

Supplemental Information on CCL Strategies

Offer more career connected learning: Often delivered in partnerships between schools, community groups, and businesses, career connected learning¹ provides youth with a range of experiences to develop and apply academic, technical, trade, and entrepreneurial skills to support their future career success. These experiences span a continuum from career awareness to exploration to preparation to training and include worksite tours, career presentations, industry-based design challenges, and internships. Seeing how students can connect their interests to a great local career in Hawai'i has never been easier thanks to the newly-developed Hawaii Industry Sectors career exploration website². Another resource, the Hawaii Data eXchange Partnership,³ links data across education agencies to workforce, and can inform programs at all levels of the career connected landscape. Many of Hawaii's schools have career academies or offer one or more of the state's six career pathways⁴ by grouping common skills and knowledge around career specialties.

Career connected learning can also help Hawaii's employers nurture student interest in careers within their industry and even have the chance to build mentor relationships with potential applicants. Recent research shows that, especially for first-generation students, the most valued source of advice⁵ is from experiences gained while working and from employers, coworkers, and people with experience in the field. Many of our students have never met a STEM professional and know little or nothing about the jobs that could give them a bright future right here in Hawai'i. As a result, those students may not even explore promising career pathways in their schools or communities. Other students have great momentum along their professional STEM pathways, but may not have a clear route back from a mainland college to work opportunities here in Hawai'i. Local partnerships like the Connect 2 Careers⁶ coalition between the University of Hawai'i System, Hawai'i Department of Education (HIDOE), and local chambers of commerce are working to expand those relationships. With college costs and student loan debt on the rise as well as 51% of students reporting serious regrets about their college experience,⁷ there is an urgent need to provide students with more of these types of decision-making supports.

Build in-demand skills: The new world of work demands more than just content knowledge in STEM fields (science, technology, engineering, and mathematics). Learning and innovation skills such as

http://news.gallup.com/opinion/gallup/211070/regret-college-choices.aspx

¹ "Career Connected Learning Continuum," Washington STEM, retrieved 24 October 2017 from https://washingtonstem.app.box.com/s/6wgkxyrmqp83u0jssypp177c4nn5xc22

² "Hawai'i Industry Sectors," University of Hawai'i, retrieved 24 October 2017 from http://uhcc.hawaii.edu/workforce/index.php

³ "Hawai'i Data eXchange Partnership," retrieved 29 November 2017 from http://hawaiidxp.org/

⁴ "Hawai'i Career Pathway System Handbook," Office of the State Director for Career and Technical Education, retrieved 29 November 2017 from http://www.hawaiipublicschools.org/DOE%20Forms/CTE/CTEhandbook.pdf

⁵ "Major Influence: Where Students Get Valued Advice on What to Study in College", Gallup, Inc. and Strada Education Network, September 2017

⁶ "Connect to Careers – C2C," Hawai'i State Department of Education, retrieved 18 October 2017 from http://www.hawaiipublicschools.org/TeachingAndLearning/StudentLearning/C2C/Pages/home.aspx
Brandon Busteed, "Do You Regret Your College Choices?" Gallup News, retrieved 18 October 2017 from

analytic reasoning, complex problem solving, and teamwork help students succeed even as the pace of technological and economic change accelerates. These key practices are promoted through Hawaii's implementation of the Next Generation Science Standards⁸ as educators make science more engaging and enjoyable by interweaving disciplines and promoting student-driven discovery. Nearly 90 percent⁹ of accessible "good" jobs now require high or medium-level digital skills, so digital literacy skills that will help students navigate the use of media and communication technology are vital. Young workers are also likely to change jobs at a much higher rate than previously, as much as once every 4.4 years on average¹⁰. With this type of employment mobility, workers need strong career and life skills that enable them to be flexible and adaptable in different roles or in different career fields.

Personalize learning: Research from the learning sciences¹¹ has pointed out that students thrive and persist in all fields of study when education methods address their individual learning styles. Among the most diverse community of learners in the country, 86% of Hawaii's students are from racial minority groups and 58% have at least one special need such as economic disadvantage or special education. Seventeen percent of Hawaii's K-12 schools are designated as "rural" and 42% of these rural schools are considered "remote"¹² and can only connect to metropolitan centers by costly air transport. Less than 33% of Hawaii's high school students demonstrated proficiency in math or science¹³ in 2015-16. It is estimated that up to one in five children in Hawai'i have learning and attention issues such as dyslexia and ADHD.

Some highly effective practices that tailor learning to individual students have emerged from local and national circles. Kamehameha Schools research concluded that the use of 'aina (land, sea, air)¹⁴ and culture-based¹⁵ education is positively related to math and reading scores for all students, particularly those with low socio-emotional development. Various educational technology tools¹⁶ based on the science of learning, have emerged as promising ways to instantly adjust teaching to accommodate different learning styles. The tenets of project-based learning¹⁷ also provide many effective differentiation practices like design thinking¹⁸ that requires students to create solutions to problems faced by specific individuals or groups. "Real life" activities create relevance, build confidence, fuel curiosity and give students a sense of purpose.

⁸ NGSS Lead States, "Next Generation Science Standards: For States, By States", 2013, retrieved 18 October 2017 from https://www.nextgenscience.org/

⁹ Mark Muro, Sifan Liu, Jacob Whiton, and Siddharth Kulkarni, "Digitalization and the American Workforce", Metropolitan Policy Program at Brookings, November 2017

¹⁰ Eddy Ng Ph.D., "Are Millennials More Likely to Switch Jobs and Employers?" Psychology Today, retrieved 15 November 2017 from https://www.psychologytoday.com/blog/diverse-and-competitive/201503/are-millennials-more-likely-switch-jobs-and-employers

¹¹ "Making Learning Personal for All: The Growing Diversity in Today's Classroom", Digital Promise Global, retrieved 15 November 2017 from http://digitalpromise.org/wp-content/uploads/2016/09/lps-growing diversity FINAL-1.pdf

¹² "Equitable Access to Excellent Educators", Hawai'i State Department of Education, November 2015, retrieved 18 October 2017 from https://www2.ed.gov/programs/titleiparta/equitable/hiequityplan120715.pdf

¹³ "Hawai'i Department of Education Data Book", Office of the Superintendent, June 2017, retrieved 18 October 2017 from http://www.hawaiipublicschools.org/Reports/SuptReport2016.pdf

 $^{^{14}}$ Brandon C. Ledward, "Aina-Based Learning is New Old Wisdom at Work", Hulili: Multidisciplinary Research on Hawaiian Well-Being Volume 9, Kamehameha Schools, 2013

¹⁵ Shawn Kana'iaupuni, Brandon Ledward, 'Umi Jensen, "Culture-Based Education and Its Relationship to Student Outcomes", Kamehameha Schools Research & Evaluation, September 2010

¹⁶ "Learner Positioning Systems," Digital Promise, retrieved 6 December 2017 from http://digitalpromise.org/initiative/learner-positioning-systems/

¹⁷ "Why Project Based Learning (PBL)?" Buck Institute for Education, retrieved 15 November 2017 from http://www.bie.org/

¹⁸ "Design Thinking," Edutopia, George Lucas Educational Foundation, retrieved 15 November 2017 from https://www.edutopia.org/blogs/tag/design-thinking