Finding Early Childhood Graduates in Hawai‘i’s Workforce

2017 Data Summit
Ho‘oku‘i: Connecting Education to Hawai‘i’s Economy
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Hawaiʻi P-20 Partnerships for Education strengthens the education-to-workforce pipeline.
Hawaiʻi Data eXchange Partnership (DXP) is a statewide longitudinal data system.

Partner Agencies:
• Hawaiʻi State Department of Education (HIDOE)
• University of Hawaiʻi (UH)
• Department of Labor and Industrial Relations
• Department of Health
• Department of Human Services
Why did we create the Hawai‘i DXP?

Partners recognize
- Each contributes to the continuum of early childhood, educational, and workforce outcomes of *shared individuals*

To improve outcomes
- Evaluate short- and long-term impacts of programs and services
- Identify areas for improvement

To accomplish this
- Share data to help answer questions that each Partner would not be able to answer with its own data
Hawaiʻi DXP allows for cross-sector analysis.

**Purpose:**
To improve student and workforce outcomes to benefit our community.
How can DXP data contribute to our understanding of the early childhood (EC) workforce in Hawai‘i?

Single Sector

Workforce: What is the size of Hawai‘i’s early childhood workforce? What are median wages in these occupations?

UH: How many students have graduated from early childhood programs at UH?

Cross-Sector

UH to Workforce: How many UH early childhood graduates are found in Hawai‘i’s workforce? What are median wages? What industries are they in?

How many UH graduates were working in early childhood in 2015? What degrees did these graduates complete?
Workforce Classifications

North American Industry Classification System (NAICS)
- Employer’s industry
- EC examples:
  - 624410 Child Day Care Services
  - 624110 Child and Youth Services
  - 624190 Other Individual and Family Services
  - 611110 Elementary and Secondary Schools
  - 813110 Religious Organizations

Standard Occupational Classification (SOC)
- Type of work performed by an individual
- EC examples:
  - 39-9011 Childcare Workers
  - 25-2011 Preschool Teachers, Except Special Education
  - 11-9031 Education Administrators, Preschool and Childcare Center/Program

• US Dept of Health & Human Services proposed 2018 revisions to Early Childhood Workforce SOC definitions
2016 Early Childhood Occupations in Hawai‘i

Source: BLS Occupational Employment Statistics (OES)
Note: OES based on surveys to sampled industries/employers; employers surveyed each year may differ
UH has more than doubled the number of EC degrees/certificates.


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<td>2003-2004</td>
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<td>2004-2005</td>
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<td>2010-2011</td>
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<td>281</td>
</tr>
</tbody>
</table>
# UH early childhood degrees/certificates

UH degrees/certificates awarded between Fall 2003 and Spring 2016

<table>
<thead>
<tr>
<th>Award Level</th>
<th>Certificate of Completion</th>
<th>Certificate of Competence</th>
<th>Certificate of Achievement</th>
<th>Associate</th>
<th>Bachelor</th>
<th>Master/Grad Cert</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAJOR</td>
<td>Early Childhood Education Human Services</td>
<td>Early Childhood Education Human Services</td>
<td>Early Childhood Education Human Services</td>
<td>Early Childhood Education Human Services</td>
<td>Early Childhood Education Family Resources Social Science</td>
<td>Early Childhood Education PK-3</td>
<td>2,436</td>
</tr>
<tr>
<td>Number of Awards</td>
<td>127</td>
<td>298</td>
<td>102</td>
<td>525</td>
<td>1,274</td>
<td>110</td>
<td>2,122</td>
</tr>
<tr>
<td>Graduates (based on highest EC award earned)</td>
<td>60</td>
<td>187</td>
<td>29</td>
<td>473</td>
<td>1,263</td>
<td>110</td>
<td>2,122</td>
</tr>
</tbody>
</table>
Bachelor degrees in Family Resources comprised 40% of EC awards.

UH degrees/certificates awarded between Fall 2003 and Spring 2016
Majority of EC award earners were female.

