	1.3%	1.4%
Total	60	58	37	77	70

Source: Data derived from National Student Clearinghouse, supplemented through personal contacts with students and former teachers of the students. http://www.studentclearinghouse.org/about/

Table 5: High School Experiences that Contributed to College Readiness

Highest Ranked Influences	Cat Graduates, some-what or very helpful	CAT graduates, not very or not at all-helpful
Graduation Portfolio/Senior Project	90%	10%
Exhibitions	87%	13%
Projects/Major Assignments	87%	13%
Relationships with Teachers/Advisors	87%	10%
Defense of Graduation Portfolio	80%	17%
Workplace Internship	80%	17%

Source: Graduate Survey

vorably with national averages, as only 65% of all students—and 47 percent of Hispanic students—either graduate or are still enrolled after 6 years of enrollment.[6]

As Table 4 shows, among CAT graduates, a majority of students enrolled in 4-year colleges (public or private), ranging from 45% in 2011 to 62% in 2010. But a significant proportion enroll in either private or public 2-year colleges (ranging from 37% in 2009 to 55% in 2011). Most students attended colleges local to the Bay Area of California, including San Francisco City College and San Francisco State University. In keeping with national trends, CAT students who attended 4-year colleges had higher persistence rates than those who attended 2-year colleges for four of the five graduating classes for which we have data. Student persistence at 2-year colleges ranged from 38%-55%, while persistence at four year colleges ranged from 44%-62%.

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[6] Data taken from AFT Higher Education 2003 report: "Student Persistence in College: More than Counting Caps and Gowns." http://cpe.ky.gov/NR/rdonlyres/BD71ECAC-7195-4EDA-A994-CB977C94C84C/0/StudentPersistencein-CollegeMoreThanCountingCapsandGowns.pdf

CAT graduates, as well as the current students, highlighted the role that CAT had played in increasing their leadership and confidence, including their presentation and public speaking skills. As highlighted in Table 5 (page 8), graduates who responded to the survey indicated that these skills were supported primarily by CAT's use of authentic assessments, such as senior projects, exhibitions, and other major projects and assignments. Students also talked about how CAT encouraged them to speak up and navigate the school environment to get what they needed. One CAT graduate said that because of CAT he is "okay with being around other people and stepping up and talking to them because I've had to," while another CAT graduate said that CAT helped to develop her "public speaking…verbal and presentation skills. We had so much practice in high school, and that came in handy with all the presentations we did in college."

Graduates described that they were sometimes caught off guard, however, by the quantity of the reading that they were assigned in college, the rigor of their math classes, and by the more distant relationships that most professors have with students. Because of extensive teacher turnover, math instruction was particularly weak prior to 2011 (as illustrated in Table 1 page 6), though this is an area where the school is currently placing more emphasis. Other challenges that CAT graduates faced were similar to that of many students transitioning to college, such as adjusting to a lack of diversity or to living away from their families.

CAT is seeing positive results at least in part because it has an evaluative results-oriented culture, in which staff work together to identify areas for improvement. School leaders "walk the talk" in that, like their students, they are committed to self-reflection and to shifting what needs to be changed to make sure all students are learning and they have the support they need to succeed. Because of this self-reflective quality, CAT has the feel of a school in transition, with administrators and teachers seeking to find the right balance between rigor and relevance, between knowing and doing, and between structure and freedom. For instance, in response to the high academic needs of students, CAT has given teachers the go-ahead to reduce their focus on project-based learning, so that they can spend more time on skill development and direct instruction. Similarly, CAT still provides teachers with a high degree of autonomy in their curricular choices, but has worked hard to create common instructional strategies and classroom practices. All of these changes are designed to help teachers translate the schools' high expectations for students into results.

Personalization

> One of the things that the school has always had is a real individualized
> approach to everything: to discipline, student learning, recruitment. It's
> very much student-focused, which is hugely positive.
>
> — *Principal Daniel Allen*

One of the most defining characteristics of CAT is its commitment to serving students on a personalized basis. Administrators, teachers, students, graduates, and parents alike consistently describe CAT as a school that is highly attuned and dedicated to meeting the unique needs of each of its students. One parent, for instance, remarked that in contrast to students at more traditional schools, "CAT students are not getting shoved through the system; they are being walked, guided." Another parent reflected similarly:

> [At CAT] it's really about that one-on-one my son gets. I talk to other
> parents and friends of mine and their kids are not getting that, and they
> get that here and I really appreciate it.

The following paragraphs focus on four key elements of CAT's approach to personalization: advisory classes, opportunities for student self-exploration, parent engagement, and the "small things" that contribute to the strong teacher-student relationships that undergird the school.

"Bringing it All Together" Through Advisory Classes

The cornerstone of CAT's approach to personalization is advisories. Each student at the school is assigned to an advisory class consisting of about 20 grade-level peers and one teacher who serves as the group's advisor. Students convene in their advisories twice a week for 45 minutes at a time throughout the school year. So that students are able to meet and connect with many different peers and teachers, they are assigned to new advisory classes each year. The primary purpose of these advisories is to help students to "bring it all together," in terms of their learnings and responsibilities across different classes, their short- and long-term goals, and their academic and emotional well-being. Principal Daniel Allen explained that advisories serve as the anchor to students' experiences at CAT, noting that they are unique spaces that "really focus on students, the whole student."

One way that advisories do this is by providing students with time and support that is dedicated exclusively to addressing grade-specific priorities. For example, ninth-grade advisories focus on helping students transition successfully into high school and preparing them to tackle the academic, social, and emotional challenges that may arise over the next 4 years. In 10th-grade advisories, students concentrate on completing their benchmark portfolios and receive ongoing guidance and feedback from their advisors toward this end. In 11th-grade advisories, students work with CollegeSpring, a non-

profit organization that specializes in college readiness services, to prepare for the SATs and the college application process. Advisories in the 12th grade are devoted to helping students apply to and enroll in college and complete their graduation portfolios, so that they can transition successfully out of high school.

Aside from these grade-specific priorities, the content of advisory classes is quite flexible and mainly determined by the advisors themselves. Advisors are encouraged to design and conduct activities that would be most relevant to their students, which equips the advisors with the latitude to respond to students' changing interests and needs. For instance, an advisor may use one class as a study session to help students catch up on homework and then conduct teambuilding games during the next class. This flexibility has also led advisors to innovate activities, such as walks through the woods and discussions on love and the many ways the concept is interpreted by different cultures.

Advisors also play a pivotal role in ensuring the overall well-being of students. Principal Allen described the role of advisors at CAT as "stewards" who help students navigate effectively through their high school experience. In terms of academics, advisors are responsible for supporting students with their benchmark and graduation portfolios and ensuring that they successfully complete these grade-level assessments. For example, advisors who support 10th- grade students help them keep track of the benchmark portfolio artifacts they have completed and set goals for accomplishing remaining portfolio tasks in a timely manner. Advisors are also responsible for keeping track of their students' progress across all classes, informing parents of this progress, and coordinating additional supports and interventions with other staff members when necessary. For instance, an advisor may collaborate with multiple teachers, learning specialists, and family members to help students improve their grades. Advisors who support 11th- and 12th-grade students are additionally responsible for connecting their students to meaningful internship opportunities. In this way, advisors are an important linchpin to the multiple groups that are key to students' success: teachers, learning specialists, administrators, family members, employers, and the students themselves.

