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 demographies

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.