Executive Function – Using Brain Research to Improve Job Search Outcomes

National Association of Workforce Boards
April 2014
Agenda

1. What is Executive Function
2. The Scientific Basis
3. Applying Science to Improve Practice
4. What’s Next for Your Program?
Video

• Theory of Change Video -
Brain Development: Executive Function

New brain research shows that the brain has an **amazing** capacity to change and reorganize throughout life, and we continue to build executive function skills in **adolescence** and early **adulthood**.

---

Weintraub, et al., (2011)
Center on the Developing Child-Harvard University
What is Executive Function? Air Traffic Controller of the Brain

• The frontal lobe of the brain organizes other brain functions. It acts as the “executive” to the overall brain functioning.

• Executive function impacts people’s ability to succeed in the workforce, in educational attainment and in personal relationships.
Executive Function Skills and Capacities

• “Executive functions underlie complex behaviors such as making decisions to attain pre-determined goals, applying past learning to novel contexts, regulating behavior, solving novel problems, interacting in social environments, and orienting to the future”. (Carlock, 2011)

• Capacities
  • Working Memory
  • Flexibility
  • Self Control

• **Goal** Directed Behaviors
• **Organizational** Abilities
• **Time Management** Activities
• Strategic, Purposeful, Analytic and Critical **Thinking**
• **Problem** Solving
• **Decision** Making

(http://understandingexecutivefunctioning.blogspot.com/p/what-are-executive-functions.html)
# Executive Function Logic Model

<table>
<thead>
<tr>
<th>SUPPORTERS</th>
<th>STRATEGIES</th>
<th>CAPACITIES</th>
<th>SKILLS</th>
<th>LIFE COURSE OUTCOMES</th>
</tr>
</thead>
</table>
| **Parents, Caregivers, Teachers & Other Professionals** | **Address** external causes of stress | Working | Remember | **Learning**
| | **Teach & use** stress coping techniques | Memory | Filter | • Follow multi-step instructions |
| | **Foster** social interaction | Flexibility | Focus | • Avoid distractions |
| | **Encourage** physical exercise | Self-control | Plan | • Adjust to new rules |
| | **Progressively** increase complexity | | Assess | • Seek alternate solutions |
| | **Practice, practice, practice** | | Adjust | • Plan & write essays |
| **Environments** | **Address** external causes of stress | Working | Remember | • Manage long-term assignments |
| | **Teach & use** stress coping techniques | Memory | Filter | **Behavior**
| | **Foster** social interaction | Flexibility | Focus | • Teamwork |
| | **Encourage** physical exercise | Self-control | Plan | • Leadership |
| | **Progressively** increase complexity | | Assess | • Foresight |
| | **Practice, practice, practice** | | Adjust | • Goal-directed |
| **Safe** | **Address** external causes of stress | Working | Remember | • Aware of self & others |
| **Creative** | **Teach & use** stress coping techniques | Memory | Filter | • Adaptable |
| **Explorable** | **Foster** social interaction | Flexibility | Focus | **Work**
| **Stable** | **Encourage** physical exercise | Self-control | Plan | • Organized |
| | **Progressively** increase complexity | | Assess | • Multi-task ability |
| | **Practice, practice, practice** | | Adjust | • Solve complex problems |

*Executive Function Logic Model: Frontiers of Innovation, Harvard Center on the Developing Child, undated. Posted 2013*
# Executive Function – Life Course Outcomes

<table>
<thead>
<tr>
<th>Learning</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Follow multi-step instructions</td>
<td></td>
</tr>
<tr>
<td>• Avoid distractions</td>
<td></td>
</tr>
<tr>
<td>• Adjust to new rules</td>
<td></td>
</tr>
<tr>
<td>• Seek alternate solutions</td>
<td></td>
</tr>
<tr>
<td>• Plan &amp; write essays</td>
<td></td>
</tr>
<tr>
<td>• Manage long-term assignments</td>
<td></td>
</tr>
<tr>
<td>• Beneficial choices</td>
<td></td>
</tr>
<tr>
<td>• Resist temptation</td>
<td></td>
</tr>
<tr>
<td>• Safety conscious</td>
<td></td>
</tr>
<tr>
<td>• Healthy stress response</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Teamwork</td>
<td></td>
</tr>
<tr>
<td>• Leadership</td>
<td></td>
</tr>
<tr>
<td>• Foresight</td>
<td></td>
</tr>
<tr>
<td>• Goal-directed</td>
<td></td>
</tr>
<tr>
<td>• Aware of self &amp; others</td>
<td></td>
</tr>
<tr>
<td>• Adaptable</td>
<td></td>
</tr>
<tr>
<td>• Organized</td>
<td></td>
</tr>
<tr>
<td>• Multi-task ability</td>
<td></td>
</tr>
<tr>
<td>• Solve complex problems</td>
<td></td>
</tr>
</tbody>
</table>
Healthy brain development can be derailed by excessive or prolonged activation of stress response systems in the brain. This can impact:

- **Behavior**: How individuals understand and respond to the environment
- **Development of successful relationships**
What does impacted EF look like in our programs?