Nevertheless, CAT administrators continue to refine and hone the school's advisory model as they seek to determine how to use these classes most effectively. One challenge related to this has been finding ways to support advisors with their many and often overwhelming responsibilities while still nurturing strong advisor-advisee relationships. Recently, administrators have brought on local nonprofit organizations to provide students with services that have traditionally been furnished by advisors, such as support with college applications. While teachers feel that this change has made their work as advisors much more manageable, they also feel that this has decreased their interaction with students and therefore slackened the relationship-building process that usually occurs between advisors and their students. Similarly, although students have generally appreciated this change and the increased structure it has brought to advisories, many, particularly those who are upperclassmen, feel that there are fewer opportunities to connect with their advisors than in the past. Another challenge, as articulated

by the 12th-grade government teacher, is "figuring out the balance between advisories being a community building space versus an academic space," especially given that the school's extracurricular activities are rather limited. CAT administrators are eager to explore these and other complexities as they work to ascertain an advisory model that responds to the needs of students, teachers, and the school as a whole.

Encouraging Student Self-Exploration—In and Beyond the Classroom

Providing students with many opportunities to explore their interests is another key aspect of CAT's approach to personalization. Indeed, many students and parents shared that CAT's emphasis on student self-exploration was one of the main factors that drew them to the school. Below are comments from two such parents:

> CAT lets the students be themselves, and [because of that] they open up to learning. I think that's the biggest piece of the puzzle that other schools are missing.

> The thing that really attracted me to CAT was the freedom of expression. It was still structured and focused on the things that I wanted my son to be focused on, like college, but it was still allowing [my son] to be [himself]. They don't say, "That is not right." [Instead, they say] "Well, what do you think about it? What is your opinion? Okay, let's do this, but this is what you need to do to follow your freedom." CAT allows kids to have freedom of expression without being disrespectful, without being harmful…and that's what I love about it.

This commitment to student self-exploration is manifested in the classroom, where students are encouraged to express their opinions and use homework assignments to delve deeper into issues of interest to them. For example, students in one science class designed their own lab experiment. In one art class, students created street signs that reflect their opinions on a matter and developed logos for imagined nonprofit organizations that would address social justice issues important to them. In addition to these activities and homework assignments, students are able to explore their interests through CAT's end-of-the-year workshops. These workshops are intended to provide students with expeditionary learning experiences, which use interactive activities to help students understand how abstract concepts are applied in "real-world" settings.

During this 2-week period, students select and participate exclusively in one of these workshops, all of which are designed and facilitated by teachers. At the end of this period, students work with their respective workshop teacher and peers to host an exhibition that shares their new insight and discoveries. Past workshops at CAT, for example, have ranged from learning about the role of statistics in baseball to creating a mural that addresses current environmental issues. Sometimes, workshops tackle one overarching

theme in different ways. For instance, during a year in which the workshop theme was "I am my brother's or my sister's keeper," one workshop discussed international genocides while another workshop focused on how learning from the South African apartheid can inform efforts to address racism in the United States.

Students are also encouraged to explore their interests outside of the classroom through work learning experience (WLE), a program that allows 11th- and 12th-grade students to complete internships of their choice as part of their school day. Students in this program work with their advisors to identify and obtain placements in internships of their choosing. Once they are placed, students check in regularly with their advisors about the progress of their internships. Because internship placements are primarily determined by student interest, the types of internships completed by CAT students have been highly diverse, ranging from tutoring elementary school students to serving patients with Alzheimer's disease. However, one commonality shared by students who have participated in WLE is that they have generally valued their experience, which they viewed as an opportunity to both give back to their community and explore their career interests. One 12th-grade student shared:

> My 11th-grade year, I interned at the Jewish Home for the Elderly, and I got to work with Alzheimer's patients.…It helped me realize that I want to work with the elderly.…Now, I know that I want to study human development with an emphasis in gerontology. It also helped me within finding jobs. I wasn't very persistent before…but now, I know how to stay on top of my game and really push….So it helped me with persistence and assertiveness.

Partnering With Parents to Support Students

Strong relationships between parents and teachers also contribute to personalization at CAT. The strength of these relationships is characterized not only by how frequently parents and teachers communicate with each other, but also the way in which they interact. In contrast to other schools where parental involvement is mainly reactive and

called upon for negative situations, parents at CAT are engaged as collaborative partners in their children's learning on an ongoing basis. One teacher explained:

> We engage parents a lot….We operate from the standpoint that parents want to help their kids, whereas a lot of inner-city schools operate from the assumption…that inner-city parents don't care about their kids' education, which is just really misguided….We operate from a positive intentions standpoint with regard to parents, and because of it we get help from parents. It's important to have that support from home.

Key facilitators of this collaboration between CAT teachers and parents are semi-annual parent-advisor conferences. Indeed, 89% of CAT teachers reported that more than half of their students' parents participate in parent-teacher conferences, in contrast to 17% of teachers surveyed at comparison schools. At these conferences, each student, the parent(s), and the advisor meet to discuss the student's academic progress, set goals, and coordinate additional supports and interventions as necessary. One teacher explained: "[At conferences] we talk about the holistic experience of the kid and how we can enhance that if we need to." These conferences are especially useful for providing struggling students with early and proactive support, as well as supporting graduating seniors and their families with any questions or concerns they may have regarding the college application process. In addition to these conferences, teachers interact with parents on an ongoing basis via e-mails, phone calls, and text messages. One parent spoke

about her experiences in interacting with her son's teachers, noting their high degree of responsiveness:

> You call, e-mail, text, whatever method they give you to get in contact with them, and the teachers use it. They check it. They answer it. That's my personal experience. I have not contacted any of my son's teachers or principal without an immediate answer, and that's pretty sweet.

Parents are also regularly informed of their child's progress through PowerSchool, an interactive website where parents can track their child's grades and attendance.

CAT administrators further develop and maintain relationships with parents by engaging them in school-wide activities. For example, the school hosts annual grade-level family picnics as a way of encouraging families to connect with staff members and each other. CAT administrators also turn to parents to spearhead school-wide priorities. The school's newly formed parent action network, for instance, recently coordinated a resource fair for students that featured more than 25 local service providers. By continuing to grow this emerging parent action network and tapping into the expertise, connections, and dedication of parents, CAT administrators hope to build a strong community of support for students that extends beyond the campus.

Using "Small Things" to Connect With Students

Personalization at CAT occurs through smaller, less formal interactions between teachers and students. These interactions occur on a daily basis and may include: one-on-one conversations during class; brief exchanges in the hallways during passing periods; having lunch together; and friendly encounters in the neighborhood outside of school hours. Some teachers noted that these interactions may even be as simple as asking students, "How are you doing?" or "How is your day going?" Because of CAT's small size and its emphasis on maintaining a supportive environment for students, teachers are encouraged to interact in such ways not just with their own students but all students at the school. One teacher elaborated upon this, illuminating how the overall culture of the school is geared toward not only supporting but also spurring teachers to interact regularly and often with their students:

> Teachers have really good relationships with students and know them well….One thing we do really, really well is forming those relationships….[Teachers at other schools] have sort of a hubris about their test scores. They're competitive amongst the other teachers about their test scores because that's what the school values. Here, you'll hear teachers being like, "No, I want to talk to this student about this. I know them best." You can tell that relationships with students are like our cultural capital, our professional capital as teachers, which is kind of cool.

These interactions help teachers and administrators maintain a constant pulse on students' needs and well-being. Most significantly, however, these interactions serve as indispensable building blocks of the strong teacher-student relationships that are characteristic of the school. Indeed, teachers' approachability, genuine interest in students' development, and proactive efforts to avail themselves to students are considered by CAT administrators, teachers, parents, graduates, and students alike as key to the uniquely strong connections shared by teachers and students. One parent shared:

> [When] the teachers talk to my son, it's like, "Hey." Because we live in the community, we see a lot of his teachers….How many kids do you know grow up going out, giving their teacher a pound and a handshake, and talking about, "Did you see that on TV last night?" You know, have this cool relationship [with their teachers]? I think it's really cool.

Many students and graduates shared similar stories of regularly connecting with their teachers and how meaningful these experiences have been to them. One student, for instance, remarked that what he values most about being a student at CAT is his ability to "actually communicate to my teachers about just anything," noting that this helps him to feel that he is "building a lot of relationships that I know will last for a long time."

