

DESIGN TECH HIGH SCHOOL

d.tech

DIVERSE STUDENTS INNOVATION-READY

“ We believe that all students have superpowers, the ability to make a unique contribution to the world. And it's our job as educators to help students uncover that ability.

KEN MONTGOMERY, EXECUTIVE DIRECTOR AND FOUNDER, D.TECH

KEY FEATURES:

- ✓ New School
- ✓ Flex Blended Model
- ✓ Competency-Based Learning
- ✓ Project-Based and Experiential Learning
- ✓ Higher Education Partnership

AT A GLANCE:

Start Date: Fall 2014
Grades Served: 9-12
Location: Millbrae, CA
Operator: Design Tech High School
Operator Type: Charter
Setting: Urban
Students at Start: 142
Students at Capacity: 500

MODEL TOOLBOX:

Student Information System: School Pathways
Gradebook: School Pathways
Assessment Tools and Approaches: Performance tasks, Moodle, Math XL, Google Classroom
Digital Content Providers: BYU
Hardware: Chromebooks

The Vision: In today's world, we can choose what information to consume, when, where, and in what form. The founders of Design Tech High School (d.tech) created a school with this kind of extreme personalization where students convert ubiquitous information into knowledge and put their knowledge into action. The goal of d.tech is innovation-ready students who graduate from college in four-years. Following expert [Teresa Amabile's](#) understanding of innovation as the intersection of expertise, creative thinking skills, and motivation, d.tech develops innovation-ready students by combining content knowledge with the design thinking process while fostering a sense of autonomy and purpose.

The Academic Model:

Self-Pacing and High Standards: Throughout high school, students gain increasing ownership over what, how, and when to study. Students complete performance tasks to synthesize and apply multiple concepts to demonstrate deeper learning and mastery as they move through a standards-based curriculum.

d.tech uses a flex schedule, fueled by assessment data. Teachers create new schedules each week, selecting among group work, individual tutoring, direct instruction, and participation in performance tasks. When a teacher does not assign tasks, students self-direct their work in the learning hub accessing course content and a playlist of concepts and questions to address. Help is available when needed.

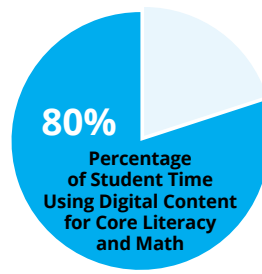
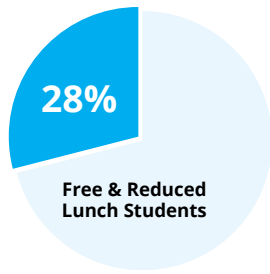
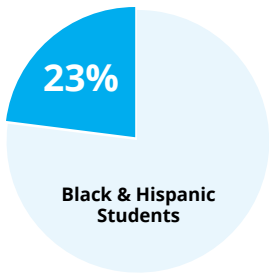
Since every d.tech student has a personalized learning experience, the school model and the flex schedule help teachers provide accommodations effectively for English learners and students with disabilities who take part in mainstream curriculum according to their IEP.

Design Thinking: Design thinking extends project-based learning which often leaves out the most important aspect of problem-solving: identifying a problem worth solving.

d.tech's founders have distilled the design thinking process into three steps: explore, create, learn. Students are taught how to explore the world around them and empathize with others, a necessity in creating a human-centered design. Students then build in order to learn by developing and testing multiple prototypes to help better understand the problem rather than waiting for the perfect solution. Lastly students learn how to refine their models with engineering and fabrication skills based on user feedback.

In a four-year design advisory, students learn design thinking, engineering, and entrepreneurial skills to tackle problems they feel are important. In ninth grade, students focus on building and fabrication. They use low-tech materials such as cardboard and foil as well as the high-tech tools in d.tech's campus fabrication lab (FabLab), like 3-D printers, laser cutters, routers, and programming tools.

