

TO: Government Effectiveness Advanced Research (GEAR) Center
RE: Response to the GEAR Center RFI
DATE: August 28, 2018

Responses to Selected GEAR Center RFI Questions

1. Given the mission of the GEAR Center, what should be:

o Its strategic approach and operating objectives?

The reskilling of the Federal workforce is an enormous, and enormously complex, optimization issue that includes (but is not limited to)

- Laying a critical foundation that describes (a) existing Federal jobs, (b) jobs that will be restructured, (c) future jobs as they are created or even anticipated. Questions that would inform such an efforts are: e.g., Are the knowledge, skills, abilities, and other characteristics (KSAOs) relevant to the job? What entities should define which KSAOs (e.g., when are experienced supervisors most appropriate, vs. incumbents on the job, vs. job analysts who are expert at making comparisons across jobs)? When does a job analysis become outdated?*
- Can we determine (if not optimize) the need for personnel selection (employing workers who possess desired KSAOs that fit the job description, as discussed above), training (taking those with existing KSAOs and augmenting them or developing new ones), or both? Answering this type of question for a single job or a single organization is typical, but it may be very different in the Federal government context given multiple jobs and multiple agencies.*
- What are the incentives for Federal jobs (e.g., pay grades, geographic locations, opportunities for advancement, meeting particular employee motivations for high levels of autonomy or job variety)? Can these incentives be identified and aligned with the Federal needs to reskill and reshape the workforce?*
- What are the end goals of stakeholders in this endeavor: e.g., is it to reduce turnover in Federal positions (thereby retaining expertise, saving costs on retraining); is it to bring in new talent into the Federal workforce; is it to improve Federal partnerships with one another and with state entities? The more these goals can be made explicit, the better they can be defined and coordinated (if not pursued perfectly).*
- How does the GEAR Center monitor itself, so that its activities, such as those above remain coordinated and are meeting their milestones, can be restructured as needed, and can be married to future innovations and objectives?*

2. How should a GEAR Center be operationalized, including its structure, such as a physical center, a network, a consortium of institutions, or other approaches?

- Perhaps a hybrid approach is recommended: A physical center, combined with a network of partners that would visit that center as appropriate. The GEAR Center might learn from university-based centers tied to federal initiatives that have already been established (e.g., in the DC area, for example, see I3P at George Washington, <https://www.thei3p.org/>; or the Center for Education and the Workforce at Georgetown, <https://cew.georgetown.edu/>; or the Center for the Advanced Study of Language at University of Maryland, <https://www.casl.umd.edu/>).*
- As currently envisioned, the GEAR Center appears to be highly multidisciplinary in nature, as well as multi-partnered. Academic researchers and practitioners in my field of industrial-organizational*

psychology (see www.siop.org) seem to be fitting, along with experts in education, sociology, economics and labor policy, applied statistics, and computer science. Partners might include multiple academic institutions, local/community education and workforce entities, and educational non-profits that have expertise and capacity to contribute to rethinking and reskilling the Federal workforce. A highly diverse and selective advisory board to the GEAR Center could augment this infrastructure (e.g., corporate CHROs, Federal experts in staffing and training).

5. What model should be used to establish a GEAR Center, including:

- o The most effective and low-burden mechanism to establish a GEAR Center, such as the Government issuing a challenge, pursuing a traditional procurement, or an alternate approach?

- o If the Government were to pursue a challenge or other open competition, the key considerations in establishing a panel of judges?

Consider two workshops to prepare for a GEAR Center: The first workshop would be to generate ideas for the goals and infrastructure of the GEAR Center that would bring in a diverse range of national leading experts in workforce issues, along with people who have experience developing large centers. The second workshop would bring in members and topics that are both based on the goals and infrastructure(s) suggested in the first workshop. This second workshop could be used to foster collaborations and/or generate larger networks of expert people and resources that could contribute to the GEAR Center.

6. How should a GEAR Center be funded? The Federal Government expects to provide seed funding to support near-term establishment of the GEAR Center agenda, but a market-driven model will be needed to sustain the Center facilities, operations, and agenda over the long term.

- o What could be sustainable funding approaches, including sources of funding?

- o What market incentives are necessary to make the Center sustainable?

Corporations and educational foundations might seek to invest in the GEAR Center. Through close collaboration and input, corporations might provide input into, and learn from, GEAR Center knowledge about effective training and reskilling, and defining and restructuring jobs. Similarly, educational foundations might participate and learn about how school-to-work transitions are most effective, with the Federal workforce as the prototype, if not the actual target of these foundations. Both corporations and educators might find it appealing to present their own workforce ideas on a national platform, and they might reap great benefit in networking with one another, bridging the education-to-work gap in the service of an improved workforce of the future. All of this is (of course) a dream until real money flows in that would make the actual work of reskilling and otherwise improving the Federal workforce infrastructure a sustainable venture.

