



Education Technology Occupations Labor Market Information Report Foothill College

Prepared by the San Francisco Bay Center of Excellence for Labor Market Research
February 2021

Recommendation

Based on all available data, there appears to be an “undersupply” of Education Technology workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara county). There is a projected annual gap of about 9,648 students in the Bay region and 2,841 students in the Silicon Valley Sub-Region. In addition, because Foothill College’s intent with the three proposed new certificates is to train incumbent teachers in educational technology with varying specialties, the gap analysis that is normally done between supply and demand is not as relevant in this report.

Introduction

This report provides student outcomes data on employment and earnings for TOP 0860.00 - Educational Technology programs in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Foothill College and in the region.

This report profiles Education Technology Occupations in the 12 county Bay region and in the Silicon Valley sub-region for three separate proposed new Certificates of Achievement in 1) Steam Instructional Leadership 2) Emerging Technology Leadership and 3) Education Technology Specialist at Foothill College. Foothill College indicates: “the three mentioned certificates are to train teachers in educational technology with varying specialties.”

- **Computer Occupations, All Other (15-1299):** All computer occupations not listed separately. Excludes “Computer and Information Systems Managers” (11-3021), “Computer Hardware Engineers” (17-2061), “Electrical and Electronics Engineers” (17-2070), “Computer Science Teachers, Postsecondary” (25-1021), “Multimedia Artists and Animators” (27-1014), “Graphic Designers” (27-1024), “Computer Operators” (43-9011), and “Computer, Automated Teller, and Office Machine Repairs” (49-2011).
Entry-Level Educational Requirement: Bachelor’s degree
Training Requirement: Moderate-term on-the-job training
Percentage of Community College Award Holders or Some Postsecondary Coursework: 26%
- **Elementary School Teachers, Except Special Education (25-2021):** Teach students basic academic, social, and other formative skills in public or private schools at the elementary level. Substitute teachers are included in “Teachers and Instructors, All Other” (25-3099). Excludes “Special Education Teachers” (25-2050).
Entry-Level Educational Requirement: Bachelor’s degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 5%
- **Middle School Teachers, Except Special and Career/Technical Education (25-2022):** Teach students in one or more subjects in public or private schools at the middle, intermediate, or junior high level, which falls between elementary and senior high school as defined by applicable laws and regulations. Substitute teachers are

included in “Teachers and Instructors, All Other” (25-3099). Excludes “Career/Technical Education Teachers, Middle School” (25-2023) and “Special Education Teachers” (25-2050).

Entry-Level Educational Requirement: Bachelor’s degree

Training Requirement: None

Percentage of Community College Award Holders or Some Postsecondary Coursework: 5%

- **Secondary School Teachers, Except Special and Career/Technical Education (25-2031):** Teach students in one or more subjects, such as English, mathematics, or social studies at the secondary level in public or private schools. May be designated according to subject matter specialty. Substitute teachers are included in “Teachers and Instructors, All Other” (25-3099). Excludes “Career/Technical Education Teachers, Secondary School” (25-2032) and “Special Education Teachers” (25-2050).

Entry-Level Educational Requirement: Bachelor’s degree

Training Requirement: None

Percentage of Community College Award Holders or Some Postsecondary Coursework: 4%

- **Instructional Coordinators (25-9031):** Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses. Includes educational consultants and specialists, and instructional material directors.

Entry-Level Educational Requirement: Master’s degree

Training Requirement: None

Percentage of Community College Award Holders or Some Postsecondary Coursework: 13%

Occupational Demand

Table 1. Employment Outlook for Education Technology Occupations in Bay Region

Occupation	2019 Jobs	2024 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Computer Occupations, All Other	38,984	41,907	2,923	7%	18,757	3,751	\$ 41.02	\$ 56.52
Elementary School Teachers, Except Special Education	37,582	38,291	709	2%	14,960	2,992	\$ 29.42	\$ 38.09
Middle School Teachers, Except Special and Career/Technical Education	9,109	9,398	289	3%	3,739	748	\$ 28.28	\$ 35.56
Secondary School Teachers, Except Special and Career/Technical Education	21,926	22,466	540	2%	8,386	1,677	\$ 34.67	\$ 42.92
Instructional Coordinators	4,289	4,643	354	8%	2,416	483	\$ 26.45	\$ 34.30
Total	111,890	116,705	4,815	4%	48,258	9,651	\$34.28	\$45.11

Source: EMSI 2020.4

Bay Region includes: Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Education Technology Occupations in Silicon Valley Sub-region

