Connecting Communities

Exploring a Skills-Based Approach to Occupational Mobility

June 25, 2020

Organized by the Federal Reserve Bank of St. Louis
Welcome

Keith Wardrip
Federal Reserve Bank of Philadelphia

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Federal Reserve Bank of Cleveland

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Education Design Lab

Agenda for this webinar

New Research on the Transferability of In-Demand Skills

Practical Applications in Communities

Designing Micro-Pathways to Opportunity Occupations
The Connecting Communities® audio conference series is a Federal Reserve System initiative intended to provide timely information on emerging and important community and economic development topics with a national audience. The audio conference series complements existing Federal Reserve Community Development outreach initiatives that are conducted through our regional Reserve Bank offices and at the Federal Reserve Board of Governors in Washington, D.C.
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Community Development

The mission of the Federal Reserve’s community development function is to promote the economic resilience and mobility of low- to moderate-income and underserved individuals and communities.
Occupational Mobility:
New Research on the Transferability of In-Demand Skills

Keith Wardrip
Community Development Research Manager
Federal Reserve Bank of Philadelphia
The labor market offers some economic opportunity for non-college workers.

- Opportunity employment — defined as employment accessible to workers without a bachelor’s degree and typically paying above the national annual median wage — accounts for 21.6 percent of total employment.

- Some of the largest opportunity occupations, including a number in healthcare and the skilled trades, are expected to experience above-average growth in the coming years.

However, there are persistent and historical challenges to economic mobility. 

- Stickiness of lower-wage work and stagnating wages
- Consistent concerns over skills gaps
- Workers displaced by the pandemic

Workers displaced by the pandemic

Consistent concerns over skills gaps

Stickiness of lower-wage work and stagnating wages
Our guiding principles, data, and methods

**Occupations Defined by Tasks and Skills**

- An occupation can be defined as a bundle of tasks, for which a worker needs a certain set of skills.
- Occupations differ in the types of skills they require and the frequency with which the skills are required.

**Skills Described in Online Job Ads**

- We analyzed nearly 60 million online job advertisements posted between 2014 and 2018.
- Our analysis covers the 33 metro areas with at least 1 million jobs.

**Potential Transitions...**

- Occur within and between lower-wage and opportunity occupations.
- Require at least a 10 percent pay increase but not a bachelor’s degree.
- Involve destinations projected to remain stable or grow nationally between 2018 and 2028.

**Top Transitions...**

- Represent potential transitions with a similarity score greater than 0.75.
Skills can be viewed as a bridge rather than as a gap.

- Overall, we find a high degree of similarity between the skills required for lower-wage occupations and the skills required for opportunity occupations.

Note: Ranks ≤10 shaded dark orange; ranks >30 shaded light orange.

The vast majority of potential transitions involve very different skill sets...

- The average similarity score for the roughly 685,000 potential transitions analyzed is 0.25.

...but top transitions exist in every metro area.

- In the 33 metro areas analyzed, we find 4,097 top transitions (similarity score >0.75).

Nearly half of lower-wage employment can be paired with a top transition.

- The same is true for 29 percent of the jobs classified as opportunity occupations.

Top transitions can represent substantial wage gains.

Some destination occupations are commonly associated with a bachelor’s degree.

Strategies to improve economic mobility and help meet the needs of employers

• Skills-based hiring practices could expand hiring pools to include workers who do not have a bachelor’s degree – but who do have many of the skills required to do the job.

• Targeted training could provide otherwise qualified workers with the skills necessary to make a successful transition.

• Collaboration between employers, education providers, and workforce development organizations can ensure training meets local demand.
Occupational Mobility: Practical Applications in Communities

Kyle Fee

Senior Policy Analyst

Federal Reserve Bank of Cleveland
Practical Application

Use two local workforce development challenges to illustrate how a skills-based strategy can be used in practice

1. Filling in-demand, hard-to-fill, or locally important occupations
2. Post-COVID-19 job change for hard-hit occupations

Pros
- Way to get real-time local employer input
- Many practitioners already use online job ads data
- Potential to be customizable
- Potential to be pro-equity

Cons
- Status quo
- Assumptions
  - Jobholder/seeker possesses all of the skills found in an occupation
  - Skills in online job ads are comprehensive and complete
- Broad-based buy-in is necessary
- Some technical assistance may be required

Source: historicbridges.org
Application #1 in the Cincinnati, OH MSA

**Step 1:** Identify target occupation: **Computer Network Support Specialist**

- Expected to grow 6.4% from 2018 to 2028 (Bureau of Labor Statistics)
- Typical entry level education needed is an associate’s degree (BLS)
- Annual wage: $56,200 (BLS)

