Addressing the Soft Skills Gap for Career Readiness
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The skill need is changing: Research & Data
“When asked about the goals and expectations for graduates right out of high school, both parents and business leaders shared the hope that graduates would enter the workforce as good citizens who are willing to learn. However, there was one major disconnect: Parents said they want graduates to obtain professional/vocational education before entering the workforce, while business leaders want graduates to have strong communication and interpersonal skills, often referred to as “soft skills.” Business leaders stated they are prepared to teach the needed technical skills on the job or help students gain the necessary industry credentials. Additionally, a national study by CareerBuilder found that a large majority of employers (77%) believe that soft skills are just as important as technical, or hard skills”

-Community for Economic Development (CED)
What do you call these skills?

- Soft Skills
- Employability Skills
- 21st Century Skills
- Essential Skills
• In 2013, Google’s Project Oxygen shocked everyone by concluding that, among the eight most important qualities of Google’s top employees, STEM expertise comes in dead last. The 7 top characteristics for success are all Essential skills.

• Project Aristotle, a study released by Google in spring 2017, further supports the importance of Essential skills even in high-tech environments.

• A recent survey of 260 employers by the nonprofit National Association of Colleges and Employers identified 20 skills employers seek on a candidate’s resume over half of these fall into the Essential Skills category
  • It also ranked communication skills in the top three most-sought after qualities by job recruiters.
<table>
<thead>
<tr>
<th>Domain</th>
<th>% Rating as Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acting Honestly</td>
<td>90.81%</td>
</tr>
<tr>
<td>Sustaining Effort</td>
<td>89.43%</td>
</tr>
<tr>
<td>Getting Along with Others</td>
<td>88.11%</td>
</tr>
<tr>
<td>Maintaining Composure</td>
<td>87.60%</td>
</tr>
<tr>
<td>Keeping an Open Mind</td>
<td>78.65%</td>
</tr>
<tr>
<td>Socializing with Others</td>
<td>63.24%</td>
</tr>
</tbody>
</table>
Importance of Soft Skills at Work: The Data

(Schmidt & Hunter, 1998)
Translating data and research into solutions
What do we mean by “soft” skills?

We need an organizational framework to help

1) Define the domain

and to

2) Inform assessment development
The Big Five emerged from factor analyses of people's ratings on the extent to which all traits listed in the dictionary were descriptive of them (Tuples & Christal, 1961).

<table>
<thead>
<tr>
<th>Big Five Factor</th>
<th>Representative Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Openness</td>
<td>Imaginative, curious, and insightful</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>Organized, responsible, and hard-working</td>
</tr>
<tr>
<td>Extraversion</td>
<td>Outgoing, assertive, and energetic</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>Kind, cooperative, and generous</td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>Free from anxiety, worry, and tension</td>
</tr>
</tbody>
</table>

There are several advantages to using the Big Five as an organizing framework.
1. It can help us categorize the myriad terms for noncognitive skills.

<table>
<thead>
<tr>
<th>Conscientiousness</th>
<th>Agreeableness</th>
<th>Emotional Stability</th>
<th>Openness</th>
<th>Extraversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependability</td>
<td>Collaboration</td>
<td>Confidence</td>
<td>Curiosity</td>
<td>Assertiveness</td>
</tr>
<tr>
<td>Grit</td>
<td>Collegiality</td>
<td>Coping with Stress</td>
<td>Creativity</td>
<td>Cheerfulness</td>
</tr>
<tr>
<td>Organization</td>
<td>Generosity</td>
<td>Moderation</td>
<td>Global Awareness</td>
<td>Communication</td>
</tr>
<tr>
<td>Persistence</td>
<td>Honesty</td>
<td>Resilience</td>
<td>Growth Mindset</td>
<td>Friendliness</td>
</tr>
<tr>
<td>Planning</td>
<td>Integrity</td>
<td>Self-Esteem</td>
<td>Imagination</td>
<td>Leadership</td>
</tr>
<tr>
<td>Punctuality</td>
<td>Kindness</td>
<td>Self-Consciousness</td>
<td>Innovation</td>
<td>Liveliness</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Trustworthiness</td>
<td>Self-Regulation</td>
<td>Tolerance</td>
<td>Sociability</td>
</tr>
</tbody>
</table>