EC degree/certificate earners between Fall 2003 and Spring 2016

- Female: 91%
- Male: 9%

Ethnicity:
- Asian: 32%
- Filipino: 20%
- Native Hawaiian: 15%
- African American, American Indian, Hispanic, Multiple: 15%
- White: 13%
- Pacific Islander: 4%

Data sourced from HAWAI‘I P-20.
Overall, 65% of EC graduates completed an EC bachelor or higher.

Highest EC degree/certificate earned between Fall 2003 and Spring 2016

<table>
<thead>
<tr>
<th>Percent Bachelor or Higher</th>
<th>ASIAN</th>
<th>NATIVE HAWAIIAN</th>
<th>FILIPINO</th>
<th>OTHER</th>
<th>WHITE</th>
<th>PACIFIC ISLANDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>72%</td>
<td>189</td>
<td>200</td>
<td>121</td>
<td>111</td>
<td>118</td>
<td>10</td>
</tr>
<tr>
<td>53%</td>
<td>498</td>
<td>224</td>
<td>195</td>
<td>205</td>
<td>166</td>
<td>85</td>
</tr>
<tr>
<td>62%</td>
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<tr>
<td>65%</td>
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<tr>
<td>58%</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>89%</td>
<td></td>
<td></td>
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</tbody>
</table>
29% of EC award earners also earned non-EC degrees or certificates. EC degree/certificate earners between Fall 2003 and Spring 2016

Of the non-EC degrees/certificates completed, the most common major was liberal arts/humanities.
Cross-Sector: UH to Workforce

- How many UH early childhood graduates are found in Hawai‘i’s workforce?
- What are median wages?
- What industries are they in?
Hawaiʻi’s Workforce Data

Available:
- Quarterly wages
- Employer industry (NAICS code)

Not Available:
- Occupation of employee (SOC code)
- Full-/part-time status or hours worked
- Federal employees, out of state employees, the self-employed, employers that do not contribute to Hawaiʻi’s unemployment insurance
To track workforce outcomes through the third year after graduation, we looked at those who earned their highest EC degree/certificate between Fall 2006 – Fall 2013.

<table>
<thead>
<tr>
<th>Workforce Data Available in the Hawaii DXP</th>
<th>Calendar Years 2006 - 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to 2006 Not Available</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>EC Award Earned Fall 2003 - Spring 2016 (N=2,122)</th>
<th>Fall 2006 - Fall 2013 1,124</th>
<th>Spring 2013 - Spring 2016</th>
</tr>
</thead>
</table>
The majority of EC degree/certificate earners were found in Hawai‘i’s workforce through the third year after graduation.

Highest EC award earned Fall 2006-Fall 2013; not enrolled at UH after graduation

N = EC graduates not enrolled at UH after graduation
Context: Education graduates were most likely to be found working; similar patterns of declining percentage found over time.

Highest UH award earned Fall 2008 – Summer 2012, Hawaii residents only; no subsequent UH enrollment

By year 3, there is less variation in the percent of EC graduates found in Hawai‘i’s workforce by award level.

Highest EC award earned Fall 2006-Fall 2013; not enrolled at UH after graduation

<table>
<thead>
<tr>
<th>Award Level</th>
<th>Year 1 After Grad</th>
<th>Year 2 After Grad</th>
<th>Year 3 After Grad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate</td>
<td>75%</td>
<td>73%</td>
<td>73%</td>
</tr>
<tr>
<td>Associate</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
</tr>
<tr>
<td>Bachelor</td>
<td>70%</td>
<td>73%</td>
<td>73%</td>
</tr>
<tr>
<td>Grad/Master</td>
<td>90%</td>
<td>83%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Percent of EC graduates found in Hawai‘i’s workforce
Identifying Early Childhood Employers

Employer name match to Department of Human Services licensed provider list

- **EARLY CHILDHOOD PROVIDER**
  - (Preschool or Day Care services)
  - **220**
- **K-8 EDUCATION**
  - **105**
  - **154**
    - EC only
  - **66**
    - EC & any K-8
  - **39**
    - K-8 only
By the third year after graduation, 29% of EC degree/certificate earners were **found working in EC**.