DISRESPECTFUL
DON’T CARE
DISTRACTED
APATHETIC
UNMOTIVATED
STRESSED
IMPATIENT
ANGRY
UNFOCUSED
FORGETFUL
DISINTERESTED
SHORT-FUSED
WILLFUL
NON-COMPLIANCE
FAILURE TO PARTICIPATE
INCOMPLETE PAPERWORK
What Does Research Tell Us? One Example

• “In a randomized control study of mothers in a welfare-to-work program, participants with internal loci of control performed significantly better than those with external loci of control, even when controlling for IQ scores and other factors (Leininger & Kalis, 2008). A feeling of control over one’s life was more important than any other factor, including prior educational attainment, in determining how successful low-income women were in adult education programs. Locus of control has great power to explain differential life outcomes and is directly related to EF development. In programs designed to transform participants’ lives applying curriculum and pedagogy that develop EF skills will play a central role in a successful theory of change.” (Carlock, 2011)
Just for Fun… How’s your locus of control?
# Pearlin Mastery Scale

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No way I can solve some of the problems I have.</td>
</tr>
<tr>
<td>2</td>
<td>Sometimes I feel that I am being pushed around in life.</td>
</tr>
<tr>
<td>3</td>
<td>I have little control over the things that happen to me.</td>
</tr>
<tr>
<td>4</td>
<td>I can do just about anything I really set my mind to.</td>
</tr>
<tr>
<td>5</td>
<td>I often feel helpless in dealing with the problems of life.</td>
</tr>
<tr>
<td>6</td>
<td>What happens to me in the future mostly depends on me.</td>
</tr>
<tr>
<td>7</td>
<td>There is little I can do to change many of the important things in my life.</td>
</tr>
</tbody>
</table>
# Applying the Science to Policy and Practice

## Reduce Cognitive Load

- Streamline processes
- Share data/reduce application processes
- “Nudge” concepts
  - Streamlining forms and processes using Nudge thinking
  - Organizational techniques – texts, reminders, confidence builders
  - Peer support/peer “pressure” nudges

## Increase Participant Skills and Capacity

- Coaching
- Peer Networks
- Live Well
- Crittenton–Coaching + Gaming + Client Led
- WA DEL Child Care Provider Training
- Social Networking
- Consumer Direction
What is Coaching?

- “Unlocking a person’s potential to maximize their own performance. It is helping them to learn rather than teaching them” (Whitmore 2003)

- “Coaching is about enabling individuals to make conscious decisions and empowering them to become leaders in their own lives” (Wise 2010)

A coach “uses questioning techniques to facilitate client's own thought processes in order to identify solutions and actions rather than takes a wholly directive approach”.

Coaches tend to use phrases like:
- “How would you like to reach your goal?”
- “What will you do next?”
- “Have you thought about _____?”
Improving Employment Outcomes Through Coaching – One Example

Executive Function Logic Model

<table>
<thead>
<tr>
<th>SUPPORTERS</th>
<th>STRATEGIES</th>
<th>CAPACITIES</th>
<th>SKILLS</th>
<th>LIFE COURSE OUTCOMES</th>
</tr>
</thead>
</table>
| Parents, Caregivers, Teachers & Other Professionals | Address external causes of stress | Working Memory | Remember | Learning  
• Follow multi-step instructions  
• Avoid distractions  
• Adjust to new rules  
• Seek alternate solutions  
• Plan & write essays  
• Manage long-term assignments |
| Teach & use stress coping techniques | Flexibility | Filter | Focus | Behavior  
• Teamwork  
• Leadership  
• Foresight  
• Goal-directed  
• Aware of self & others  
• Adaptable |
| Foster social interaction | Self-control | Plan | Adjust | Work  
• Organized  
• Multi-task ability  
• Solve complex problems |
| Encourage physical exercise | Assess | Resist | Resist | Health  
• Beneficial choices  
• Resist temptation  
• Safety conscious  
• Healthy stress response |
| Progressively increase complexity | Decide | Decide | Decide | |
| Practice, practice | Master | Master | Master | |

Increase Skills and Capacities Through Coaching

Insert Coaching into Workforce Programs

Increase Employment
1. Orientation
2. Workshops
3. Job Fairs
4. Meeting Employers
5. Sustainable Employment

Career/Self-sufficiency
Power of Belonging

PEER SUPPORT (AND PRESSURE)

NETWORKING

MATH STUDY

JOB CLUB

“It is during our darkest moments that we must focus to see the light.”
Behavioral Economics - A Classic Nudge

401K opt ins versus opt outs
Nudges

People are more likely to complete a task if they commit to doing it at a specific time and place.
Nudges

Students who pick specific times to finish assignments do better. “Your personal essay is due soon. When and where will you finish it up?”  

Example from Persistence Plus
Nudges

Being a “voter” versus “voting” – Increased turnout 10.9 percentage points.

(Motivating voter turnout by invoking the self, Christopher J. Bryan, Gregory M. Walton, Todd Rogers, and Carol S. Dweck, June 2011)
Using Technology

- Interesting Apps to build skills and capacities
- Reducing cognitive load through reminders, schedules, texting
Early Results are Promising!

20% points higher
Instructors using coaching techniques achieve employment results that are 20 percentage points greater than the “control” group.

77%
Participants in a pilot program linking employment services with health and wellness education met CalWORKs participation requirements 77% more than their peers.

$5.36 to $20.18
Increase in hourly wage- Crittenton Mobility Mentoring
What could coaching look like in your program?

- What is the coach’s role?
- Is the coach role separate from other roles, or part of many people’s job?
- How are participants assigned to the coach?
- How is the coach trained?
- How are you funding this?
- How many clients is a coach responsible for?
What could peer networking look like in your program?

• Who leads/facilitates?
• What roles do peers have in the leadership and development?
• How are session topics defined? Who defines them?
• What are some potential session topics?
• What kind of training do your staff, facilitators or peer leaders need?
• What kinds of tools or tool boxes are needed?
What Nudges could you develop and use?

- What nudges could you develop?
- How could you deploy the nudges?
For more information please contact…

Jill Reynolds
Manager
Public Consulting Group
jreynolds@pcgus.com
617-426-2026

Tony Ong
Associate Manager
Public Consulting Group
aong@pcgus.com
617-426-2026