What is the Institute for Emerging Issues?

- “Think and Do” organization created in 2002.
- Believes when people work together with a shared will and common vision, progress is smarter, more comprehensive, and enduring.
- Over-arching goal is to ensure North Carolina’s economic competitiveness.
Crib to Career Workshops
Summer 2017
The Tech Revolution & America’s Greatest Challenge
Job Loss Impacts Due to Tech Disruption

• Automation and technology-enabled offshoring may erase 2.4 million jobs from NC’s economy by 2040

• That’s five times the jobs lost here during the Great Recession

[bar chart showing projected jobs lost: 540,000 (2008 recession), 1,100,000 (Tech Disruption 2010-2040), and 1,363,116 (Tech Offshoring)]
What about those areas where we have seen job growth?

Of the 20 fastest growing occupations in North Carolina, 11 are low-wage. Of the remaining nine, three are projected to disappear due to technological advances.
Politics & Government

April 12, 2017
Self-driving car testing on Triangle Expressway hinges on federal funding

By Anna Douglas
Robots are already replacing delivery drivers in major American cities.
New technology allows doctors to do electrocardiograms with a smartphone. Huge potential impacts on medical services providers.

FDA Clearance For New Heart Monitor
June 2017
By: Sarah Hedgecock
Industrial Automation

Robots can now perform functions that were exclusively human.
But, there are those who question the impact of automation on our economy...
The zombie robot argument lurches on

There is no evidence that automation leads to joblessness or inequality

Economic Policy Institute
May 2017
Robots taking jobs in five years is BS, says GE CEO Jeff Immelt

Arjun Kharpal
Thursday, 15 Jun 2017
Then again, we have our best and brightest telling us that we are witnessing the dawn of a new day in the modern workplace.

--Elon Musk
--Bill Gates
--Stephen Hawking…
Long term…automation isn't bull---. If we don't have machines and software capable of performing most of the tasks we call labor in 30, 40, 50 years, then it will be a failure of Google and our technology ecosystem.

Google Chairman Eric Schmidt
The Implications for Economic/Workforce Development & Early Childhood
Evidence is already pointing to the beginnings of a trend of automation decreasing job totals in a number of industries in North Carolina’s economy...
### Actual NC Top 10 Job Loss Occupations (2010-2015)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Losses</th>
</tr>
</thead>
<tbody>
<tr>
<td>social service assistants</td>
<td>812</td>
</tr>
<tr>
<td>manufacturing sales reps</td>
<td>818</td>
</tr>
<tr>
<td>retail sales supervisors</td>
<td>878</td>
</tr>
<tr>
<td>other financial specialists</td>
<td>990</td>
</tr>
<tr>
<td>information security analys.</td>
<td>1010</td>
</tr>
<tr>
<td>food prep workers</td>
<td>1436</td>
</tr>
<tr>
<td>Teachers</td>
<td>7102</td>
</tr>
<tr>
<td>computer support specs.</td>
<td>2718</td>
</tr>
<tr>
<td>executive secretaries</td>
<td>3768</td>
</tr>
<tr>
<td>home health aides</td>
<td>3888</td>
</tr>
</tbody>
</table>

✓ = Confirmed Predictions from IEI’s Disruption Index
Emergent job growth leaders are typically those occupations that require higher skills and education.
## Actual NC Top 10 Job Growth Leaders (2010-2015)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Growth Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>other math/science occ.</td>
<td>24.57</td>
</tr>
<tr>
<td>biomedical engineers</td>
<td>25.08</td>
</tr>
<tr>
<td>fine artists</td>
<td>25.15</td>
</tr>
<tr>
<td>physicists</td>
<td>25.16</td>
</tr>
<tr>
<td>graders &amp; sorters</td>
<td>27.58</td>
</tr>
<tr>
<td>gaming dealers</td>
<td>27.99</td>
</tr>
<tr>
<td>agents of performers</td>
<td>28.06</td>
</tr>
<tr>
<td>electrical repairers</td>
<td>28.37</td>
</tr>
<tr>
<td>highway maintenance</td>
<td>31.95</td>
</tr>
<tr>
<td>railroad operators</td>
<td>34.49</td>
</tr>
</tbody>
</table>
Putting it in Perspective

• Economic Shifts – 65% of ALL jobs will require post secondary degree in 3 yrs
• Greater machine-human interface in workplace will require advanced skills
• Industry Impacts: There is a growing skills gap in many American industries
• US falling farther behind other developed nations in education & skills attainment
England will become the first country in the world to mandate computer programming in primary and secondary schools in the announced 2014 curriculum. Children will start learning to write code when they enter school the age of five, and will not stop until at least 16.
In 2022, North Carolina will graduate its first high school class that has more minorities than white students.
Degree attainment in North Carolina

Degree-attainment rates among North Carolina residents (ages 25-64), by population group

While race is an important factor, community characteristics are just as important. Low resource communities with very few minorities are dealing with significant talent development deficits as well.
Deficits are visible across the state as early as 1st grade and they compound as kids move through the system.
CRIB TO CAREER  NORTH CAROLINA’S TRUE WORKFORCE PIPELINE

LOW WAGE JOBS

5.4% of children cannot afford child care

50% of the graduates never employed

38% of the graduates never employed

30% of the graduates never employed

15.4% of the graduates never employed

37% of the graduates never employed in high-wage fields
BUNCOMBE COUNTY

5.7% of adults (ages 25+) receive only elementary or special education.