Highest EC award earned Fall 2006-Fall 2013; not enrolled at UH after graduation

- Found working in Hawai‘i: 72%, 79%, 74%, 71%
- Found working in Early Childhood or K-8 Education: 36%, 46%, 44%, 42%
- Found working in Early Childhood: 28%, 32%, 31%, 29%
EC bachelor earners were the least likely to be working in EC.

Highest EC award earned Fall 2006-Fall 2013; not enrolled at UH after graduation

- Certificate: 44%, 45%, 47%, 47%
- Associate: 46%, 47%, 47%, 47%
- Bachelor: 16%, 22%, 21%, 19%
- Grad/Master: 62%, 58%, 56%, 50%
Family Resources graduates were less likely to be found working in Early Childhood than EC bachelor earners.

Highest EC award earned Fall 2006-Fall 2013; not enrolled at UH after graduation

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>Year 1 After Grad</th>
<th>Year 2 After Grad</th>
<th>Year 3 After Grad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Childhood</td>
<td>38%</td>
<td>37%</td>
<td>37%</td>
</tr>
<tr>
<td>(167 Grads)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Resources</td>
<td>9%</td>
<td>17%</td>
<td>16%</td>
</tr>
<tr>
<td>(525 Grads)</td>
<td></td>
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</tbody>
</table>
Median wages increased through the third year after graduation.

Highest EC award earned Fall 2006-Fall 2013; total wages from all employers; excludes those enrolled at UH after graduation

<table>
<thead>
<tr>
<th>Yr of Graduation</th>
<th>N=1,124</th>
<th>n=808</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1 After Grad</td>
<td>N=851</td>
<td>n=675</td>
</tr>
<tr>
<td>Year 2 After Grad</td>
<td>N=890</td>
<td>n=661</td>
</tr>
<tr>
<td>Year 3 After Grad</td>
<td>N=927</td>
<td>n=662</td>
</tr>
</tbody>
</table>

Median wages:
- Year 1: $19,296
- Year 2: $31,430
- Year 3: $36,278
- Year 3 (32% increase over year 1 median wage): $38,303

25th Percentile:
- Year 1: $3,553
- Year 2: $12,500
- Year 3: $18,322

75th Percentile:
- Year 1: $19,296
- Year 2: $31,430
- Year 3: $36,278

N = EC graduates not enrolled at UH after graduation
n = Found working in Hawai‘i
**Median wages increased with level of award earned.**

Highest EC award earned Fall 2006-Fall 2013; total wages from all employers in Yr 3; excludes those enrolled at UH in Yr 3

<table>
<thead>
<tr>
<th>Award</th>
<th>Employed in Yr 3</th>
<th>Median Wage Yr 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate</td>
<td>69</td>
<td>$23,984</td>
</tr>
<tr>
<td>Associate</td>
<td>140</td>
<td>$24,363</td>
</tr>
<tr>
<td>Bachelor - Early Childhood Education</td>
<td>101</td>
<td>$40,936</td>
</tr>
<tr>
<td>Bachelor - Family Resources</td>
<td>312</td>
<td>$28,377</td>
</tr>
<tr>
<td>Graduate Certificate/Master</td>
<td>40</td>
<td>$44,535</td>
</tr>
</tbody>
</table>
Of those found working in year 3, **28% were employed solely in Early Childhood**, and **41% were not employed in EC or K-8 Education at all.**

Highest EC award earned Fall 2006-Fall 2013; found working in Yr 3; excludes those enrolled at UH in Yr 3.
### Top five industries of EC grads not employed in EC or K-8 Education

**Highest EC award earned Fall 2006-Fall 2013; total wages from all employers in Yr 3; excludes those enrolled at UH in Yr 3**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Employed in Yr 3</th>
<th>Median Wage Yr 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care and Social Assistance</td>
<td>81</td>
<td>$28,650</td>
</tr>
<tr>
<td>Educational Services</td>
<td>33</td>
<td>$31,252</td>
</tr>
<tr>
<td>Accommodation and Food Services</td>
<td>31</td>
<td>$25,210</td>
</tr>
<tr>
<td>Administrative and Support and Waste Management and Remediation Services</td>
<td>27</td>
<td>$24,077</td>
</tr>
<tr>
<td>Other Services (except Public Administration)</td>
<td>24</td>
<td>$28,121</td>
</tr>
</tbody>
</table>
Cross-Sector: UH to Workforce

• How many UH graduates were working in early childhood in 2015?