Occupation	2019 Jobs	2024 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Computer Occupations, All Other	14,091	15,207	1,116	8%	6,826	1,365	\$ 47.30	\$ 64.70
Elementary School Teachers, Except Special Education	8,927	9,040	113	1%	3,457	691	\$ 32.93	\$ 42.33

Occupation	2019 Jobs	2024 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Middle School Teachers, Except Special and Career/Technical Education	1,857	1,899	42	2%	737	147	\$ 31.52	\$ 36.81
Secondary School Teachers, Except Special and Career/Technical Education	7,183	7,264	81	1%	2,629	526	\$ 34.83	\$ 43.59
Instructional Coordinators	940	1,043	103	11%	558	112	\$ 28.42	\$ 36.63
Total	32,998	34,453	1,455	4%	14,207	2,841	\$39.27	\$51.68

Source: EMSI 2020.4

Silicon Valley Sub-Region includes: Santa Clara County

Job Postings in Bay Region and Silicon Valley Sub-Region

Table 3. Number of Job Postings by Occupation for latest 12 months (Feb 2020 - Jan 2021)

Occupation	Bay Region	Silicon Valley
Middle School Teachers, Except Special and Career/Technical Education	5,202	1,223
Elementary School Teachers, Except Special Education	3,632	707
Secondary School Teachers, Except Special and Career/Technical Education	2,453	444
Instructional Coordinators	501	122

Source: Burning Glass

Table 4a. Top Job Titles for Education Technology Occupations for latest 12 months (Feb 2020 - Jan 2021)

Bay Region

Title	Bay	Title	Bay
Nanny	201	Middle School Science Teacher	60
Teacher	191	High School Math Teacher	54
English Teacher	148	Middle School Teacher	52
Elementary Teacher	128	Physical Education Teacher	51
Spanish Teacher	120	Regular Babysitter For 3 Children	50
Science Teacher	95	History Teacher	45
Elementary School Teacher	72	High School English Teacher	40
Math Teacher	71	Occasional Babysitter For 3 Children	37
Middle School Math Teacher	65	English Language Arts Teacher	37

Source: Burning Glass

Table 4b. Top Job Titles for Education Technology Occupations for latest 12 months (Feb 2020 - Jan 2021)

Silicon Valley Sub-Region

Title	Silicon Valley	Title	Silicon Valley
Nanny	50	Elementary Teacher In Training	18
Teacher	46	Social Studies Teacher	15
English Teacher	43	Physical Education Teacher	15
Elementary Teacher	42	Middle School Science Teacher	15
Elementary School Teacher	26	Middle School Teacher	13
Science Teacher	23	Middle School Math Teacher	13
Spanish Teacher	19	Lunch And Extended Teacher	13

Title	Silicon Valley	Title	Silicon Valley
Math Teacher	19	Education Coordinator	12
Elementary Floater Teacher	19	Regular Babysitter For 3 Children	11

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Education Technology Workers in Bay Region

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2019)	Jobs in Industry (2024)	% Change (2019-24)	% Occupation Group in Industry (2019)
Elementary and Secondary Schools (Local Government)	53,676	52,199	-3%	47%
Elementary and Secondary Schools	14,993	15,484	3%	13%
Custom Computer Programming Services	8,136	9,190	13%	7%
Computer Systems Design Services	4,654	4,975	7%	4%
Software Publishers	2,695	3,260	21%	3%
Internet Publishing and Broadcasting and Web Search Portals	2,481	2,920	18%	2%
Federal Government, Civilian, Excluding Postal Service	2,484	2,449	-1%	2%
Data Processing, Hosting, and Related Services	1,869	2,237	20%	2%
Corporate, Subsidiary, and Regional Managing Offices	1,425	1,304	-8%	1%
Other Computer Related Services	1,170	1,418	21%	1%

Source: EMSI 2020.4

Table 6. Top Employers Posting Education Technology Occupations in Bay Region and Silicon Valley Sub-Region (Feb 2020 - Jan 2021)

Employer	Bay	Employer	Silicon Valley
Oakland Unified School District	784	San Jose Unified School District	100
San Ramon Valley Unified School District	278	Stratford School	74
Pajaro Valley Unified School District	118	Alpha Public Schools	61
Envision	118	Nobel Learning Communities	46
Stratford School	107	Milpitas Unified	43
Pleasanton Unified School District	103	Santa Clara Unified School District	42
San Jose Unified School District	100	Ace Charter Schools	35
National Alliance For Public Charter Schools	95	Palo Alto Unified School District	32
Vacaville Unified School District	92	Summit Public Schools	31
Aspire Public Schools	92	Union Elementary School	30
Summit Public Schools	90	Campbell Union School District	29
Kipp Bay Area Schools	83	Foothill De Community College District	27
Dublin Unified School District	81	Diocese Of San Jose Dsj	27
Swing Education	70	Challenger School	26

Source: Burning Glass

Educational Supply

There is a one (1) community college in the Bay Region issuing 3 awards on average annually (last 3 years ending 2018-19) on TOP 0860.00 - Educational Technology. In the Silicon Valley Sub-Region, there are no community colleges issuing awards on average annually (last 3 years) on this TOP code. There are no other CTE educational institutions in the Bay Region issuing awards on average annually (last 3 years ending 2016-17) on TOP 0860.00 - Educational Technology.