The preceding comments from several different stakeholders capture how these "small things" have both contributed to and are emblematic of the deep, meaningful, and lasting relationships between CAT teachers and their students. The school's particularly strong emphasis on teacher-student relationships is also reflected in student survey data, which show that students at CAT tend to feel better connected to their teachers than students at comparison schools (see Table 6).

Table 6: Student Perceptions of Student-Teacher Connections

In my school this year, there is at least ONE teacher who….	CAT students, agree or strongly agree	Comparison schools students, agree or strongly agree
Would be willing to help me with a personal problem	81%	59%
Really cares about how I am doing in school	84%	63%
Knows who my friends are	81%	58%
I could ask to write me a recommendation for a job, program, or college	87%	66%

Source: Student Survey Data[7]

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[7] Student Survey Data includes 154 students, 39% of students. Comparison data is taken from The Study of Deeper Learning Opportunities and Outcomes funded by the William and Flora Hewlett Foundation and conducted by the American Institutes for Research that included several of the schools in this study. The student comparison sample with a total of 1392 students comes from 10 schools across the country.

Academic Program

This case focuses on student-centered aspects of CAT's approach to its academic program that appear to be making a difference for students: school-wide systems and supports, individualized instruction, curriculum and competencies, use of authentic assessments, and self-reflection and revision.

School-Wide Systems and Supports: Minimizing the Impact of Class Transitions

One of the most striking features of CAT, as you move from classroom to classroom, is the degree of consistency in structures and procedures across the classrooms. These school-wide procedures help students be more independent and productive, while minimizing the stresses of transitioning between classrooms and teachers. Every classroom blackboard clearly lays out an agenda for the day's activities, including an objective and desired outcome from the day's lesson, and a list of homework for the day. There is a CAT binder system, which every teacher relies on, that helps students organize their work across classrooms. Classes begin with a "do now," which students do silently for the first five minutes of class, and end with an "exit slip," which asks students to apply skills from the day and to reflect on their understanding of class material. The "do now" and the "exit slip" are part of school-wide procedures for a "Strong Start" and "Focused Finish" (see sidebars on page 18) designed to make transitions between class periods calm and orderly. There are also shared guidelines for what students should do when they are absent from class, for regulating student voice level, and for behavioral management.

> **CAT Binders: How CAT Students Keep Organized**
>
> **Step 1:** Students will carry CAT binders with a section for each of their classes and advisory.
>
> **Step 2:** CAT binders will include dividers printed with the Core Competency and Leadership charts to help students become familiar with expectations for college success.
>
> **Step 3:** Advisors will do CAT binder checks to ensure that students keep materials organized.
>
> **Step 4:** An organized CAT binder includes a divider for each class, including advisory; no loose papers; Objective/Do Now/Homework logs.

These school-wide systems are helpful for students who struggle with self-organization, helping to build students' organizational "muscle" in a way that will help them succeed in college. The lead learning specialist at CAT feels that while this type of consistency is good for all students, it is particularly important for students with IEPs, who represent 20% of the CAT student population:

> Anything that brings consistency is helpful to our students. It's hard to focus all your energy on a content if you're spending all your energy try-

> **Strong Start: How CAT Students Start Each Class**
>
> **Step 1:** Enter the classroom by the entry bell (4 minute bell). Walk calmly into the classroom at volume 2 or below and go immediately to your seat.
>
> **Step 2:** Until the work bell rings (5 minute bell), you are at a volume 2 level or below, you are getting out your work materials, CAT binder, and a pen/pencil.
>
> **Step 3**: When the work bell rings you are logging your "learning objective," working on your "do now," and "academically ready."
>
> **Academically Ready:** In your seat, facing your workspace, feet on the ground, materials in front of you, backpacks off table/lap, silent (no talking, noises, laughing, etc.) at volume level 0.

ing to figure out what's going on in a classroom.…If you know what you're expected to do, if it's clearly labeled, then that's all the more energy you can spend on listening and watching instruction because you're not stressed out about, "Oh where'd they put the homework?"

These school-wide procedures are also helpful for new teachers, relieving some of the burden of creating systems for classroom management so that they can focus on classroom content.

CAT developed these school-wide procedures in consultation with teachers and in response to challenges that teachers were facing with classroom management and class transitions. In its early years, the school's lack of common and clearly defined expectations for students and teachers led to behavioral challenges, including high truancy, students walking the hallways during classes, disorganized behaviors, and so on. One 12th-grade student described CAT's transition to a more structured environment in the following way:

> [Principal] Allen, he slowly started putting in rules that had every child on check, and everybody started listening to the rules. CAT transformed in these 4 years from a school where

> **Focused Finish:**
> **How CAT Students End Each Class**
>
> **Step 1:** Students will complete classwork/assessment/exit slip.
>
> **Step 2:** Closure and reminders—students log homework, etc.
>
> **Step 3**: Students are not dismissed by the bell. Teacher will dismiss after students: return all work materials, sit in assigned seat, have clean work area, are silent.
>
> **Step 4:** When students are dismissed by the teacher, they are to push in their seat and exit.

you could do anything you wanted as a student, like not pay attention or anything like that, to a school where you have to follow the rules if you want to graduate. I actually like that.

Thus, while the use of common routines and classroom practices may seem rigid and not student-centered, they work in practice to minimize distractions and create the space for teachers to provide individualized instruction and for students to learn.

Individualized Instruction and Assessment: Meeting Each Young Person Where They Are

The teachers…try to help you. At other schools [teachers] might not really care if you pass or not. The teachers here, they really want you to succeed in life. They want you to keep trying. They hand out their cell phone numbers in case you need help. They want you to contact them at their email. They really want you to do your work and proceed to a good college and proceed to a good career.

— *Ninth/10th-grade focus group student*

A key part of CAT's student-centered approach is its focus on tailoring instruction and assessment to the needs of individual students to help every student succeed. As one teacher said, student-centered instruction at CAT is about "doing what it takes for kids to learn." This philosophy is reflected in the use of Response to Intervention (RTI)[8] processes to prevent academic failure through universal screening, progress monitoring, and increased levels of support for students who need it. At CAT, RTI is not only a strategy for identifying students in need of special education support, but is also a school-wide approach to help all students reach proficiency. CAT tailors instruction by using the workshop approach to facilitate individual support and by providing tiered content materials and tests.[9]

The workshop approach of instruction, which was described in the introduction to this case study, opens up opportunities for teachers and more advanced peers to provide one-on-one support to students who are struggling. In the workshop method, teachers engage students in a 10- to 15-minute "mini-lesson" on a core concept or demonstrate a hands-on activity. During this mini-lesson, teachers talk through their thinking process, demonstrating for the students how to approach the problem or activity. The ninth-grade English teacher describes:

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[8] RTI has its legal origins in the Individuals with Disabilities Education Act of 2004. Despite its origins in IDEA, RTI is a general education initiative that is designed to reach and support all struggling students, reduce the number of students who need IEPs, and increase the number of students achieving at grade level.

[9] Tiered instruction is a strategy for differentiating instruction that introduces a particular standard but that provides several different pathways for students to build understanding based on their existing skills and content expertise. This strategy requires that teachers have a good understanding of students' skill levels

> I want [students] to watch me first, and then I want [students] to try it
> and engage….I always call that the model. I'm like, "Okay I'm modeling
> it for you. I'm showing how I do it. I want you to use this if you're con-
> fused later."

Students are then released to work on a problem or activity on their own, in pairs, or in small groups. During this time, the teacher moves around the classroom to answer questions, check for understanding, and provide more focused support to the students who need it. In some cases, students who have a strong grasp of a concept are encouraged to help their peers.

