Winthrop, Fount of Knowledge: On University-Industry Knowledge Partnerships

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Winthrop, Fount of Knowledge

On University-Industry Knowledge Partnerships

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University-Industry Knowledge Partnerships – First Steps

- Environmental scan – local economic trajectory and goals:
  - Identify growing industries
  - Identify sectors targeted for growth by local economic development initiatives
  - Identify skill needs (example: employer survey data)

- Inventory of academic and professional programs
  - Which programs in already place relate to sectors targeted for growth?

- Inventory of knowledge support infrastructures
  - What instructional tools and technologies are readily in place?

- Scan of existing university-industry knowledge initiatives
- Scan of existing university offerings aimed at professional development
Global stats: individuals & work -> not an automatic match

US employer difficulty filling positions, 2006-2013, compared to global average, highest, and lowest

Compilation of 2006-2013 data. Each year, Manpower Group’s Talent Shortage Survey identifies the top 10 most difficult-to-fill jobs. For each year, rank 1 => heat score 10. For composite heat score:

- average of all 8 years, 2006-2013
- weighted for consecutive years
- weighted for recent / distant years

Sources:
Key skill shortages reported in employer surveys

<table>
<thead>
<tr>
<th>Skill</th>
<th>Number of Employers Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical thinking</td>
<td>2,237</td>
</tr>
<tr>
<td>Technical / industry-specific competencies</td>
<td>2,030</td>
</tr>
<tr>
<td>Communication skills</td>
<td>1,833</td>
</tr>
<tr>
<td>Collaboration / teambuilding / teamwork</td>
<td>914</td>
</tr>
<tr>
<td>Work ethic / professionalism</td>
<td>878</td>
</tr>
<tr>
<td>Interpersonal skills / etiquette</td>
<td>787</td>
</tr>
<tr>
<td>Global competency</td>
<td>681</td>
</tr>
<tr>
<td>Creativity / innovation</td>
<td>664</td>
</tr>
<tr>
<td>Average # of employer reports of a skill shortage</td>
<td>564</td>
</tr>
<tr>
<td>Ethics / integrity</td>
<td>557</td>
</tr>
<tr>
<td>Leadership / management skills</td>
<td>547</td>
</tr>
<tr>
<td>Civic engagement / good citizenship / democratic values</td>
<td>338</td>
</tr>
<tr>
<td>Cultural intelligence / cross-cultural understanding &amp; teamwork</td>
<td>290</td>
</tr>
<tr>
<td>Follow instructions / conform to organizational policies</td>
<td>284</td>
</tr>
<tr>
<td>Adaptability / flexibility</td>
<td>227</td>
</tr>
<tr>
<td>Numeracy / math skills / statistical understanding</td>
<td>219</td>
</tr>
<tr>
<td>Scientific literacy / grasp of science &amp; technology concepts and new developments</td>
<td>211</td>
</tr>
<tr>
<td>Literacy / reading comprehension / writing skills</td>
<td>159</td>
</tr>
<tr>
<td>Foreign language proficiency</td>
<td>153</td>
</tr>
<tr>
<td>Information technology competency &amp; application</td>
<td>134</td>
</tr>
<tr>
<td>Learning mindset / capacity to grow on the job / self-direction / self-motivation</td>
<td>124</td>
</tr>
<tr>
<td>Personal health responsibility</td>
<td>94</td>
</tr>
<tr>
<td>Inadequate education / weak foundations &amp; skills</td>
<td>76</td>
</tr>
<tr>
<td>Personal financial responsibility</td>
<td>53</td>
</tr>
<tr>
<td>Entrepreneurial mindset</td>
<td>41</td>
</tr>
</tbody>
</table>

Chart compiled by author.
Data from 10 employer surveys:

- 328 SC employers (Nagle, 2010)
- 2,115 employers (P21’s Critical Skills Survey, 2010)
- 768 employers (AMA’s Critical Skills Survey, 2012)
- 1,152 NC employers (Closing the Gap, 2012)
- 450 US executives (WEF’s Executive Opinion Survey, 2013)
- 1,300 US employers (Manpower Group’s Talent Shortage Survey, 2012)
- 1,000 US employers (Manpower Group’s Talent Shortage Survey, 2013)
When key skills are in short supply...

- **Negative effects – global findings - business impact:**
  - Manpower Group's Talent Shortage Survey (2013) – global study
    - 38,000 employers in 42 countries (mostly advanced)
  - 34% of employers cite lack of content knowledge, technical competencies, industry certification
  - 19% cite lack of professionalism, interpersonal skills, analysis / problem-solving skills
  - 43% report reduced ability to serve customers
  - 39% report reduced productivity
  - 25% report employee turnover
  - 22% report reduced innovation / creativity
  - 21% report lower employee morale
key skills in short supply, ctd.