66% of high schoolers are proficient in math.

51% of high schoolers were proficient in math.

48% of high schoolers were proficient in math.

18% of high schoolers are proficient in math.

44% of adults (ages 25+) hold a 4-year college degree or higher in 2015.
HENDERSON COUNTY

- 5.5% of children lag in 8th grade or more to early intervention or special ed services
- Only 62% of 4-year-olds were proficient in reading
- Only 54% of 4-year-olds were proficient in math
- Only 56% of 8th graders were proficient in reading
- Only 16% of 12th graders were proficient in math
- Only 38% of adults have a high school diploma or higher
- Only 38% of adults have a high school diploma or higher
2017 Emerging Issues Forum
Findings & Insights
Dr. Nathan Fox
University of Maryland
Early Brain Development Can Have Serious Implications for Later Life Success
Dr. Robert Grunewald
Federal Reserve Bank
Quality Early Childhood Programming Can Pay off Big Dividends for a Local Community
Industries are Investing in Communities with Strong Early Childhood Systems

As part of Mayor de Blasio's $10 million Tech Talent Pipeline initiative, launched last May, the program will give 100,000 school kids the opportunity to learn how to code using Google's CS First, which is aimed to help the youngsters learn.
We learned that local communities are eager to find solutions to this problem. Many initiatives underway, but with little coordination.
So…how does North Carolina’s talent pipeline stack up against the rest of the nation?
<table>
<thead>
<tr>
<th>Pre-K - 12 Rank</th>
<th>State</th>
<th>College Readiness</th>
<th>High School Grad. Rate</th>
<th>NAEP Math Scores</th>
<th>NAEP Reading Scores</th>
<th>Pre-K Quality</th>
<th>Preschool Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>New Hampshire</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>#2</td>
<td>New Jersey</td>
<td>12</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>#3</td>
<td>Massachusetts</td>
<td>1</td>
<td>19</td>
<td>1</td>
<td>2</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>#4</td>
<td>Connecticut</td>
<td>3</td>
<td>13</td>
<td>20</td>
<td>4</td>
<td>27</td>
<td>2</td>
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<tr>
<td>#5</td>
<td>Vermont</td>
<td>6</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>13</td>
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<tr>
<td>#6</td>
<td>Iowa</td>
<td>17</td>
<td>1</td>
<td>14</td>
<td>16</td>
<td>22</td>
<td>6</td>
</tr>
<tr>
<td>#7</td>
<td>Maryland</td>
<td>13</td>
<td>17</td>
<td>25</td>
<td>18</td>
<td>10</td>
<td>7</td>
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<tr>
<td>#8</td>
<td>Minnesota</td>
<td>23</td>
<td>32</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>17</td>
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<tr>
<td>#9</td>
<td>Nebraska</td>
<td>22</td>
<td>2</td>
<td>13</td>
<td>10</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>#10</td>
<td>Illinois</td>
<td>25</td>
<td>20</td>
<td>28</td>
<td>26</td>
<td>12</td>
<td>4</td>
</tr>
</tbody>
</table>
### Where We Rank

<table>
<thead>
<tr>
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<th>Preschool Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>#33</td>
<td>Arkansas</td>
<td>38</td>
<td>15</td>
<td>44</td>
<td>45</td>
<td>5</td>
<td>20</td>
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<tr>
<td>#34</td>
<td>North Carolina</td>
<td>45</td>
<td>26</td>
<td>30</td>
<td>39</td>
<td>1</td>
<td>41</td>
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<tr>
<td>#35</td>
<td>Michigan</td>
<td>30</td>
<td>36</td>
<td>38</td>
<td>31</td>
<td>10</td>
<td>27</td>
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<tr>
<td>#36</td>
<td>Idaho</td>
<td>14</td>
<td>41</td>
<td>23</td>
<td>13</td>
<td>-</td>
<td>50</td>
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<tr>
<td>#37</td>
<td>Georgia</td>
<td>24</td>
<td>46</td>
<td>36</td>
<td>37</td>
<td>12</td>
<td>10</td>
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<tr>
<td>#38</td>
<td>West Virginia</td>
<td>27</td>
<td>25</td>
<td>46</td>
<td>42</td>
<td>1</td>
<td>45</td>
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<tr>
<td>#39</td>
<td>Alabama</td>
<td>46</td>
<td>18</td>
<td>50</td>
<td>46</td>
<td>1</td>
<td>34</td>
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<tr>
<td>#40</td>
<td>Hawaii</td>
<td>47</td>
<td>30</td>
<td>35</td>
<td>47</td>
<td>12</td>
<td>25</td>
</tr>
</tbody>
</table>
kidonomics Imperatives