**Step 2:** Identify lower-paying occupations with high similarity scores to target.

**Step 3:** Design a training curriculum to address skill deficits.
## Application #1: Step 2

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Similarity Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amusement and Recreation Attendants</td>
<td></td>
</tr>
<tr>
<td>Bartenders</td>
<td></td>
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<tr>
<td>Bill and Account Collectors</td>
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<tr>
<td>Computer User Support Specialists</td>
<td></td>
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<tr>
<td>Customer Service Representatives</td>
<td></td>
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<tr>
<td>Dispatchers, Except Police, Fire, and Ambulance</td>
<td></td>
</tr>
<tr>
<td>Engineering Technicians, Except Drafters, All Other</td>
<td></td>
</tr>
<tr>
<td>Fitness Trainers and Aerobics Instructors</td>
<td></td>
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<tr>
<td>Food Preparation Workers</td>
<td></td>
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<tr>
<td>Health Technologists and Technicians, All Other</td>
<td></td>
</tr>
<tr>
<td>Insurance Claims and Policy Processing Clerks</td>
<td></td>
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<tr>
<td>Interviewers, Except Eligibility and Loan</td>
<td></td>
</tr>
<tr>
<td>Photographic Process Workers and Processing Machine Operators</td>
<td></td>
</tr>
<tr>
<td>Security and Fire Alarm Systems Installers</td>
<td></td>
</tr>
<tr>
<td>Telecommunications Line Installers and Repairers</td>
<td></td>
</tr>
</tbody>
</table>
## Application #1: Step 2

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<th>Occupation</th>
<th>Similarity Score</th>
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<tbody>
<tr>
<td>Amusement and Recreation Attendants</td>
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<tr>
<td>Bartenders</td>
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</tr>
<tr>
<td>Bill and Account Collectors</td>
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<tr>
<td>Computer User Support Specialists</td>
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<tr>
<td>Customer Service Representatives</td>
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<tr>
<td>Dispatchers, Except Police, Fire, and Ambulance</td>
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<td>Engineering Technicians, Except Drafters, All Other</td>
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<td>Fitness Trainers and Aerobics Instructors</td>
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<td>Food Preparation Workers</td>
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<td>Health Technologists and Technicians, All Other</td>
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<td>Interviewers, Except Eligibility and Loan</td>
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<td>Photographic Process Workers and Processing Machine Operators</td>
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<td>Security and Fire Alarm Systems Installers</td>
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<tr>
<td>Telecommunications Line Installers and Repairers</td>
<td>0.46</td>
</tr>
</tbody>
</table>

Application #1: Step 3

Application #2 in the Cincinnati, OH MSA

Step 1: Identify target occupation: **Waiters & Waitresses**

- Nationally employment in food services remains down almost 40% from levels in February (BLS)
- Number of Jobs: 19,810 (BLS)
- Annual wage: $14,450 (BLS)

Step 2: Identify higher paying occupations with high similarity scores to target.

Step 3: Design a training curriculum to address skill deficits.

Step 4: Repeat steps 2 & 3 to identify subsequent transition opportunities. (optional)

Source: Bureau of Labor Statistics
## Application #2: Step 2

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Similarity score</th>
<th>Number of jobs</th>
<th>Annual median wages</th>
<th>Projected growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Waiters &amp; Waitresses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of jobs: 19,810</td>
<td></td>
<td></td>
<td>$14,450</td>
<td></td>
</tr>
<tr>
<td>Annual median wage: $14,450</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sup. of Food Prep &amp; Servers</strong></td>
<td>.66</td>
<td>8,310</td>
<td>$32,000</td>
<td>10.8%</td>
</tr>
<tr>
<td><strong>Food Prep Worker</strong></td>
<td>.66</td>
<td>6,040</td>
<td>$16,200</td>
<td>8.2%</td>
</tr>
<tr>
<td><strong>Driver/Sales Worker</strong></td>
<td>.66</td>
<td>4,400</td>
<td>$19,550</td>
<td>-3%</td>
</tr>
<tr>
<td><strong>Parking Lot Attendant</strong></td>
<td>.64</td>
<td>1,020</td>
<td>$19,170</td>
<td>0.1%</td>
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<tr>
<td><strong>Stock Clerks &amp; Order Fillers</strong></td>
<td>.63</td>
<td>17,950</td>
<td>$25,100</td>
<td>1.7%</td>
</tr>
<tr>
<td><strong>Light Truck/Delivery Driver</strong></td>
<td>.63</td>
<td>7,690</td>
<td>$32,130</td>
<td>4.4%</td>
</tr>
</tbody>
</table>

Application #2: Step 4

- **Waiters & Waitresses**
  - Number of jobs: 19,810
  - Annual median wage: $14,450