Advantages of The Big Five
2. It consistently predicts important outcomes

<table>
<thead>
<tr>
<th>School</th>
<th>Work</th>
<th>Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Performance</td>
<td>Job Performance</td>
<td>Happiness</td>
</tr>
<tr>
<td>(Poropat, 2009)</td>
<td>(Barrick et al., 2001)</td>
<td>(Diener &amp; Lucas, 1999)</td>
</tr>
<tr>
<td>Absenteeism</td>
<td>Job Satisfaction</td>
<td>Health</td>
</tr>
<tr>
<td>(MacCann et al., 2009)</td>
<td>(Judge et al., 2002)</td>
<td>(Bogg &amp; Roberts, 2004)</td>
</tr>
<tr>
<td>College Retention</td>
<td>Counterproductive work behavior</td>
<td>Marital Satisfaction</td>
</tr>
<tr>
<td>(Robbins et al., 2004)</td>
<td>(Berry et al., 2007)</td>
<td>(Watson et al., 2000).</td>
</tr>
<tr>
<td>Behavioral Problems</td>
<td>Organizational Citizenship</td>
<td>Peer Relationships</td>
</tr>
<tr>
<td>(Ge &amp; Conger, 1999)</td>
<td>(Borman et al., 2001)</td>
<td>(Jensen-Campbell et al., 2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leadership</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Judge &amp; Bono, 2002)</td>
</tr>
</tbody>
</table>
3. The Big Five seems to be nearly universal

Advantages of The Big Five

Roberts, Olaru, & Martin, 2015

green = compelling evidence
yellow = suggestive evidence
white = inconclusive replication studies
Additional Advantages of The Big Five

4. It has been replicated thousands of times

5. Developed based on decades of research rather than experts “sitting around a table”

6. Pretty comprehensive: based on all adjectives in the dictionary that describe people

7. Provides a common language and helps stop thinking in silos: The education-workforce-life continuum, etc. becomes better understood

8. Increasingly being adopted as a consensual model for education, economics, psychology (I/O), policy (OECD)
### The Big Five and ACT Essential Skills

<table>
<thead>
<tr>
<th>Big Five Factor</th>
<th>Essential Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conscientiousness</td>
<td>Work Ethic</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>Collaboration</td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>Resilience</td>
</tr>
<tr>
<td>Openness</td>
<td>Creativity</td>
</tr>
<tr>
<td>Extraversion</td>
<td>Leadership</td>
</tr>
<tr>
<td>--</td>
<td>Integrity (important for Work context)</td>
</tr>
</tbody>
</table>
Personality Changes

Roberts, Walton, & Viechtbauer (2006)
A new meta-analysis of 187 studies of clinical interventions found that, over an average of 24 weeks, the interventions were associated with changes in personality trait measures.

Interventions changed each of the Big Five factors, with the largest changes on average occurring for emotional stability and extraversion.

(Roberts, Luo, Chow, et al., 2015)
“The most important empirical finding is that each of the six interventions for improving [soft skills] shows measurable benefits that exceed its costs, often by considerable amounts. There is a positive return on investments for all of these educational reforms on [soft skills]. And the aggregate result also shows considerable benefits relative to costs, with an average benefit-cost ratio of about 11 to 1 among the six interventions. This means that, on average, for every dollar invested equally across the six interventions, there is a return of eleven dollars [in future wages and societal benefit], a substantial economic return.”

- Center for Benefit-Cost Studies in Education Teachers College, Columbia University
The holistic model of education and work success

**CORE ACADEMIC SKILLS**
- English Language Arts
- Mathematics
- Science

**CROSS-CUTTING CAPABILITIES**
- Information and Communication Technology
- Collaborative Problem Solving
- Thinking Skills
- Learning Skills

**BEHAVIORAL SKILLS**
- Acting Honestly
- Getting Along Well with Others
- Keeping an Open Mind
- Maintaining Composure
- Socializing with Others
- Sustaining Effort

**EDUCATION & CAREER NAVIGATION**
- Self-Knowledge
- Environmental Factors
- Integration
- Managing Career & Education Actions
A Multi-trait, Multimethod Assessment

• Intended for use with adults preparing to enter the workforce
  • Entry to mid-level employees