• Establish Early Childhood as Human Capital Investment
• Make the Jobs Connection - Implications for Industry Recruiting
• Demonstrate the Local Fiscal Impact of Investing in Early Childhood
• Confront the Hard Questions:
  • Who Benefits & Who Pays?
  • What's the Ideal Role of the State Govt.?
kidonomics

The Economics of Early Childhood Investment

Mechanisms for Action:

• Blue Ribbon Commission
• Community Forums & Workshops
• Emerging Issues Forum

• Special Emphasis Events
• Custom Research Products
• Digital Engagement Platforms
The ROI for NC & Your Community
<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>ROI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Childhood Investment</td>
<td>For every $1 --- $10.30 (Average of 3 studies)</td>
</tr>
<tr>
<td>College/University Investment</td>
<td>For every $1 ---- $6.80 (Economic Modeling Specialist Intl.)</td>
</tr>
<tr>
<td>Job Grants Programs</td>
<td>For every $1 ---- $6.40 (Florida Economic Development Study)</td>
</tr>
<tr>
<td>Industry Tax Credits</td>
<td>For every $1 ---- $2.30 Florida Economic Development Study</td>
</tr>
<tr>
<td>Infrastructure Investments</td>
<td>For every $1----$1.44 (Moodys Analytics)</td>
</tr>
</tbody>
</table>
NC Infant Health Investment Impact?

$13.4 billion return

$622 million investment
NC Early Childhood Education Impact?

$5.4$ billion return

$146$ million investment
Impact on NC Property Values?

$387 million potential increased value
Where Are the Cost Savings & Benefits?

- Reduced Arrest Rate → Decreased Prison Cost
- Increased Employment → Increased Home Ownership
- Reduced Remedial Educ. → Decreased School Expenditures
- Increased Workforce Skills → Increased Employer Profits
- More Wage Earners → Higher Local Spending & Increased Tax Base
Although the investments are made in your community, the benefits accrue to a mix of federal, state, and local
## Estimated Investment Returns

**ROI** = \( \frac{(\text{Gain from Investment} - \text{Cost of Investment})}{\text{Cost of Investment}} \)

<table>
<thead>
<tr>
<th>TRANSYLVANIA</th>
<th>Present Value</th>
<th>Total Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE-K</td>
<td>$13,119,322</td>
<td>$72,817,710</td>
</tr>
<tr>
<td>NURSE FAM</td>
<td>$39,746,353</td>
<td>$220,608,840</td>
</tr>
</tbody>
</table>
Estimated Investment Returns

ROI = \frac{\text{Gain from Investment} - \text{Cost of Investment}}{\text{Cost of Investment}}

<table>
<thead>
<tr>
<th>BUNCOMBE</th>
<th>Present Value</th>
<th>Total Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE-K</td>
<td>$63,868,459</td>
<td>$354,496,590</td>
</tr>
<tr>
<td>NURSE FAM</td>
<td>$1,824,148,440</td>
<td>$328,650,693</td>
</tr>
</tbody>
</table>
Lower health care costs for industry, workers, & Medicaid

Early childhood program participants were shown to have lower rates of cardiovascular disease and other chronic ailments.

Science Magazine
2014
The magnitude of a total system improvement initiative and sustained investment would be even greater!
Lessons & Insights From:

• Read Charlotte
• Great Expectations
• Get Ready Guilford
• East Durham Children’s Initiative
• Transylvania County
Early Childhood Initiatives

- Read Charlotte
- Get Ready Guilford
- Great Expectations (Winston)
- Transylvania Count ECI
- East Durham Children’s Initiative
Key Findings

• Must have heavyweight champions
• Data must guide planning and decision making
• Money is important but not critical in beginning
• Backbone organization role, key to achieving results, but you decide what it looks like
• Find a governance model that gets results
Issues to Consider – Appetite

• How difficult were past change initiatives, and what were the major obstacles?

• Is there a potential enthusiasm gap among some stakeholders that will need to be bridged?
On Leadership…

• If your community does not have a ready champion, who or what organization(s) led past initiatives?

• In past initiatives, how did they go about securing the support of relevant stakeholders?
On Funding....

• High levels of funding not necessarily a requirement...

• Leveraging existing resources, talents, and efforts can limit the costs

• Community ownership of a branded initiative can lead to more successful grant applications
The Importance of Data

• Necessary to move beyond data informed to being data driven

• Data can be contentious, may need to engage an impartial data partner

• A rigorous data probe may take 6 months or more
Backbone Organizations

• Guide vision and strategy
• Support aligned activities
• Establish shared measurement practices
• Build public will
• Advance policy
• Keep stakeholders connected
• Mobilize funding
Next Step....
We Listen to You
2018 Early Childhood Demonstration Projects. Would your community like to be selected for technical assistance?
Local Economic Prosperity Pyramid

- Quality Early Learning
- Academic Success
- Job Readiness
- Prosperous Companies
- Sustainable Communities
It’s a mistake not to view Early Childhood Development as Economic Development

James Heckman
Nobel Economist