The Future of Work...
Skills are the DNA of a Job.

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OVERVIEW

• Foundational Skills in the Digital Economy.
• The Power of Transportable Skills
• The Hybrid Job Economy
• Application of Labor Market Data
Foundational Skills of the Digital Economy

- Human skills
- Business enablers
- Digital building blocks

32% increase in demand in past 5 years

Analyzed resumes and over 150 M unique US Job postings
Demand for Foundational Skills

- Earn More ($8K Higher)
- Salary Premium (7%-38% higher) Digital/Business
- Increased job mobility
- Blended Digital Professional

<table>
<thead>
<tr>
<th>Digital Building Blocks</th>
<th>Business Enablers</th>
<th>Human Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing data</td>
<td>3,527,740</td>
<td>24%</td>
</tr>
<tr>
<td>Software development</td>
<td>3,326,192</td>
<td>44%</td>
</tr>
<tr>
<td>Computer programming</td>
<td>2,571,728</td>
<td>35%</td>
</tr>
<tr>
<td>Analyzing data</td>
<td>1,320,678</td>
<td>68%</td>
</tr>
<tr>
<td>Digital security &amp; privacy</td>
<td>895,547</td>
<td>75%</td>
</tr>
<tr>
<td>Business process</td>
<td>3,215,648</td>
<td>18%</td>
</tr>
<tr>
<td>Project management</td>
<td>2,354,230</td>
<td>21%</td>
</tr>
<tr>
<td>Digital design</td>
<td>1,427,981</td>
<td>2%</td>
</tr>
<tr>
<td>Communicating data</td>
<td>147,219</td>
<td>323%</td>
</tr>
<tr>
<td>Communication</td>
<td>5 million</td>
<td>27%</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>3,666,249</td>
<td>31%</td>
</tr>
<tr>
<td>Collaboration</td>
<td>3,480,175</td>
<td>46%</td>
</tr>
<tr>
<td>Analytical skills</td>
<td>2,395,145</td>
<td>24%</td>
</tr>
<tr>
<td>Creativity</td>
<td>1,217,062</td>
<td>23%</td>
</tr>
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</table>
## Transportable Skills

<table>
<thead>
<tr>
<th>Skills</th>
<th>Total Openings</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>8,687,707</td>
<td>1</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>5,776,671</td>
<td>2</td>
</tr>
<tr>
<td>Collaboration</td>
<td>4,997,561</td>
<td>3</td>
</tr>
<tr>
<td>Creative and Critical Thinking</td>
<td>4,543,980</td>
<td>4</td>
</tr>
<tr>
<td>Customer Service</td>
<td>3,831,705</td>
<td>5</td>
</tr>
<tr>
<td>Organizational Skills</td>
<td>3,744,956</td>
<td>6</td>
</tr>
<tr>
<td>Sales</td>
<td>2,744,465</td>
<td>7</td>
</tr>
<tr>
<td>Microsoft Excel</td>
<td>2,797,912</td>
<td>8</td>
</tr>
<tr>
<td>Physical Abilities</td>
<td>2,069,991</td>
<td>9</td>
</tr>
<tr>
<td>Scheduling</td>
<td>2,055,007</td>
<td>10</td>
</tr>
<tr>
<td>Ethical Reasoning and Mindset</td>
<td>939,987</td>
<td>31</td>
</tr>
<tr>
<td>Leadership</td>
<td>899,399</td>
<td>32</td>
</tr>
<tr>
<td>Accounting</td>
<td>826,711</td>
<td>33</td>
</tr>
</tbody>
</table>

Evaluated (OCT ‘17 - Sept ‘18) over 25 M Unique job Postings
Entry Level Occupations

<table>
<thead>
<tr>
<th>OCCUPATION</th>
<th>SHARE OF OPENINGS REQUESTING TRANSPORTABLE SKILLS</th>
<th>MEDIAN ENTRY-LEVEL SALARY</th>
<th>MEDIAN SALARY FOR ALL EXPERIENCE LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Analyst</td>
<td>79%</td>
<td>$60,000</td>
<td>$68,000</td>
</tr>
<tr>
<td>Network Administrator</td>
<td>74%</td>
<td>$65,000</td>
<td>$74,000</td>
</tr>
<tr>
<td>Business Analyst</td>
<td>72%</td>
<td>$66,000</td>
<td>$77,000</td>
</tr>
<tr>
<td>Auditor</td>
<td>71%</td>
<td>$65,000</td>
<td>$74,000</td>
</tr>
<tr>
<td>Data Analyst</td>
<td>71%</td>
<td>$60,000</td>
<td>$68,000</td>
</tr>
</tbody>
</table>

Require >1 Transportable skill

57% Entry level jobs require

78% of all high paying entry level jobs

91% Stem Jobs

average salaries up to $21,810 greater than the average for all jobs
Hybridization
New Skills are Rewriting the DNA of the Job Market

JOBS ARE MIXING SKILLSETS THAT DO NOT FIT TYPICAL PROGRAM LINES

Disruptors fall into five key areas:
- Big Data and Analytics
- Intersection of Design and Development
- Sales and Customer Service
- Emerging Digital Technologies
- Evolving Compliance and Regulatory Landscape