The workshop approach provides the space for individual work and for ongoing scaffolding of learning by teachers and proficient peers. It serves as a vehicle through which teachers can differentiate instruction and engage one-on-one with students, meeting them where they are rather than expecting students to be at the same level. CAT's vice principal said it is important to scaffold skill development before releasing students to do complex projects on their own:

> A workshop should be able to account for [differences in skill levels] be-
> cause…it's skills-based and direct instruction….[It helps to address] how
> you 1) start to really evaluate your kids to say here are the gaps, and then
> 2) how do you directly start addressing those gaps?

To further differentiate instruction, many CAT teachers provide tiered work and tiered assessments for students, so that students can take on work that is appropriate to their skill level. Students get to choose what level of difficulty activity that they want to work

on, as well as whether they feel capable of doing work independently or whether they need to work in a small group with the instructor to reach a better understanding of the material. The following quote from a 10th-grade teacher captures this approach:

> I just meet them where they're at and allow them to perform at the level that they're at and then improve from there….Otherwise I don't think nearly as many of my students would be growing in proficiency. I think that most of them would just be quite discouraged. It is not lowering expectations for different students, but accommodating their strengths and weaknesses so that they can actually improve is something that I've just been trying to do this year.

When students choose a lower level of work than what they are capable of, CAT teachers pull them aside and have a one-on-one conversation with them about the importance of challenging themselves academically. Although these conversations sometimes need to occur numerous times, most students ultimately choose work that is at their own level because they want to be challenged and to fully show their abilities.

Table 7 highlights findings from the teacher survey illustrating the degree of individualized attention that teachers provide to students. CAT teachers are particularly adamant about providing extra support to students who need it, paying attention to what motivates students, identifying challenging yet achievable goals, and adjusting instruction to meet the needs of each student.

Table 7: Focus of Teachers at CAT and at Comparison High Schools

Teachers at this school….	CAT students, agree or strongly agree	Comparison schools students, agree or strongly agree
Provide extra support to students who need it	100%	89%
Pay attention to what motivates each student	83%	58%
Identify challenging yet achievable goals for each student	78%	62%
Adjust instruction to meet the needs of each student	71%	60%

Source: Teacher Survey Data[10]

Curriculum and Competencies: Providing Space for Self-Expression

> I've created almost all my curriculum….We have a lot of leeway in terms of how we [reach the standards], which I love. That was one of the biggest draws for me to be here.
>
> *—Upper-division teacher*

[10] Teacher Survey is of 18 teachers, 95%. Comparison data is taken from The Study of Deeper Learning Opportunities and Outcomes funded by the William and Flora Hewlett Foundation and conducted by the American Institutes for Research that included several of the schools in this study. The teacher comparison sample with a total of 356 teachers includes results from 12 schools across the country.

The curriculum is the "know" part of CAT's know, do, reflect framework. The curriculum is influenced by a number of factors, including the California State Standards and the core portfolio tasks that students need to complete in each grade level and each subject. The curriculum is shaped by the arts and technology theme, and, more implicitly, by themes of social justice and identity. As indicated in the quote from the upper division teacher, teachers at CAT have a great deal of discretion over what topics and content students will focus on. The curriculum goes hand in hand with the core competencies, which are the "do" part of the know, do, reflect continuum. The competencies, which are inquiry, analysis, research, and creative expression, act as a thread running through CAT's curriculum, and help bring consistency to what students are learning.

Table 8 (see page 23) highlights teachers' perspectives on curriculum and standards, showing that the work that Envision Education and CAT leaders have been doing in recent years to clarify learning expectations for students is working. Nearly all teachers agree or strongly agree that CAT has well-defined learning expectations for students and that when making important decisions, the school focuses on what is best for student learning. Partly because of the grade-level teacher teams, which are called families, most teachers feel there is consistency in curriculum and materials at the same grade level. The degree to which grade-level teaching teams coordinate on curriculum varies significantly by the composition of the team, but teams hold weekly "family meetings," where they discuss students and activities in their classes. Alignment of content *across* grade levels is much more of a challenge for CAT, because there isn't currently an opportunity for teachers to coordinate across grade levels. Furthermore, although teachers' discretion over their own curriculum supports autonomy and creativity, it contributes to the lack of alignment across grade levels, particularly in subjects like math.

CAT Competencies

RESEARCH: Students will present an argument about a historical, social science, scientific, or other issue. To demonstrate their mastery of research they must select a writing sample that embodies the following expectations, which are aligned to the Common Core.

INQUIRY: Students will formulate a question that can be explored by scientific or historical investigation. To demonstrate mastery of inquiry, they must select a writing sample or lab that embodies the following expectations.

CREATIVE EXPRESSION: Students will think critically and creatively and communicate their ideas powerfully, persuasively, and artistically. We expect students to demonstrate an understanding of artistic practice. Students shall use the arts as a tool to investigate and discuss topics and concerns that are relevant to artistic traditions and their lives.

ANALYSIS: Students will demonstrate the ability to read and think critically and communicate powerfully, skills that are aligned to the Common Core State Standards for English Language Arts.

Since 2011, teachers have been engaging in grade-level unit planning teams with the explicit goal of aligning curriculum to the core competencies. Students must have at least one proficient" task from each of the five core competencies as part of their portfolio defense. They must also integrate a reflection on the growth of their leadership skills as part of that defense presentation.

A core part of CAT's curriculum is its focus on art and technology, which encourages students to think critically about themselves and their environment. The walls of the 10th-grade art class, the hallways of the school, and student exhibitions include provocative art, which speaks both to personal issues of identity and to social issues. The art teacher explained that not all of the students at CAT are interested in becoming artists, but students can use art as a medium to express themselves. One art teacher notes:

> The number one [thing I want them to learn from my art class] would be creative problem solving….I feel like art is for you to be creative and find something out about yourself and express how you feel, and it's also a challenge. It's a problem….I'm not trying to make them into some fancy-pants artist. I just want them to get better at a skill and realize that they can make stuff and solve problems. It's a great way to deal with emotions sometimes. A lot of kids, they come to this school all messed up and they get into their painting and they chill out.

Although not an explicit priority of the school, CAT's curriculum includes a strong focus on social justice and identity. Social justice themes are incorporated at the

Table 8: Teacher Perspectives on Curriculum and Standards

Survey statement	CAT teachers, agree or strongly agree	Comparison schools teachers, agree or strongly agree
When making important decisions, the school always focuses on what's best for student learning.	89%	62%
There is consistency in curriculum, instruction, and learning materials among teachers in the same grade level at this school.	72%	58%
Curriculum, instruction, and learning materials are well-coordinated across different grade levels at this school.	50%	58%

Source: Teacher Survey

discretion of the teachers, who use them as a strategy to empower youth and encourage them to think critically. For instance, while exploring key events in world history, students discuss overarching themes and questions related to culture and subjectivity, the power of perspective, and resistance and complicity; and students explore how social class shapes perspective and behavior and reflect on how culture shapes their assumptions and beliefs. In English, students examine how literature is used to critique society, analyzing different persuasive techniques in writing and in other forms of media. Often there is an interdisciplinary dimension to the integration of social justice issues, particularly between social studies, English, and art.

