Do high school industry certifications reflect local job demand?

An examination of Florida

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Demand for postsecondary credentials

- Jobs require postsecondary credentials, but not necessarily a college degree.

- Nationally recognized, independently created industry certifications give people credentials separate from college degrees.

- Many states have policies to help students get certifications.
  - As of 2019, 28 states had enacted policies pertaining to earning industry-recognized credentials.
Florida’s Career and Professional Education (CAPE) Act

- Established in 2007
- Provides rigorous, relevant coursework leading to industry certification and potential college credits
- State approved industry certifications
  - Critical to FL employers
  - Achievable by secondary students
  - Require a minimum of 150 instructional hours

In 2017-18 Florida had 236 specific certifications nested in 12 career areas.

Examples (Agriculture, IT, Health Sciences, Hospitality)

Currently, about 25% of students earn some certification at some point in high school.
Why is certification program popular?

- Students get credential without
  - Paying for exam
  - Scheduling the exam
  - Arranging transportation to exam site

- Students do get
  - Relevant coursework
  - Potential for college credit

- Schools get points in the state School Report Card
  - Number of students taking exams
  - Number of students passing exams
Do certifications reflect local job demand?

- Does local job market demand influence school practices for implementing the certification program?

- Are certification rates higher when counties have more job opportunities?

- Are certification rates higher in career areas with more job opportunities?
<table>
<thead>
<tr>
<th>Level of data collection</th>
<th>Indicator</th>
<th>File</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>Certification Earning</td>
<td>Education Data Warehouse</td>
<td>Florida Department of Education</td>
</tr>
<tr>
<td></td>
<td>Demographic data</td>
<td>Education Data Warehouse</td>
<td>Florida Department of Education</td>
</tr>
<tr>
<td></td>
<td>Perceptions of certification link to job</td>
<td>Florida CTE study survey</td>
<td>RTI</td>
</tr>
<tr>
<td></td>
<td>Percentage of CTE courses</td>
<td>Education Data Warehouse</td>
<td>Florida Department of Education</td>
</tr>
<tr>
<td></td>
<td>Academic performance</td>
<td>High School Rankings</td>
<td>U.S. News &amp; World Report</td>
</tr>
<tr>
<td></td>
<td>Locale, poverty level</td>
<td>Common Core of Data Public School Universe</td>
<td>NCES, IES</td>
</tr>
<tr>
<td>County/District</td>
<td>Jobs requiring credential</td>
<td>Job market data</td>
<td>Burning Glass Technologies</td>
</tr>
</tbody>
</table>
Data and method

  - Expected to be high school seniors in 2017-18.
  - We’ve got their entire high school experience.

- Burning Glass job data - every Florida job posting in 2017

- RTI conducted survey of every FL high school 2018.
  - (77% response rate)

- 2-level logistic regression (random school intercepts, fixed district effects)
Key implementation strategies influencing certifications

- **Strong leadership**: The school has a dedicated CAPE coordinator and specific goals for students’ taking and passing certification exams.

- **Teacher support**: The school offers both certification-specific professional development and planning time for teachers preparing students for certifications.

- **Multiple promotion strategies**: The school promotes the program to students both by providing information about the program and recognizing certification earners.

- **Inclusive encouragement**: The school encourages all students /all CTE students to take certification exams as opposed to only encouraging only students who have met certain academic thresholds.
School implementation strategies

Percentage of schools reporting each implementation strategy

- Strong leadership: 20.0%
- Strong teacher supports: 33.6%
- Multiple promotion strategies: 74.9%
- Inclusive recruitment: 74.7%
Measuring job opportunities

- We classify jobs from broader to narrow definitions
- Calculate the percentage of all job postings requiring
  - a sub-baccalaureate degree or less
  - a sub-baccalaureate certification in any of the 12 career areas identified by FLDOE
  - a sub-baccalaureate certification that matches FLDOE’s list by certification title
- Finally, we looked by career area to measure the percentage of jobs requiring a certification within each of the 12 career areas.
<table>
<thead>
<tr>
<th>Job market - percent of jobs requiring</th>
<th>Multiple promotion strategies</th>
</tr>
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<tbody>
<tr>
<td>Sub-baccalaureate degree or less</td>
<td></td>
</tr>
<tr>
<td>Any certification</td>
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<td>A specific Florida certification</td>
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</table>

* p<.05; Model includes school/student controls
<table>
<thead>
<tr>
<th>Career Area</th>
<th>Certifications Earned</th>
<th>Job Listings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>3.9</td>
<td>0.5</td>
</tr>
<tr>
<td>Architecture &amp; Construction</td>
<td>4.7</td>
<td>1.3</td>
</tr>
<tr>
<td>Arts, Audiovisual Technology &amp; Communication</td>
<td>41.5</td>
<td>0</td>
</tr>
<tr>
<td>Business Management &amp; Administration</td>
<td>1.7</td>
<td>15.2</td>
</tr>
<tr>
<td>Health Science</td>
<td>11.1</td>
<td>63.3</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
<td>7.6</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Note: Career areas with < 3% certifications earned or job listings were omitted.
Student and school characteristics associated with earning certification

- Students – girls, Black, Hispanic, Limited English Proficient, exceptional students less likely to earn certification than peers.

- Schools – percentage economically disadvantaged students, rural, high percent of CTE courses offered and strong academic performance index are positively associated with earning a certification.
  - Charter schools are negatively associated with earning a certification.
No relationship between county job demand and earning a certification

Likelihood (odds ratios) of earning a certification given student characteristics, school factors, and county job market.

<table>
<thead>
<tr>
<th>County-level job demand</th>
<th>Model 1</th>
</tr>
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<tbody>
<tr>
<td>% of jobs requiring</td>
<td></td>
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*p < .05
## Associations by career area

<table>
<thead>
<tr>
<th>Area</th>
<th>% of jobs requiring certification in given area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>13.96***</td>
</tr>
<tr>
<td>Architecture &amp; Construction</td>
<td>0.05**</td>
</tr>
<tr>
<td>Arts, A/V Technology &amp; Communication</td>
<td>0.04†</td>
</tr>
<tr>
<td>Business Management and Administration</td>
<td>63.51</td>
</tr>
<tr>
<td>Health Science</td>
<td>1.04***</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
<td>0.94</td>
</tr>
<tr>
<td>Information Technology</td>
<td>0.94*</td>
</tr>
</tbody>
</table>

† Too few cases to estimate.

* p<.05; ** p <.01; *** p< .0001. n=212,087. Net of student and school-level controls.

Note: Areas with < 3% certifications or job postings omitted. Outcome is earning a certification in the specific field associated with the county-level job area demand. For example, the outcome for the "Health Science" row is earning a certification in Health Science.
Conclusion

- Under CAPE Act, many more Florida students earn certifications.
- We expected that the local economy might influence implementation, but do not find that – except for teacher supports.
  - Without qualified teachers, schools cannot offer certifications.

- Even though approved certifications are supposed to be key to business, we find no association between job demand and certifications earned overall.
  - Some association by career area, particularly when we use a broad definition of job demand.
Why minimal link between job demand and certification earning?

- Some jobs may require skills, but not specific certifications.
- Students earn certifications offered by their schools – but schools cannot offer all certifications.
- Schools may seek School Report Card points by pushing students into easy-to-get certifications, regardless of job link.

- Students may not focus on specific job requirements
  - Belief earning any certification strengthens their resume

- Students may be right about the more general benefits to certifications.
delivering the promise of science for global good

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