- Negative effects – global findings – business / social impact:
  - World Economic Forum – global study
    - Global Competitiveness Report’s Executive Opinion Survey (2013):
  - 104,000 executives in 148 countries from least developed to most advanced:
    - Key skill shortages:
      - Inadequate education
      - Inability to innovate
      - Poor work ethic amongst native populations
    - Pose risk to business soundness and national economic health

- Extreme example:
  - Catastrophic shortage in qualified staff forced several Manila hospitals to close

York County at a glance

**Education**
- College degree or higher, 2013: 28.5%
- Some college or associate’s degree, 2013: 30.7%
- High school diploma or higher, 2013: 87.5%
- High school diploma only, 2013: 28.2%
- Less than high school diploma, 2013: 12.5%
- Public school enrollment, 2013: 89%
- Eligible for school lunch, 2009: 35%
- Lowest-performing schools: 2

**Economy**
- Median household income, 2013: $54,927
- Per capita income, 2013: $26,553
- Family income change, 1980-2010: +3%
- Unemployment rate, May 2015: 6.4%
- Unempl. rate change, Jan.00-Nov.11: -13.3%
- Labor force participation rate, 2014: 49.16%
- Workforce % change, 2009-2011: +1.4%
- Poverty rate, 2013: 12.7%
- Poverty rate change, 2000-2009: +22.7%

Source: Patchwork Nation, 2016; United States Census data, 2008-2014
6 Target Industry Sectors for Business Growth in Downtown Rock Hill, SC

Old Town Jobs initiative

- **Marketing & Design Services** (Web Design, Commercial Arts, Marketing & Advertising)
- **Professional Services** (Legal, Engineering, Architecture, Real Estate)
- **Information & Communication Technology** (Software, Telecom, Call Centers)
- **Banking & Financial Services** (Commercial Banking, Insurance, Investment)
- **Advanced Manufacturing** (R&D, Advanced Textiles, Design)
- **Accommodations, Retail, and Hospitality** (Hotel, Restaurants, Destination Retail)

Source: *Market Assessment: Knowledge Park, Rock Hill, SC / Arnett, Muldrow, & Associates, 2013*
5 Key Growth Sectors in Greater Rock Hill

- Professional & Technical Services
  - (combines downtown growth sectors of Marketing, Professional Services, Info/Comm.Tech)
- Medical Offices (non-hospital)
- Financial & Insurance
- Institutional Based
- Real Estate

Rock Hill Companies in Target Industries:

Combined Economic Impact

- 2,511 businesses
- Over 21,700 employees
- Over $2.6 billion in annual sales volume

Source: Reference USA
Target Industries in Detail...

- Rock Hill Companies in numbers
- Snapshot of Winthrop’s matching academic and professional programs at undergraduate and graduate levels
Marketing & Design Services

- Web Design, Commercial Arts, Marketing & Advertising

**Economic impact:**
- 64 businesses
- over 650 employees
- over $110 million annual sales volume.

Source: Reference USA
Marketing & Design Services

- Web Design, Commercial Arts, Marketing & Advertising

- **Winthrop Programs:**
  - Computer Science
  - Information Design
  - Graphic Design & Illustration
  - Integrated Marketing
  - Business Marketing
Professional Services

- Legal, Engineering, Architecture, Real Estate

**Economic impact:**
- 449 businesses
- over 2,350 employees
- over $150 million in annual sales volume.

Source: Reference USA
Professional Services

- Legal, Engineering, Architecture, Real Estate

- Winthrop programs:
  - Political Science
  - Legal Studies
  - Chemistry
  - Physics
  - Geology
  - Mathematics
  - Interior Design
  - Fine Arts
  - Business: Management, Marketing
Information & Communication Technology

- Software, Telecom, Call Centers

Economic impact:

- 62 businesses
- over 1,100 employees
- over $260 million annual sales volume

Source: Reference USA
Information & Communication Technology

- Software, Telecom, Call Centers

- **Winthrop Programs:**
  - Computer Science: Software Engineering
  - Business: Management Information Systems
  - Business: Management
  - Design: Information Design
Medical Offices (non-hospital)

**Economic impact:**
- 845 businesses
- over 5,000 employees
- over $712 million annual sales volume

Source: Reference USA
Medical Offices (non-hospital)

- Winthrop Programs

**Pre-med areas of study:**
- Biology
- Chemistry
- Human Nutrition
- Psychology

**Business-related fields of study:**
- Management, Marketing, Accounting
- Integrated Marketing
- Computer Science
Banking, Financial, and Insurance

- Commercial Banking, Insurance, Investment

**Economic impact:**

- 352 businesses
- over 2,400 employees
- over $370 million annual sales volume

Source: Reference USA
Banking, Financial, and Insurance

- Commercial Banking, Insurance, Investment

- Winthrop Programs:
  - Accounting
  - Finance
  - Economics
  - Management
Real Estate

**Economic impact:**
- 304 businesses
- over 1,700 employees
- over $250 million annual sales volume

Source: Reference USA
Real Estate

- Winthrop Programs:
  - Marketing
  - Management
  - Interior Design
Advanced Manufacturing