• Assessment is not intended for use to make hiring decisions

• Innovative assessment that measures six essential skills key to workplace success:
  • Integrity
  • Collaboration
  • Creativity
  • Resilience
  • Leadership
  • Work Ethic

• Reporting and Interventions
Constructs

*Aligned to Behavioral Skills from the ACT Holistic Framework*

1. **Acting Honestly (Integrity)** – Describes the extent to which a person values and adheres to ethical and moral standards of behavior, as well as personal level of humility

2. **Getting Along with Others (Collaboration)** – Describes the extent to which a person interacts positively and cooperates with others, and is generally kind, friendly, and tactful

3. **Keeping an Open Mind (Creativity)** – Describes a person’s level of open-mindedness and curiosity about a variety of ideas, beliefs, people, and experiences

4. **Maintaining Composure (Resilience)** – Describes the extent to which a person is relatively calm, serene, and able to manage emotions effectively

5. **Socializing with Others (Leadership)** – Describes a person’s preferred level of social interaction, behavior in interpersonal situations, and optimism

6. **Sustaining Effort (Work Ethic)** – Describes a person’s level of diligence, effort, organization, self-control, and compliance with rules
Intended Outcomes

- Examinees will gain insight and understanding regarding their standing on each of the six soft skills
- Examinees will use their score reports to recognize on which soft skills they need to make improvements
- Examinees will make adjustments and improve their soft skills, thus making themselves more career ready and successful in the workplace
- Information may be used by employees to target interventions, conduct workshops, and otherwise determine a candidates strengths and weaknesses
Product Claims

- When test takers improve their standing on one, some, or all of the soft skills, they will improve their work readiness.
- When test takers improve their standing on one, some, or all of the soft skills, they will improve their work attitudes.
- When test takers improve their standing on one, some, or all of the soft skills, they will increase their career success/satisfaction.
- When test takers improve their standing on one, some, or all of the soft skills, they will increase their job performance/retention.
Item Types

• **Self-report** – Examinees read descriptions of behavior and indicate on a six-point scale how well each characterizes them (48 items)

• **Situational judgment tests** – Examinees read a description of a situation and rate the likelihood of having various responses to the situation (24 items)

• **Forced choice** – Examinees choose which of three statements is most and least like them (20 triads)
Typical measures use self-report Likert-type scales.

<table>
<thead>
<tr>
<th>I work hard.</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree Nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

- Efficient
- Reliable
- Valid
- However...
Easily Faked
Reference Bias/Insight Problems

I *work hard*.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree Nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

My best friend works 10 hours a day

My best friend works 7 hours a day
Use of multiple methods

1) Self-report Likert-type
2) Situational judgment tests
3) Forced-choice

The underlying view of measurement in the MTMM analysis is that to measure a theoretical construct, different measures, each with its own bias, are selected. Bias that is due to method effects is reduced through a triangulation process.

• Baron & Kashy, 1992, p. 170
Example Situational Judgment Test Item

<table>
<thead>
<tr>
<th>You are having trouble meeting deadlines at work.</th>
<th>Very unlikely</th>
<th>Unlikely</th>
<th>May or may not</th>
<th>Likely</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learn all you can about how to meet deadlines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Find out how many of your coworkers regularly meet their deadlines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work faster</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keep doing what you are doing because excellent work is worth waiting for</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work longer hours even if it means getting less sleep</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Example Forced Choice Item**

You will be provided with several groups of three adjectives. For each one, choose the adjective that is most like you and choose the one that is least like you.

**Do nothing with the third adjective.**

<table>
<thead>
<tr>
<th></th>
<th>MOST like me</th>
<th>LEAST like me</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diligent</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Bold</strong></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>Uncreative</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
We have an assessment, now what?
Reports and Interventions

Reports

Employee Report

- Separate score for each of the six constructs
- Feedback using four-star system (Developing, Approaching, Demonstrating, Mastering)
- Additional example behaviors included at each of the four star levels to provide developmental feedback

Roster Report

- Comprehensive view for employers of employees taking the assessment

Interventions

Set of activities for each of six scales designed to help employees improve their essential skills in each area. Examples:

- Goal setting
- Prioritizing
- Developing confidence and assertiveness,
- Effective communication skills
- Being a good team member
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Workforce

Meet the Experts Room

Foster 2
Questions?

Thank you!

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