Apache
Hadoop,
Machine
Learning, and
Data
Engineering
HOW YOU CAN PARTNER WITH EMPLOYERS TO UPSKILL EXISTING POOLS OF TALENT

Sample Feeder Jobs: Marketing Data Analyst

Overlapping Skills:
- Marketing
- SQL
- Customer segmentation

Skills to Add
- R
- Data management
- Tableau

Key Skills:
- Data analysis
- SQL
- Salesforce/CRM
- Marketing
- Project Management
- SAS
- Data management
- Tableau
- R
- Python
- KPIs
- Customer behavior
- Customer segmentation

General Data Analyst

Bi Analyst

Overlapping Skills:
- Data analysis
- SQL
- Data management

Skills to Add
- Marketing
- Salesforce/CRM
- Customer segmentation

Marketing Operations Specialist

Marketing Data Analyst

Overlapping Skills:
- SQL
- Data Analysis
- Tableau

Skills to Add
- Marketing
- Customer behavior
- Customer Segmentation
Hybrid Jobs Salary Premiums

The introduction of a single skill can increase salaries up to 40%.
Recommendations

- Recognize these skills as essential outcomes for 21st century learners.
- Communicate the central value of these skills to all stakeholders, particularly students.
- Help students develop these skills by integrating them into curricula.
Theory

- Develop New Programs
- Re-Tool Program offerings based upon workforce desired competencies
- Sunset programs no longer meeting enrollment levels or filling workforce needs.
- Develop marketing strategies to maximize impact
Application:

- New Programs
  - BS Respiratory Care
  - BSN
- Re-Tool
  - CIS / Business = Data Analytics
- Sunset
  - Program short of enrollment levels for sustainability / investigate next option to replace
- Marketing
  - Geo Target areas with largest job openings in Associates and Bachelor level programs
## Feasibility Studies

- **New Programs**
  - BS Respiratory Care
    - Determine Job Demand
    - Evaluate Competitive Landscape
  - CIS = Business Intelligence & Data Analytics
    - Determine desired employee skills
    - Develop curriculum to meet job demands
  - Precision Agriculture
    - Service Region is in rural area
    - Challenge evaluating job demand
Marketing Opportunities

- Program Specific Job Demand Areas
  - Geo Target areas with largest job openings in Associates and Bachelor level programs
    - BAS Respiratory, BAS Radiological Tech, BSN, BAS Dental Hygiene
  - Invest advertising dollars in the same place as open job opportunities.

- Wage information from Burning Glass to provide students ROI on educational investment
Demand for workers in respiratory care is split between Associate and Bachelor’s degree for Respiratory Therapists.

Gap in Supply is Substantial: Only 13 2018 Bachelor’s grads from regional institutions in Respiratory Care.

BAS Respiratory?

274 Job ads asking for knowledge of Pulmonology spans several occupations.

Respiratory Therapist is 48% of demand.
Skills help shape program

> Defining Skills are the Most important for curriculum building.

> Necessary skills are those common to Related Jobs.

### MSA's Colorado Springs & Pueblo: Skills Demand for Respiratory Therapists Last 12 Months

<table>
<thead>
<tr>
<th>Skill</th>
<th>Salary Premium</th>
<th>Job Postings Last 12 months</th>
<th>Projected Growth Next 2 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Necessary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment Planning</td>
<td></td>
<td>28</td>
<td>14.8%</td>
</tr>
<tr>
<td>Ventilation</td>
<td></td>
<td>15</td>
<td>NA</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>Yes</td>
<td>10</td>
<td>6.7%</td>
</tr>
<tr>
<td>Patient/Family Education and Instruction</td>
<td></td>
<td>7</td>
<td>5.7%</td>
</tr>
<tr>
<td>Defining</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory Therapy</td>
<td></td>
<td>105</td>
<td>-7.5%</td>
</tr>
<tr>
<td>Patient Care</td>
<td></td>
<td>56</td>
<td>-8.5%</td>
</tr>
<tr>
<td>Advanced Cardiac Life Support (ACLS)</td>
<td></td>
<td>50</td>
<td>-4.8%</td>
</tr>
<tr>
<td>Cardiopulmonary Resuscitation (CPR)</td>
<td></td>
<td>41</td>
<td>-3.0%</td>
</tr>
<tr>
<td>Life Support</td>
<td></td>
<td>29</td>
<td>3.0%</td>
</tr>
<tr>
<td>Distinguishing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neonatal Resuscitation</td>
<td>Yes</td>
<td>8</td>
<td>9.9%</td>
</tr>
<tr>
<td>Patient Transportation and Transfer</td>
<td></td>
<td>8</td>
<td>13.6%</td>
</tr>
<tr>
<td>Spirometry</td>
<td></td>
<td>7</td>
<td>3.8%</td>
</tr>
<tr>
<td>Pulse Oximetry</td>
<td></td>
<td>4</td>
<td>8.5%</td>
</tr>
<tr>
<td>Bronchoscopy</td>
<td></td>
<td>4</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: Labor Insight Jobs (Burning Glass Technologies)
Questions?

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