Accountability to the Community: Portfolios and Authentic Assessments

The way we get graded is more just on how well we can present our information and our data and then reflect on it. And then after we're done reflecting on it we can hear what people have to say about it. You know all criticism is good criticism. That's what I think because you can always learn from some type or mistake or you can only learn from good information or bad information. I feel like compared to tests, exhibitions give you a lot more to build yourself off of rather than just seeing that you got an A.
—*CAT 12th-grade student*

As evidenced in the quotes from CAT graduates and the student above, one of the most impactful elements of CAT's approach for students is their use of portfolios, exhibitions, and other types of authentic assessment strategies. CAT uses an assessment system that emphasizes (1) mastery of knowledge, (2) application of knowledge, and (3) college work habits. Portfolios and exhibitions are tasks that fall under "application of knowledge," and their goal is to demonstrate that students can apply the content that they are learning in class and

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City Arts and Technology High School Assessment Dimensions for Classwork

MASTERY OF KNOWLEDGE
- Tests
- Quizzes
- Assessments of students' content knowledge

"Show that you know the content"
40% of Grade

APPLICATION OF KNOWLEDGE
- Essays
- Projects/Exhibitions
- Reflections
- Labs/Socratic Seminars
- Portfolio Tasks

"Show that you can apply the content"
50% of Grade

COLLEGE WORK HABITS
- Homework
- Participation
- Collaboration

"Learn the habits needed for college success"
10% of Grade

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that they have a deep understanding of academic disciplines. All students produce portfolio tasks, but only 10th graders and 12th graders must defend their work.

The portfolio tasks require students to demonstrate what they know and are able to do; emphasize the importance of reflecting on one's learning; produce meaningful indicators of student learning; and promote a shared understanding among students, teachers, and parents of what quality work is. Each course has the goal of at least two portfolio tasks per year, along with a short reflection for each task that is also graded. Tasks for the benchmark portfolio (10th grade) and graduation portfolio (12th grade) need to be certified, which means the task and product must meet the standard for proficiency in the portfolio rubric. It often takes a student several rounds of revision, in consultation with their advisor and the content area teacher, to meet these standards. The benchmark portfolio includes three pieces of work and cover letter, including a research paper (science/history) or literary analysis (English), inquiry (science/history), and creative expression (art). The graduation portfolio also includes all of these products, along with a detailed description of a workplace learning experience.

Once the portfolio tasks are assembled, 10th- and 12th-grade students must "defend" their work, dissertation-style, in front of a panel of teachers, as well as in front of their peers and family members. The portfolio defenses are one of the most unique moments

Twelfth-Grade Exhibition: Exploring Criminal Justice Issues

In an upper-division history class, students work individually at computers on educational fliers of a criminal justice topic of their choosing. Topics include racial profiling, death penalty and people of color, pregnant women in jail, and immigration and detention. They are conducting research on their topics, and are putting text, facts, and pictures into a flier template. When interviewed, students speak passionately about their issues, saying that the project is challenging in part because they need to be non-biased in their presentation, so that readers will see the content as factual, rather than as based in opinion. The teacher walks around the room, answering questions and providing advice. Ten minutes before the close of class, the students are told to save their work and do a "gallery walk," in which they move around the room and look at the work of their peers. The teacher says, "I would like you in particular to look at the layout of Chris. I also would like you to look at Mike's citations, as a good example. You aren't expected to read through the content, but the gallery walk will give a good idea of what your peers are working on." This project is part of a larger interdisciplinary project, developed over several years at CAT, where students create a video and campaign related to their criminal justice topic. In their English class, students read articles from people who espouse different ideas on criminal justice issues, and analyze the rhetorical devices that the authors are using to communicate their point of view and to persuade readers. In their art class, students create campaign materials, buttons, posters, and T-shirts related to their topic.

in the school, in which students articulate the skills they have learned in their classes and reflect on their level of learning. Tenth-grade students present a benchmark portfolio, and 12th-grade students must successfully defend a college success portfolio to graduate. Portfolio defenses must include one artifact from English or social studies, one artifact from science or math, and a third artifact of their own choice. The portfolio must also include a cover letter, which provides an assessment on student learning, articulating what each student knows, can do, and reflects upon. The cover letter introduces themes that the student will discuss in his or her oral defense.

During the portfolio defense, students begin by introducing themselves and providing an agenda for the presentation. Students frequently present a quote that reflects a central theme of their presentation. Students then present each of the three artifacts from their portfolios, answering targeted questions from the panel after the presentation of each artifact. Teachers on the panel ask questions such as, "Can you compare and contrast the process of preparing the inquiry report and preparing the video? How did you avoid plagiarism in the research process? Can you explain the scientific method? What are three essential lessons from the working world?"

At the end of the presentation and defense of artifacts, students present a summary of the themes of the presentation, and then articulate why they are ready to graduate, areas for growth, and what their future plans are. The student is then asked more questions by the panel, before the panel deliberates on whether the student has successfully passed the defense, using an assessment rubric (included as Appendix D). The defense concludes with the panel providing a final round of feedback and then wishing the student the best in future endeavors. The entire process serves as a rite of passage, and is very moving for both students and family members. A grandmother attending a defense spoke to the panel, saying, "I feel differently about CAT now that I see how you've helped my granddaughter grow. I know she's been working really hard, but you never know until you see it and I'm so proud of how she was able to get up there and talk in front of all these people." Likewise, the following quotes by two 12th-grade students speak to the value of these experiences.

> I think that college success portfolio is really like the ultimate self-reflection, like where was I at point A and where am I now at point B and why am I now ready to go off and be a successful person?….You're spending 4 years of your life constantly reflecting and thinking about how you can make yourself better. And I think they're trying to get us into the habit of that so then when we go to college we'll already be thinking like, "Okay this is good but for my next paper how can I make this better? Oh this was great but for my next class, this discussion, this presentation, how can I make it better?" And so I think they're trying to get us into the habit.

I feel that the grad portfolio—it's a big reflection on yourself. It's how you conducted yourself and you're arguing on why you deserve to be in college and why you're college-ready. It's just you're using your pieces of work as evidence and you're trying to persuade the teachers that you're college-ready….You could always cheat the system with grades and you could cheat on countless amounts of tests and all of that, but when you do the benchmarks or the grad portfolio this is you explaining yourself and you're putting it all out there. That's not something you could get the answers to. There's not a right answer. It's more of explaining yourself.

As illustrated by these quotes, students feel that the core values of portfolio tasks and exhibitions are that they provide real accountability and that they ask that students genuinely reflect on what they've learned and what it means for their future.

In addition to the portfolio tasks, students at each grade level participate in at least one exhibition a year. Exhibitions are an opportunity for students to engage in interdisciplinary work. For instance, 10th-grade students do an exhibition on *Animal Farm*, in which they do a literary analysis of the novel in English class, study the Russian Revolution in their history class, and prepare a poster of some of the symbols of the novel in their art class. An art teacher describes:

They study the Russian Revolution in history class…and then in my class they pick the character that they're writing about in English and they use symbolic images …to reflect the characteristics, beliefs, or importance in the revolution. [On the night of the exhibition] when they present, they…do a little group presentation on the Russian Revolution characters. Then they either memorize or read an excerpt from their speech… through the character's perspective in *Animal Farm.* They also show their art piece and describe what symbols they used and what it represents. Then parents vote on who they think the best citizen, the best leader for *Animal Farm* is. Actually it's one of my favorite exhibitions now because we've done it a few different times, and we've made it better.

In addition to these types of interdisciplinary exhibitions, the benchmark portfolio in the 10th grade, work learning experience project in the 11th grade, and graduation portfolio in the 12th grade are considered exhibitions.

Promoting a Culture of Critical Reflection

After every big project we will write a reflection on the process that we went through, what was going through our head, how we could have made it better, and what strengths we've had. The teachers, they want

the feedback on [their work] too, so like end of quarters and end of year sometimes all the teachers will try to figure out what they did right and what they could do better so they could improve for the next class.

—12th-grade focus group student

Ongoing reflection is a strong value at CAT: It plays a central role in student portfolios and defenses and is integrated into all of the school's activities, including teacher professional development. The focus on reflection is a metacognitive strategy, providing students with regular opportunities to monitor and assess their learning, and to understand how their ability to learn changes and develops over time. CAT requires that students reflect on and articulate what they are learning as part of most of their assignments and, furthermore, CAT provides multiple opportunities for students to revise their work and demonstrate mastery in their assessment tasks.