• What degrees did these graduates complete?
Population: All UH graduates through Fall 2014, not enrolled at UH in 2015, and found working in 2015.

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>UH Award Earned Fall 2002 - Fall 2014</td>
<td>91,067</td>
</tr>
<tr>
<td>Not Enrolled at UH 2015</td>
<td>80,029</td>
</tr>
<tr>
<td>Found Working in 2015</td>
<td>42,010</td>
</tr>
<tr>
<td>Not Found Working in 2015</td>
<td></td>
</tr>
<tr>
<td>Enrolled at UH in 2015</td>
<td></td>
</tr>
</tbody>
</table>
3% of UH graduates had earned an EC degree/certificate; 5% of UH graduates were working in EC in 2015.

POPULATION: 42,010
61% of **EC award earners** were not working in EC in 2015; 80% found working in EC in 2015 did not earn an EC award from UH.

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**EC Award Earners**
- 1,109

**Working in EC**
- 2,111

**Not Working in EC**
- 427

**No EC Award from UH**
- 1,684

**Not Working in EC**
- 682
Over ¾ of the UH graduates found working in EC in 2015 who did not earn an EC award completed a bachelor’s degree or higher.

The most common non-EC major was Social/Behavioral Sciences.

The highest non-EC award from UH is shown in the pie chart and the bar chart:
- Bachelor or higher: 78%
- Certificate or Associate: 22%

Non-EC Award:
- Social/Behavioral Sciences: 27%
- Liberal Arts/Humanities: 25%
- Education (non-EC): 24%
- Business & Communication: 11%
- All Other Majors: 13%

N = 1,684
Top five industries of EC grads not employed in EC

Highest EC award earned Fall 2002-Fall 2014; total wages from all employers in 2015; excludes those enrolled at UH in 2015

<table>
<thead>
<tr>
<th>Industry</th>
<th>Employed in 2015</th>
<th>Median Wage 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Services</td>
<td>270</td>
<td>$48,864</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>131</td>
<td>$32,740</td>
</tr>
<tr>
<td>Accommodation and Food Services</td>
<td>53</td>
<td>$28,413</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>43</td>
<td>$23,453</td>
</tr>
<tr>
<td>Other Services (except Public Admin)</td>
<td>39</td>
<td>$30,725</td>
</tr>
</tbody>
</table>
How can DXP data contribute to our understanding of the early childhood (EC) workforce in Hawai‘i?

**Single Sector**

**Workforce:** What is the size of Hawai‘i’s early childhood workforce?
What are median wages in these occupations?

**UH:** How many students have graduated from early childhood programs at UH?

**Cross-Sector**

**UH to Workforce:** How many UH early childhood graduates are found in Hawai‘i’s workforce?
What are median wages?
What industries are they in?

How many UH graduates were working in early childhood in 2015?
What degrees did these graduates complete?
How can DXP data contribute to our understanding of the early childhood (EC) workforce in Hawai‘i?

**Single Sector**

**Workforce:**
- 4,420 early childhood occupations in Hawai‘i in 2016.
- Median wage by occupation ranged from $19,500 to $43,400.

**UH:**
- Between Fall 2003 to Spring 2016, there were 2,122 EC graduates.
- 65% of EC graduates completed a bachelor’s degree or higher.

**Cross-Sector**

**UH to Workforce:**
- 71% of EC graduates found in Hawai‘i’s workforce in the third year after graduation.
- Median wage by award level in the third year after graduation ranged from $23,900 to $44,500.
- EC graduates are in health care and social assistance industry.
- 5% of UH graduates were working in early childhood in 2015.
FOR QUESTIONS, CONTACT:

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