

National Commission on Innovation & Competitiveness Frontiers

Key Takeaways from Phase 2 Working Groups



Working Group 3

The Future of Work: Developing, Supporting and Expanding the Modern Innovation Workforce

Session 1: September 15th, 2023

I. KEY THEMES

Working Group discussion identified several key themes during the first session:

- 1) **Reorienting educational approaches** to emphasize experiential learning and cross-disciplinary collaborations
- 2) **Revitalizing a spirit of inspiration for K-12 students** through increased exposure to science
- 3) **Improving workforce development planning efforts** by broadening stakeholder engagement
- 4) **Expanding access to education and workforce development efforts** with a focus on underserved/utilized communities and demographics
- 5) **Measuring and evaluating workforce development efforts** to maximize impact and efficiently allocate resources

II. PRELIMINARY IDEAS & POTENTIAL RECOMMENDATIONS

Reorienting educational approaches

- Refocus on teaching critical thinking skills at all levels of education to prepare students for future technology disruptions and instill an innovative mindset.
- Increase opportunities for inter-disciplinary education both inside and outside of the classroom at K-12 and higher education institutions.

- Prioritize experiential learning in higher education (including in non-STEM fields) to create workforce pipelines post-graduation; encourage students to build in-depth network connections from internships and apprenticeships.
- Establish university programs that bring students with multidisciplinary capabilities to solve real industry problems, both solving challenges and exposing students to new industries and careers.
- Change university incentive structures to reward faculty who win and utilize grant funding and are able to connect with industry; fund sabbaticals to embed faculty from a variety of industries into other organizations.
- Consider accelerated paths (e.g., BA apprenticeships) for obtaining degrees in industries with acute shortages.
- Recognize and treat workforce development as a higher-level educational priority that cuts across departments and disciplines; strategically connect assets across disparate sections of educational institutions.

Revitalizing a spirit of inspiration for K-12 students

- Combat the recent “loneliness epidemic” by strengthening social connections, especially within communities that lack resources and social infrastructure.
- Expose K-12 students to experiential and problem-based learning to spark and maintain intellectual curiosity and career aspirations.
- Create connections between K-12 and higher education students to establish role models and inspire young students.
- Show young students a “map” of education and career pathways to introduce educational and professional possibilities, clarify necessary steps, and induce lifelong inspiration and motivation.

Improving workforce development planning efforts

- Create a list of critical industries where multi-institutional collaborative efforts should be focused.
- Prioritize teaching skills during training and re-training efforts that are unlikely to become automated in the near future; consider the technical feasibility and economic attractiveness of automation when planning education and skilling efforts.

- Include and engage students through town halls, forums, and other planning conversations to understand existing gaps and knowledge mismatches.
- Ensure that stakeholder engagement and planning efforts include a wide and diverse array of stakeholders.
- Expand participation in key grant decisions to include additional leaders outside of technical experts.
- Prepare employers (including private sector, national labs, and academia) to efficiently utilize college graduates and fill skills gaps.

Expanding access to education and workforce development efforts

- Conduct outreach, including capacity building, education, and experiential learning programs, in underutilized geographies (i.e., rural communities).
- Consider targeted outreach at underserved communities and demographic groups.
- Establish programs to increase the affordability of high education, with the goal of expanding educational access to new communities.
- Provide support for community basic needs, including funding to modernize K-12 educational infrastructure.

Measuring and evaluating workforce development efforts

- Develop a structural systemic feedback loop; publish standardized outcomes regarding workforce development outcomes to help leaders make informed decisions.
- Establish a monitoring system to understand existing gaps in workforce development and identify poor performers that need additional support.
- Ensure that novel approaches and workforce development efforts are properly tested before widespread implementation to evaluate impacts through mechanisms such as pilot programs.