CAT students are required to reflect on their learning during portfolio defenses, exhibitions, and their work-learning experiences. The reflections are supposed to attest to the rigor and relevance of the artifact they are including for that specific subject area. Students reflect on their personal connection to the material they have learned, answering questions such as: What is the relevance of the concepts learned to create the artifact?

How have explorations in the subject area affected the way you look at and understand yourself and the world? Students are also asked to reflect on the academic value of the work, answering questions such as: What are the essential understandings that the artifact demonstrates? What skills and strategies did you apply to complete the artifact? What challenges did you face in completing the task? What did you learn when you overcame those challenges?

Reflection also happens on a daily basis, as students are asked to describe their understanding of course material in exit slips and to provide real-time assessments of their understanding. Further, in tests, students are asked to reflect on their thinking processes and articulate how they know what they know, as this lower-division teacher describes:

> The reflection piece is very useful because that's the cornerstone for their presentations for benchmark. That's what they're going to talk about when they talk about their tasks in addition to…what those tasks show about their academic identity.

Another key characteristic of CAT's approach is to provide students multiple opportunities to revise their work and to demonstrate understanding. For instance, the math teacher includes math questions from earlier units on each test, and if the student correctly answers those questions, then he or she can increase the score received on the earlier exam. Thus, the student has an opportunity to keep improving throughout the year. Similarly, students receive feedback on their written work and have opportunities to revise.

One challenging part of the revision cycle was that it was time-intensive, and students were taking many rounds of revisions to get a piece of work certified for their portfolio. An upper-division teacher described, "Some papers there will be 10-12 revisions… and at that point…the teacher is really writing the paper for the kid." Thus, to increase students' sense of accountability, CAT has limited the total number of opportunities for revision on a portfolio piece to three.

Collaboration and Professional Development

During his first year at CAT, Principal Allen hosted a series of professional development sessions with administrators and teachers to collaboratively define what effective teaching looks like at the school. At these sessions, administrators and teachers shared and debated all aspects of what Principal Allen calls "the architecture of a results-oriented classroom," which includes classroom management practices, instructional strategies, unit planning, and even how teachers prefer to physically organize their classrooms. Through these sessions, CAT administrators and teachers not only defined, but also began to put into action their seemingly conflicting yet highly nuanced and informed approach to teacher collaboration and professional development: that teachers should be empowered to innovate, yet also be held to clear and shared expectations of what it means to be an effective teacher at CAT.

The following paragraphs delve into four key elements at CAT that embody this approach: "family meetings," leadership teams, a culture of transparency, and the strong role of learning specialists in supporting teachers who serve students with IEPs.

Fostering Teamwork Through "Family Meetings"

One structure that facilitates ongoing collaboration among teachers at CAT is "family meetings." All teachers within a grade are part of a "family" that meets on a weekly basis. For instance, history, English, math, science, and art teachers and learning specialists who work with ninth-grade students are part of the ninth-grade family. During

these meetings, teachers typically discuss the progress of students, coordinate activities, and support each other with their work (i.e., addressing problems of practice, providing updates on upcoming events, helping to review or grade student work). The textbox below provides an in-depth look at one such meeting held by the 11th-grade family.

Teachers generally value these meetings, which they feel provide them with a much-needed space to regularly connect with and support other teachers. One teacher described how this space is essential to combatting the loneliness and stress that often accompany teaching:

> Family meetings are the strongest part of CAT that I've seen. There is structured time every Wednesday to meet as a family and just talk…. When I think back to my previous teaching experience, we didn't have this collaborative time, and so it was kind of like every teacher in their own little world….There's just this expectation that teachers are communicating….And that time builds culture, and I think it has really helped me to be able to know what is going on.

These meetings also enable teachers to support their students, particularly those who are struggling, in a collaborative way. For example, teachers within a family may discuss their

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Observations of an 11th-Grade Family Meeting at CAT

Today, CAT's 11th-grade family meets in a classroom to reflect on the past semester. Sitting around a large table are members of the family: one Geometry and Algebra 2 teacher; one U.S. History teacher, two English teachers, one science teacher, one Spanish teacher, and one learning specialist. These teachers' teaching experience is as varied as the subjects they cover, ranging from those who have worked at CAT for more than three years to those who are currently completing their first year of teaching.

The 90-minute meeting begins informally, with family members chatting and snacking on their favorite gummy candies. The family members then proceed to discuss the progress of individual students, conversations that occupy the bulk of the meeting. For example, one teacher expresses her concerns about a good student whose grades may be declining because he is about to become a father. Other teachers share her concerns, noting that they had similar observations of him in their respective classes. All of the teachers then commit to checking in more often with the student, to ensure that he feels adequately supported and stays on track. Next, the group engages in a "plus/delta" brainstorming activity to reflect upon the progress they have been able to achieve as a family during this past semester and sets new goals for the upcoming semester. Feeling supported, having fun with each other, and "pushing each other as a team" are identified as "pluses," whereas finding more time to visit and observe each other's classrooms is noted as an area for change. The meeting finally concludes with family members sharing updates on ongoing developments and upcoming activities, such as revisions to grading protocols and coordinating students' internship placements.

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concerns about a student's academic progress, share strategies and challenges, and then create a group action plan to engage that particular student. An administrator explained:

> [Family meetings are] a really good way for teachers to communicate about kids; that's how the entire team can be informed on a student that's struggling. And it helps to break some of the isolation that a teacher might feel if they think they're the only ones who are really struggling with a student.

Using Lead Teams to Cultivate Teacher Leadership

Lead teams are another mechanism that helps teachers at CAT regularly collaborate with each other, as well as with administrators and other school staff members. The school convenes several lead teams: (1) the CAT lead team, which is comprised of administrators and lead teachers from each grade level and is responsible for addressing school-wide priorities and issues; (2) departmental lead teams, which are each comprised of teachers within a department and are responsible for addressing department-specific priorities and issues; (3) the literacy lead team, which is comprised of administrators and teachers and is responsible for spearheading the school's new literacy efforts; (4) the advisory team, which is responsible for improving advisories; and (5) the data and RTI teams, which are responsible for looking closely at achievement data and thinking about how that data can be used to improve the quality of instruction.

Teachers generally volunteer to take on leadership opportunities, and they are encouraged to participate in different lead teams over time. These lead teams provide teachers with meaningful opportunities to connect with each other and administrators on broader issues. In particular, teachers serving on the CAT lead team are able to assume a direct role in shaping school-wide priorities and responding to school-wide issues. For example, the CAT lead team has helped to define and clarify grading protocols used by all teachers at the school. In this way, the CAT lead team plays an especially important role in fostering leadership and ensuring engagement among teachers at the school.

Promoting Peer Learning Through Transparency

At CAT, transparency is viewed as an essential prerequisite to effective and ongoing teacher collaboration and professional development. Principal Allen believes that by encouraging teachers to share their work, teachers are able to expand their "repertoire of instructional strategies" by drawing upon each other's expertise, identifying promising practices, and working together to address shared challenges in the classroom. Many teachers share this sentiment and feel that transparency helps them better understand and support their peers. Principal Allen captures the school's philosophy toward transparency:

[We want to give] teachers the tools—and in the case of teachers who already have those tools, the opportunity to share those tools and be leaders—of what powerful instruction looks like on a daily basis.…[We want] each member of the team to have an idea of what this teacher is trying to do, and what this teacher perceives as his or her own classroom.

A CAT teacher adds:

I think the more public our teaching is, the more people understand and can see where our mindsets are and where we're coming from when we talk about our curriculum or share our thoughts and whatnot. We're all different, but we all have to teach to the same kids.