- **Light Truck/Delivery Driver**
  - Similarity score: .63
  - Number of jobs: 7,690
  - Annual median wages: $32,130
  - Projected growth rate: 4.4%

- **Fire/Security Systems Installer**
  - Similarity score: .55
  - Number of jobs: 450
  - Annual median wages: $45,700
  - Projected growth rate: 11.2%

- **Dispatcher**
  - Similarity score: .54
  - Number of jobs: 1,260
  - Annual median wages: $42,265
  - Projected growth rate: 0.1%

- **Cargo & Freight Agent**
  - Similarity score: .49
  - Number of jobs: 2,190
  - Annual median wages: $41,120
  - Projected growth rate: 7.5%

Occupational Mobility:
Designing Micro-Pathways to Opportunity Occupations

Marta Urquilla
Chief Program Officer
Education Design Lab
Education Design Lab

Designing Education Toward the Future of Work
We co-design, test, and build higher education models to better address **affordability, relevance, and portability**.

Our Partners

- **60** Employers
- **125** Universities + Colleges
  majority of them serve “new traditional” students
- **5** Ecosystems
  states, systems, cities
738,000 credentials
Learners Want Micro-Credentials

Post-COVID, learners want better, faster, cheaper options:

- **62%** prefer non-degree + skills training over degree programs
- **46%** prefer online learning
- **23%** prefer employer-based programs

Strada Center for Consumer Insights

- **Nearly 1 in 10** undergraduates are working solely toward a certificate.
- **More are pursuing certificates** or associate’s degrees than bachelor’s degrees.

Georgetown University Center on Education and the Workforce
We’re making a bet on community colleges post-COVID to organize the trend toward “just in time” learning.

Regional catalysts

Ear to ground with employers

Trust + affordability for the populations we want to serve

Micro-credentials can stack to degrees
Micro-Pathways: Quality Control

We are fighting for micro-pathways:

Median wage earnings potential

One year or less

Stackable to a degree

Include 21st century skill credentials

Workplace-based Logistics/Business Pathway

- Administrative Assistant $15.00/hr
- Logistics Coordinator $17.00/hr
- Business Admin Level 1 Certificate 1 year to complete
- BMGT 1301: Supervision + Collaboration Badge 8 weeks to complete
- Goodwill Retail Worker $11.05/hr

Data source: PAC Payscale
Why Micro-Pathways?

“I was filled with a feeling of gratefulness. I had to keep myself from tearing up because I was so excited to be there starting the process to something that is going to change my life.”
The Lab’s 21st Century Skills

- Initiative Education Design Lab
- Collaboration Education Design Lab
- Creative Problem Solving Education Design Lab
- Intercultural Fluency Education Design Lab
- Resilience Education Design Lab
- Critical Thinking Education Design Lab
- Empathy Education Design Lab
- Oral Communication Education Design Lab
UpSkill SA! San Antonio, TX

How might we **upskill incumbent retail workers** to prepare them for careers in advanced manufacturing and other growth sectors that can **enable their social mobility**?

Place-based partnership to co-design, build, and test two scalable career pathways for middle-skilled jobs.
# UpSkill SA! San Antonio, TX

## SkillsBooster
- **Productivity doubled:** 11% to 28% (post-badge)
- **Leadership nearly doubled:** 47% to 84% (post-badge)

## Certificate Plus
- **Collaboration nearly doubled:** 29% to 57% (post-Certificate Plus)
- **Productivity increased by nearly 40 percentage points:** 25% to 64% (pre-Certificate Plus)

## Two Upskilling Pathways

### SkillsBooster
- A bundle comprised of three employer-identified in-demand 21st Century Skills Micro-credentials
- Piloted November 2019

### Certificate Plus
- A pathway that integrates a 21st Century Skills Micro-credential into a technical skill building course within a logistics management certificate program
- Piloted October 2019
Creativity for COVID-19

Collaboration between Washington DC’s K-12 system, employers, and nonprofits to help save summer jobs for DC public high school students.

- Paid, virtual “design challenge” for students
- Minimal time commitment
- No cost to employers

Preparing Future-Ready Students

Upon successful program completion, students will be eligible to earn an industry-designed 21st century skill micro-credential for Creative Problem Solving.
Equitable Futures

“I can see my future now as I couldn’t see it before.”
Questions

Email
communities@stls.frb.org

Chat
Type your question into the chat box of the webinar.
Next Steps

• All session materials are available on our website, and in the next few days, we will post an audio file of today’s session.

• If you have topical suggestions for future sessions, or any questions about this program, please feel free to contact us at communities@stls.frb.org.

• Information about future sessions will be posted on our website along with archived materials from past sessions: https://bsr.stlouisfed.org/connectingcommunities.