- R&D, Advanced Textiles, Design

**Economic impact:**
- 160 businesses
- over 3,900 employees
- over $595 million annual sales volume

Source: Reference USA
Advanced Manufacturing

- R&D, Advanced Textiles, Design

- Winthrop Programs:
  - Design
  - Pre-Engineering
  - Physics
  - Chemistry
  - Biology
  - Mathematics
  - Business
Accommodations, Retail, and Hospitality

- Hotel, Restaurants, Destination Retail

**Economic impact:**
- 275 businesses
- over 5,100 employees
- over $235 million annual sales volume

Source: Reference USA
Accommodations, Retail, and Hospitality

- Hotel, Restaurants, Destination Retail

- Winthrop Programs:
  - Management
  - Marketing
  - Integrated Marketing
  - Graphic Design & Illustration
  - Human Nutrition
  - Interior Design
Infrastructures on hand for professional development programs

A very brief inventory of needed supports:

- Examples of key supports needed for professional development programs
- Distance education software
- In-house online education expertise
  - Course design
  - Content creation
  - Instructional technologies
- Library resources to facilitate on- and off-campus learning
  - Substantial scholarly electronic resources
  - Reliable off-site user authentication
- Seamless integration
  - Online learner communities: asynchronous and synchronous
- Faculty time
  - Course development, learner interactions
University short programs designed for professional development

- A few examples

- **Shared traits:**
  - Short duration
  - Targeted content areas
    - Meaningful use of short-term duration
  - Structure and timetable designed around working adults' schedules
    - Distance learning with online communities
  - Hybrid design:
    - limited face-to-face
    - Bulk of the work is done individual and in online communities
A few examples from around the world...
Thailand: Business English

- English language for corporate client – 97 staff members participated.
- 12 weeks
- Hybrid design
  - face-to-face activities
  - Online self-paced and collaborative activities
  - Intellectual support, boosted learner confidence
- Outcomes:
  - Considerable growth in language skill
  - Mutual help, relationship-building
- Factors conducive to success:
  - Management support – release time
  - Management encouragement of lifelong learning
  - Real promotion pathways within the company

Italy: Medical English

- University of Siena – corporate learning contract with area medical center
- 297 adult professionals – English language
- Duration for all modules: April 2008 through June 2009
- 3 skill tiers:
  - General English for beginners
  - Intermediate Medical English
  - Advanced Medical English

- Online and classroom instruction
  - Goals: writing, reading, speaking skills. Assessment: Two 4-hour written exams
  - Written communications in target language (chat, synchronous and asynchronyous)
  - Wiki -> peer critique, idea exchange
  - Blog -> reflective writings in target language

- Outcomes:
  - Learner confidence, mutual help, constructive critique exchange
  - Final exam pass rates: Basic English 92%, Intermediate: 85%, Advanced: 91%

University of London – professional programs

- **Fields:**
  - Accounting & Finance, Business & Management, Economics
  - Agriculture & Environment
  - Computing & Information Systems
  - Development & Earth Sciences
  - Education
  - Health
  - Humanities
  - Law
  - Social Sciences
  - Veterinary Science

Source: www.londoninternational.ac.uk
University of London, ctd.

- **Structure**
  - Undergraduate diploma – 4 courses (sub-baccalaureate)
  - Postgraduate diploma – 4 courses (post-baccalaureate)
  - Graduate diploma – 4 courses
  - Entrance exams – example: Math to enter Economics, Finance, Accounting

- **Instructional approaches:**
  - Global network of partner institutions
    - Courses at partner institutions, developed by topic-focused colleges within UL
      - (e.g.: London School of Economics, Royal Veterinary College, SOAS)
    - Distance study – independent study – with UL course content
      - Testing: extensive essay exam. Proctored at partner institution

An example in USA:
Furman University professional development

- **Focus:** Professional development, corporate and/or nonprofit fields
- **Aims:** deepen foundational skills, foster leadership skills

- **Three areas of study:**
  - Women’s Leadership Institute
    - Conference format: 4 sessions, January-April
  - Corporate sustainability (postgraduate diploma)
    - Conference format: 5 weekends, February-June
  - Liberal Arts Leadership
    - Conference format: Three two-day sections

Source: Furman University Center for Corporate and Professional Development, 2016
Lessons Learnt – Best Practices

- **Define your market:**
  - Local service or global reach?
  - Local: What industries prevail - what skills are needed?
  - Global: Your fields of strength - global demand?

- **Consider your capacity**
  - Is capacity on hand for global reach?
    - Staff time, technical infrastructure
  - Faculty time scheduling
    - Avoid mutually exclusive teaching demands
    - What teaching structure makes sense given pre-existing commitments?

- **Getting started**
  - Complement, Don’t duplicate what others are already doing.
  - Start small, don’t try to “go big” right away – build-up takes time.
  - Pick your focus.
  - Collaborate in the business and learning community.
Questions?