Table 7. Community College Awards on TOP 0860.00 - Educational Technology in Bay Region

College	Subregion	Certificate Low	Total
Merritt	East Bay	3	3
Total		3	3

Source: Data Mart

Note: The annual average for awards is 2016-17 to 2018-19.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 9,651 annual openings for the Education Technology occupational cluster and 3 annual (3-year average) awards for an annual undersupply of 9,648 students. In the Silicon Valley Sub-Region, there is also a gap with 2,841 annual openings and no annual (3-year average) awards for an annual undersupply of 2,841 students. In addition, because Foothill College's intent with the three proposed new certificates is to train incumbent teachers in educational technology with varying specialties, the gap analysis that is normally done between supply and demand is not as relevant in this report.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0860.00 - Educational Technology

2018-19	Bay All CTE Program	Foothill All CTE Program	State 0860.00	Bay 0860.00	Silicon Valley 0860.00	Foothill College 0860.00
Students with a Job Closely Related to Their Field of Study *	75%	88%	74%	82%	71%	71%
Median Annual Earnings for SWP Exiting Students	\$45,864	\$67,768	\$85,052	\$87,140	\$91,848	\$91,792
Median Change in Earnings for SWP Exiting Students	31%	46%	10%	10%	12%	11%
Exiting Students Who Attained the Living Wage	53%	72%	80%	84%	87%	90%

Source: Launchboard Strong Workforce Program (Version 2018-19). *Asterisk shows (Version 2017-18)

Skills, Certifications and Education

Table 9. Top Skills for Education Technology Occupations in Bay Region (Feb 2020 - Jan 2021)

Skill	Posting	Skill	Posting
Teaching	10,601	Learning Styles	304
Lesson Planning	1,215	Cardiopulmonary Resuscitation (CPR)	298
Special Education	688	Assessment Data	275
Tutoring	549	Child Development	259
Social Studies	446	Physics	259
Scheduling	442	Managing Student Data	238
Music	382	Group Instruction	235

Skill	Posting	Skill	Posting
Child Care	375	Customer Service	208
Progress Reports	375	Faculty Training	201
Educational Programs	355	Staff Development	199
Biology	353	Empower	190
Curriculum Development	352	Data Analysis	186
Chemistry	318	Working with Under-served Students	184
History	315	Early Childhood Education	180

Source: Burning Glass

Table 10. Certifications for Education Technology Occupations in Bay Region (Feb 2020 - Jan 2021)

Certification	Posting	Certification	Posting
Certified Teacher	1,071	Project Management Certification	27
Driver's License	280	Special Education Certification	22
Cross-Cultural Language and Academic Development	230	Food Handler Certification	13
First Aid Cpr Aed	227	Ca License	9
Certified Outpatient Coding (COC)	152	Board Certified/Board Eligible	9
Teaching English As A Foreign Language (TEFL)	44	Cdl Class C	6
Teachers of English To Speakers of Other Languages (TESOL)	44	Spanish Certification	5
Child Development Associate (CDA)	40	Security Clearance	5
Administrative Services Credential	32	Registered Dietitian	5
American Institute of Architects	30	Chartered Financial Analyst (CFA)	5

Source: Burning Glass

Note: 82% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

Table 11. Education Requirements for Education Technology Occupations in Bay Region

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
Associate's degree	206	4%
Bachelor's degree	4,532	78%
Master's degree and higher	1,034	18%

Source: Burning Glass

Note: 51% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

Methodology

Occupations for this report were identified by use of skills listed in O*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCCO Data Mart.

Sources

O*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard www.calpassplus.org/Launchboard/

Statewide CTE Outcomes Survey
Employment Development Department Unemployment Insurance Dataset
Living Insight Center for Community Economic Development
Chancellor's Office MIS system

Contacts

For more information, please contact:

- Leila Jamoosian, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), leila@baccc.net
- John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, jcarrese@ccsf.edu or (415) 267-6544