To promote transparency, the school provides teachers with a number of ways to share teaching artifacts and practices on a consistent basis. For instance, art teachers at the school meet weekly to discuss, develop, and provide feedback to each other on lesson plans. One art teacher described such a meeting:

Last Monday, [CAT art teachers] all came up with our unit plan for the next few weeks. Then, we went through a protocol where we shared out what we're going to do and if it's aligning to a portfolio project…. Then, we critiqued each other's work and gave each other ideas to make it better.…[This collaboration time] was built into our professional development.

Meanwhile, teachers in other departments have begun to film their peers as they teach, in addition to sharing lesson plans via web-based platforms. Principal Allen also shared that the school has begun to conduct demonstration lessons during professional development sessions so that teachers are able to "isolate the elements of architecture that they employ in their classrooms for one another." By continuing to invest in practices that support teachers to both share and document their work, Principal Allen and other administrators hope to build a school-wide culture that is not only receptive to continuous learning, but also views improvement as an ongoing priority.

Collaborating With Learning Specialists to Support Students With IEPs

CAT's Special Education Department plays a significant role in helping teachers support the school's relatively high percentage of students with IEPs. The school's special education department consists of three learning specialists and one instructional aide, each of whom is responsible for serving a caseload of 19 to 22 students. To support their respective students, these learning specialists conduct one-on-one meetings with their students' teachers on a weekly basis. These learning specialists also participate in their students' parent-advisor meetings, grade-level family meetings, and CAT lead team

meetings. Yet, the learning specialists' role in aiding teachers to support students with IEPs is notable not just because of their breadth of impact but also the depth of their work. Indeed, on any given day, a learning specialist may help several teachers develop and modify their curricula assist others in adapting their instructional strategies, and co-teach lessons alongside even more teachers. One learning specialist's description of "all the kinds of things that come up" during a typical one-on-one meeting with teachers illuminates the flexible, responsive, and understanding way in which CAT's learning specialists support teachers:

> Sometimes, I walk into a teacher meeting and that teacher has not yet planned out their unit, so suddenly I'm helping them to flesh out their ideas…And [during this] we think about the accommodations and modifications and how to get all those students, even those who struggle, to be successful within that project….[Or] maybe they already have their unit, so then I'm going in and saying, "How have we accounted for this student on a modified curriculum or this student and his or her needs?".…[Or] we will have check-ins [about specific students]…and focus in on how to approach a student and different strategies around getting that student to engage and diving into the IEP and thinking about that.

These learning specialists' dedication to supporting teachers is reflected in teachers' feedback. All teachers at CAT reported engaging in activities to address the needs of students with disabilities at least once a month, with nearly one-third of teachers stating that they engaged in such activities on a weekly basis. This level of engagement is mark-

edly higher at CAT than at other comparable schools. All teachers at CAT also agreed that participating in collaboration and professional development activities focused on addressing the needs of students with disabilities has improved their ability to teach such students. In fact, 65% of teachers at the school felt that these activities have improved their ability to teach students with disabilities "moderately" or by "a lot."

As shown in this section, these four elements of CAT's approach to teacher collaboration and professional development—family meetings, leadership teams, a culture of transparency, and the strong role of learning specialists in supporting teachers who serve students with IEPs—have contributed to regular practices that teachers feel positively support their ability to share with and learn from peers on an ongoing basis. This is also reflected in teacher survey data, which show that the vast majority of teachers at CAT feel that they have regular opportunities to collaborate with their peers and work together to better serve their students. In particular, the data show that CAT is especially strong at providing teachers with opportunities to discuss and collaboratively define school-wide practices and standards for student learning, as compared to comparison schools. Table 9 describes these findings in greater depth.

Table 9: Teacher Perceptions of Teacher Collaboration Opportunities

How frequently do you do each of the following with other teachers in your school:	CAT teachers, sometimes or frequently	Comparison schools teachers, sometimes or frequently
We share and discuss student work	89%	Not Available
I am observed by another teacher	61%	39%
I observe another teacher teaching	72%	49%
We plan lessons and units together	61%	Not Available
We explore new teaching approaches to increase student engagement and learning	72%	Not Available
We clarify standards for student learning through in-depth discussion and analysis of student work	72%	57%
We examine the alignment of curricular materials and student assessments at our school	83%	68%

Source: Teacher Survey

Conclusion

As a small school, serving a population that is predominantly low-income students of color, CAT is very successful at promoting college readiness and at building skills that promote college retention. CAT's strengths lie in its small size, its portfolio-based standards and assessments, the way that teachers collaborate to provide support and interventions for students, its collegial culture, its focus on establishing consistent processes across classrooms, its focus on metacognitive reflection—or getting students to reflect on what they understand and don't understand—and its focus on serving students with IEPs and other learning disabilities. CAT is also distinguished by a school-wide commitment to reflection and continuous improvement that promotes ongoing dialogue about what is working and what is not working for its students. The school was founded with a strong student-centered focus, emphasizing project-based learning, student-based inquiry, student exhibitions, interdisciplinary instruction, ongoing professional development, and a culture of revision and redemption. The balance between these various components has shifted over the years, as school leaders have moved to establish more structure, placing a high priority on consistency in instruction and on creating high-quality standards for portfolios. CAT's story is informative because it illustrates the need to balance student-centered instruction with teacher-centered instruction, particularly for students with high academic needs. CAT is still working toward striking the perfect balance here. School leaders and instructors are engaged in dialogue about this balance, taking on hard questions, such as: When are students "ready" to take on certain types of projects? When do students need direct instruction to develop foundational skills? How do you support really innovative instruction when you have young novice teachers and teacher attrition is high? What constitutes a project? How do you support strong student agency and accountability? In many ways, CAT's success lies in its willingness to grapple with these questions and its unrelenting focus on student achievement and success.

Appendix A: Methodology and Data Sources

City Arts and Technology High School

The case study employs mixed methods, with data drawn from multiple sources, including interview, observation, and survey data. Interviews were conducted of school staff, parents, current students, graduates, and community members. Surveys were administered to teachers, students, and graduates. Observations were conducted of classrooms, staff collaboration, and professional development and performance assessment activities. Graduate college attendance data was gathered from the National Clearinghouse data set. Student achievement data was gathered from data available to the public from the California Department of Education. The table below provides a detailed accounting of the data sources.

Type of Data Source	Number
Administrator Interviews	3
Teacher/Other School Staff Interviews	9
Student Focus Groups	2
Parent Focus Group	1
Graduate Interviews	4
Classroom and Advisory Observations	7
Observations	
Teacher professional development/Teacher collaboration	4
Student exhibitions and portfolio defenses	7
Parent meeting	1
Student Survey	154 surveyed Response rate 39%
Teacher Survey	18 surveyed Response rate 95%
Graduate Survey	38 surveyed Response rate 11%

Appendix B: Bell Schedule, Course Progression, Graduation Requirements

Bell Schedule

Monday	Tuesday	Wednesday (WLE Day)	Thursday	Friday
Period 1 8:30 - 9:45 (75)	Period 5 8:30 - 9:35 (65)	Period 1 8:30 - 9:20 (50)	Period 5 8:30 - 9:35 (65)	Period 1 8:30 - 9:45 (75)
Period 2 9:50 - 11:05 (75)	Period 4 9:40 - 10:45 (65)	Period 2 9:25 - 10:15 (50)	Period 4 9:40 - 10:45 (65)	Period 2 9:50 - 11:05 (75)
Period 3 11:10 - 12:25 (75)	Period 3 10:50 - 11:55 (65)	Period 3 10:20 - 11:10 (50)	Period 3 10:50 - 11:55 (65)	Period 3 11:10 - 12:25 (75)
Lunch 12:25 - 1:05 (40)	Lunch 11:55 - 12:35 (40)		Lunch 11:55 - 12:35 (40)	Lunch 12:25 - 1:05 (40)
Period 4 1:10 - 2:25 (75)	Period 2 12:40 - 1:45 (65)	Period 4 11:15 - 12:05 (50)	Period 2 12:40 - 1:45 (65)	Period 4 1:10 - 2:25 (75)
Period 5 2:30 - 3:45 (75)	Period 1 1:50 - 2:55 (65)	Period 5 12:10 - 1:00 (50)	Period 1 1:50 - 2:55 (65)	Period 5 2:30 - 3:45 (75)
	Advisory 3:00 - 3:45 (45) Academic Support Class 3:45 - 4:30 (45)		Advisory 3:00 - 3:45 (45) Academic Support Class 3:45 - 4:30 (45)	