In tenth through twelfth grades, students formulate their own design



BLENDED SUBJECTS:
All

BY THE NUMBERS:

Year 1 public revenue per pupil: \$9,530
 Year 1 expenses per pupil: \$12,466
 Year 4 revenue per pupil: \$8,970
 Year 4 expenses per pupil: \$8,885
 Years to sustainability: 3

challenges in areas of interest and communicate their vision to authentic audiences, just as entrepreneurs do when they pitch their ideas. Possible design challenges include redesigning Halloween, improving the casual dining experience, or redesigning morning in their local community.

The school calendar also includes four two-week Intersessions for elective courses.

The Organizational Model: Teachers roles include diagnostician,

facilitator, and coach. A director of health and wellness focuses on holistic wellness and independent study in physical education. Instructional assistants serve as tutors in the learning hub or as student data specialists.

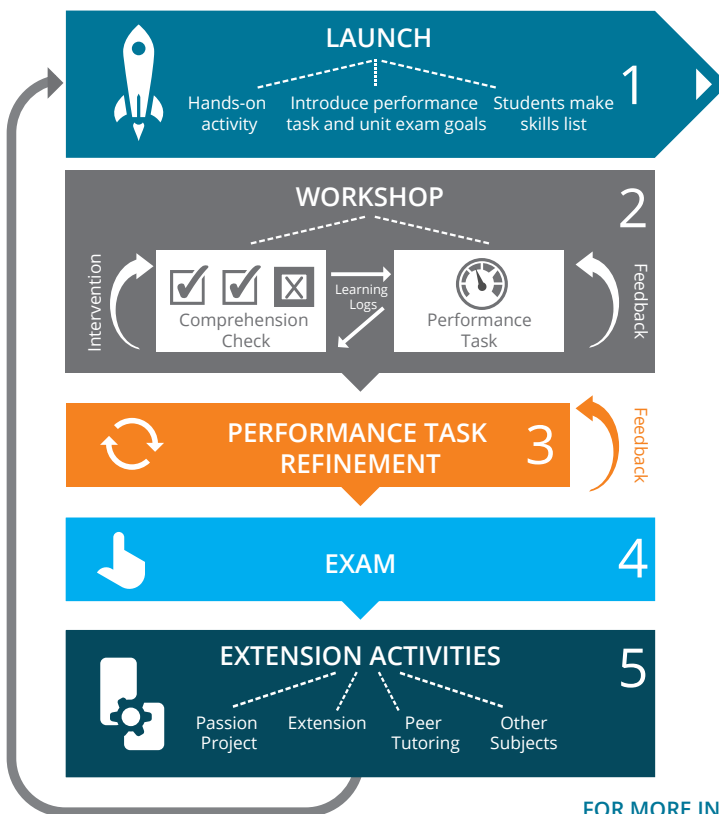
Teachers have three different career paths: *rock star teachers* focus on successful teaching and community contributions, *teacher leaders* continue successful teaching and take on site leadership roles,

and *teacher professors* continue successful instruction and take on roles in d.tech's anticipated graduate school of education.

The Operator: d.tech is the first charter school authorized by its local district. It is led by a local team that is taking advantage of its access to Silicon Valley to build a school informed by top technology entrepreneurs, innovators, and educators. For example, Stanford University's d.school has been involved in designing the design advisory class and MBA students in an Executive Education course at Stanford helped design the first few weeks of school. And the Thiel Foundation has reserved 20 spots for d.tech students in their Under 20 Summit, an opportunity to be mentored by top entrepreneurs in Silicon Valley and start developing professional networks.

d.tech has received support from the Oracle Education Foundation and intends to scale up by disseminating its curriculum through networks like the Stanford d.school K-12 network, and by eventually launching a graduate school of education, allowing d.tech to certify teachers and contribute to the research community.

THE LEARNING CYCLE



Students work at their own pace through a standards-based online curriculum to develop deep content knowledge and the ability to apply that knowledge. Within a unit playlist assigned by a teacher, students complete learning activities and assessments to learn the required concepts. Once they build conceptual understanding, they must demonstrate mastery of the unit—before moving on—by completing a performance task. Examples include labs, debates, projects, tutoring other students, and other tasks that synthesize and apply multiple concepts. Students also build design portfolios to show their progress as a designer.

FOR MORE INFORMATION:

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