Anticipated Early Focus Areas:

7. What models, approaches, and opportunities should inform an anticipated early focus on reskilling and upskilling Federal employees? For each question, please cite any available data or research to support your answer.

*I would very strongly suggest looking at the Department of Labor's own O*NET database (see <https://www.onetcenter.org/content.html>) for learning about the worker and environmental characteristics, both specific and general in nature, that characterize the world of work. Federal jobs reflect the national economy*

*itself in many ways, and thus the O*NET can be used to greater advantage in defining, rethinking, and reskilling Federal jobs than is already being put to use (although I remain relatively naïve to Federal workforce efforts, some of which may already involve the O*NET and other useful occupational resources).*

o What are leading practices for effective reskilling, upskilling, and training adult workers, including opportunities for new applications of existing models?

This is impossible to summarize here (and I lack the expertise myself to do so). Realizing there are many experts in this area, let me introduce my colleague, Dr. Margaret Beier at Rice University, who is an international expert in training in organizations. Within this area, Dr. Beier focuses on (a) the effects of the aging US workforce, and how training can remain effective for aging populations; (b) the benefits of technology for training—and the drawbacks when technology fails to incorporate worker characteristics (e.g., knowledge, motivation); (c) the importance of how aging and technology interact with one another (e.g., because of their profile of experience, ability, and motivation, older workers tend to commit, prevent, and compensate for technological errors very differently than younger workers do). See <http://beier.rice.edu>

o What approaches could be piloted for possible application and scalability across the Federal sector in various learning domains (e.g., cognitive, affective, behavioral) - such as gamification, use of massively open on-line courses (MOOCs), apprenticeship models, and other new approaches?

We are currently collaborating on a project with Army Research Institute (ARI) and Human Resources Research Institute (HumRRO) on whether personality characteristics of individuals can be measured on the basis of games that vary in their situational features. Literatures exist already on extracting cognitive skills; but it might be interesting to consider games that measure job-relevant knowledge and skill and can help train for those skills as well (thereby providing a realistic job preview). Some apprenticeship models give students competition or game-like opportunities to compete with one another and thereby improve their skills (at the state level, see <https://www.apprenticeshipnc.com/events/apprenticeship-state-fair-contests>; at the national level, see <https://www.skillsusa.org/>; and at the international level, see <https://www.worldskills.org/>)

8. For an anticipated early focus on how Federally owned data could help transform society and grow the economy:

o Are there specific data sets that could be further leveraged by the Federal government, start-ups, and the public – that, once scaled, have a significant potential to contribute to the greater good (bolster the economy, improve population health, provide services to the general public, etc.)?

There are many, and I would appreciate a future conversation that would focus how the goals outlined here would be tied to a future GEAR Center. For example, I have colleagues at Rice University who are experts in urban health, where they apply big data (multi-source, geospatial, see <https://kinder.rice.edu/urban-data-platform>) that could be connected into GEAR Center priorities for ensuring healthy workplaces, selecting Federal worksite locations, etc.

(continued)



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Background: Fred Oswald

To provide you with some brief background, I am an industrial-organizational psychologist with a specialty in workforce measurement and analysis issues: e.g., employment testing, college admissions, school-to-work transitions, developing and evaluating measures of psychological characteristics in these settings (e.g., so-called “21st century skills” such as motivation and time management), and big data and machine learning with employment and HR data. Related to these efforts and to your interests, my colleagues and I have just co-edited *Workforce Readiness and the Future of Work* for publication (Taylor & Francis), which brought together experts from a wide range of fields that can serve as a useful network for the GEAR Center (e.g., economics, education, computer science, technology, policy, and industrial-organizational psychology). Over the last several years, I served on National Academy of Sciences committees that produced a report commissioned by the Army Research Institute (ARI; see <https://goo.gl/32vMxX>) and another report commissioned by the National Science Foundation (NSF; see <https://goo.gl/sN7pnG>). For 20 years, I have worked with the Department of Labor’s O*NET data base (<https://www.onetcenter.org/overview.html>) and actually helped with parts of it while a graduate student at University of Minnesota; thus I am very familiar with the O*NET and how it could be useful to when restructuring federal positions and designing personnel selection systems to fill those positions. Locally, I have recently given talks on workforce readiness and marketable skills to the Texas Workforce Commission and to Lone Star Community College (Cy-Fair). Nationally, I have recently worked on different psychological measurement projects in educational and workplace settings, in collaboration with college admissions testing companies (ACT and AAMC); and federal and non-profit military personnel agencies (Army Research Institute; Human Resources Research Organization). My CV and more information about my experience, publications, research, and lab can be found at <http://workforce.rice.edu>.

Please feel free to contact me at the e-mail address below, and I am happy to continue the discussion.

Sincerely,

A handwritten signature in black ink that reads 'Fred Oswald'.

Fred Oswald

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