Course Progression

Ninth	10th	11th	12th
Global Studies	World History	U.S. History	AP Government
English Language & Literature	English Language Arts	American Literature	World Literature
Algebra 1	Geometry	Algebra 2	Pre-calculus
Physics	Biology	AP Environmental Science	Advanced Art
Digital Media Art	Visual Arts	Non-Native Speaker: Spanish 1 Native Speaker: Spanish Language	Non-Native Speaker: Spanish 2 Native Speaker: AP Spanish

City Arts and Tech Graduation Requirements

1. Create, present, and pass a digital graduation portfolio. Through the portfolio system graduates will demonstrate:

a. Mastery of knowledge and skills in at least three of the following six academic areas:
- English Language Arts
- Mathematics
- Science
- History/Social Science
- Language
- Visual Arts and Technology

b. Mastery of the four Envision Schools Leadership Skills:
- Think Critically
- Complete Projects Effectively
- Collaborate Productively
- Communicate Powerfully

2. Successfully complete University of California and California State University minimum A-G subject requirements (see UC/CSU A-G Notification)
- English—4 years
- Mathematics—3 years (algebra I, geometry, algebra II)
- Science—2 years (biology, chemistry, physics)
- History/Social Science—2 years (World History, U.S. History)
- World Language—2 years
- Visual Arts and Technology—1 year
- College Prep Elective—1 year (additional year of science, math, history, or art)

3. Completion of Workplace Learning Experience internship and project

4. Pass California High School Exit Examination (exceptions may apply to qualifying students)

5. Submit at least one college application to a 4-year university

Appendix C: CAT Lifelong Learning and Leadership Goals

These skills are integrated across CAT's various academic tasks.

Graduation Vision: Lifelong Learning & Leadership

To graduate from an Envision high school, a student will demonstrate mastery of content-specific concepts, skills, and understandings learned through the completion of academic coursework and undertaking of major projects, as well as:

Communicate Effectively and Persuasively: Students understand principles of effective communication and use precise language. They articulately, effectively, and persuasively communicate both orally and in writing to a range of audiences in a variety of ways. They listen with understanding and empathy, follow instructions, and request clarification;

Manage Projects Effectively: Students understand and use project-planning skills. They set goals and develop strategies to meet those goals in a timely manner. They acquire and use information and resources to implement their strategies. They evaluate the effectiveness of their approach;

Think Critically: Students analyze information and ideas from multiple perspectives. They apply principles of logical reasoning. They demonstrate the ability to deconstruct concepts, text, and argument. They synthesize or generalize information and apply lessons learned to new or different situations;

Solve Problems Resourcefully: Students recognize problem situations; identify, locate, and organize information; and propose, evaluate, and select alternative solutions. They are comfortable taking risks, and are creative and flexible in their approach to problems;

Express Themselves Creatively: Students integrate and present ideas and concepts in previously unimagined ways. They apply artistic processes and skills, using a variety of media to communicate meaning and intent; and

Collaborate Productively: Students work cooperatively, share responsibilities, accept supervision, and assume leadership roles. They demonstrate cooperative working relationships across diverse groups and are open-minded to different points of view.

Appendix D: Evaluation Rubric for Portfolio Defense

FORMAL OR ACADEMIC PRESENTATION

SCORING DOMAIN	EMERGING	E/D	DEVELOPING	D/P	PROFICIENT	P/A	ADVANCED
CONTENT AND PREPARATION	• A lack of organization makes it difficult to follow the presenter's ideas. • Draws on facts, experience, or research in a minimal way and/or it is unclear how they are related to the topic.		• Inconsistencies in organization and limited use of transitions may make it difficult to follow the presenter's ideas. • Partially draws on facts, experience, and/or research that may be unclear how they are related to the topic.		• Presentation is organized with a beginning, middle, and end, and utilizes appropriate transitions. • Draws on facts, experiences and research to express an understanding of the topic.		• Presentation is clearly and logically organized, with an engaging introduction, a logically sequenced body with effective transitions, and a clear and convincing conclusion. • Facts, experience and research are synthesized to demonstrate an understanding of the topic.
PRESENTATION SKILLS	• Makes minimal use of presentation skills, including body posture, language, eye contact, voice and timing. • Uses language that is unsuited to the topic and audience • Responses to the questions are vague and demonstrate a minimal command of the facts or understanding of the topic.		• Makes partial use of presentation skills, including body posture, language, eye contact, voice and timing. • Uses language that is at times unsuited to the topic and audience • Responses to the questions are limited and demonstrate a partial command of the facts or understanding of the topic.		• Demonstrates a command of presentation skills, including body posture, language, eye contact, voice and timing. • Uses appropriate language that is suited to the topic and audience • Responses relate to the questions and demonstrate an adequate command of the facts and understanding of the topic.		• Demonstrates consistent command of presentation skills, including body posture, language, eye contact, voice and timing that keep the audience engaged. • Uses sophisticated and varied language that is suited to the topic and audience • Responses to questions are precise and persuasive, demonstrating an in-depth understanding of the facts and topic.
OVERALL EFFECTIVENESS	• Presenter lacks enthusiasm. • Presenter's energy and affect are unsuitable for the audience and purpose of the presentation.		• Presenter shows minimal enthusiasm. • Presenter's energy and/or affect are partially appropriate for the audience and purpose of the presentation.		• Presenter shows some enthusiasm. • Presenter's energy and affect are appropriate for the audience and support the presentation.		• Presenter is consistently enthusiastic. • Presenter maintains a presence and a captivating energy that is appropriate to the audience and purpose of the presentation.

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Appendix D: Evaluation Rubric for Portfolio Defense

Benchmark/College Success Portfolio Oral Defense Checklist

Name of Student: _____

Committee members: _____

Date/Time/School: _____

Oral Defense Assessment Criteria

The members of the Oral Defense Committee assess a student's performance on the following criteria:

What does this student know? (Mastery of Knowledge)
- ❏ Student demonstrates detailed content knowledge through each artifact, including the context of each artifact.
- ❏ Student provides appropriate and consistent evidence to support the thesis and arguments about the contents of the portfolio.
- ❏ Student relates knowledge to the explanation of the world around him or her.

What can this student do? (Application of Knowledge)
- ❏ Student connects and applies learning from one area of study **or** point of view to another.
- ❏ Student demonstrates evidence of the use and application of the 21st Century Leadership Skills:

– *Think **C**ritically*	– ***C**ommunicate Powerfully*
– ***C**ollaborate Productively*	– ***C**omplete Projects Effectively*

How reflective is this student? (Meta-Cognition)
- ❏ Student recognizes his or her growth, accomplishments and successes.
- ❏ Student honestly acknowledges areas where further personal and/or cognitive growth and development are needed, and has a plan or strategy to manage their needs.

Presentation Skills
- ❏ Student has clear and well organized presentation.
- ❏ Student shows a command of presentation skills: body posture, language, eye contact, voice and timing.
- ❏ Student communicates clearly and uses effective language to convey a thesis, ideas and opinions in defense of his or her learning.
- ❏ Student makes effective use of Digital and/or Visual elements to demonstrate his or her learning.

Student's Response to Questions and Comments
- ❏ Student directly responds to questions and comments from members of the panel.
- ❏ Student uses evidence/examples to convincingly support answers to questions.

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