SEMCOG/MAC STEM Careers and Skilled Trades Task Force
Policy Recommendations

Goal of Recommendations: Address education, connectivity, and perception challenges related to STEM and skilled trades to ensure that students are exposed to a rich learning environment and are adequately prepared for post secondary career pathways in high demand technical fields.

Education Challenges

International benchmarking reveals that the US is losing ground to other nations in terms of education attainment. Many students are provided with limited exposure to different careers, and academic programs are lacking the rigor to prepare for post secondary education in STEM or skilled trades careers. Additionally, students do not gain practical knowledge of how subjects are applied in the real world.

Increasing student exposure to technical careers

- Emphasize creative ways to make STEM education more engaging.
- Expose students to careers throughout the K-12 experience – especially in middle school.
- Provide additional training and on-site experiences to counselors on work/career requirements and labor demands so they can better advise students on education requirements for different occupations.
- Schools should have an adequate number of counselors to provide required career guidance, support for Educational Development Plans, and meaningful exploration of career options.
- Encourage counselors to give students information on a variety of post-secondary opportunities including, but not limited to, four-year colleges.
- Provide more opportunities for electives so students can explore different educational options.
- Add an additional class with the purpose of exposing students to different career options through contextualized application of core academic content.
- Support the inclusion of certified career development facilitators (CDFs) in middle and high schools to conduct career exploration for each student.
- Provide an employer (business/skilled trades) career mentor program so students can have ready access to professionals and coaches in their areas of career interest while in school and upon graduation.
- Consider development of centralized career counseling centers at the district or regional level where counselors have the time, knowledge, and resources to provide career guidance to students and parents, provide school programming, and work with employers to develop partnerships.

Updating graduation requirements

- Support increased flexibility for graduation requirements, particularly in language and math, so students can meet Merit curriculum requirements through Career and Technical Education (CTE) programs.

- Revamp curriculum throughout K-12 to ensure graduating students have mastered competencies and have opportunities for electives in high school – especially year-long CTE programs and STEM initiatives.
- Require a career-focused class/series of classes for graduation.
- Require reading and math skills for graduation on par with the requirements of industry or skilled trades; provide students with test preparation to meet industry-specific testing standards.
- Encourage creation of career-themed academies in which core academic courses are integrated with CTE/STEM and taught in a contextualized manner.

Connectivity Challenges

For the most part, connectivity between education and employers is limited to career technical education (CTE) which results in many general education students not having the knowledge or skills required by employers.

Enhancing curriculum connectivity

- Provide students with opportunities to participate in workplace visits similar to "Take Your Kids to Work Days."
- Document future employer needs and communicate these to education institutions to increase understanding of future job forecasts.
- Provide work readiness training in school or through extracurricular opportunities.
- Promote Career and Technical Education as providing a strong education foundation.
- Encourage dual enrollment to expose students to college-level course work and gain college credits.
- Develop more STEM-based middle colleges.
- Provide more application-based education/contextualized learning.
- Provide work-study and internship programs sponsored by employers to help students prepare for and gain entry into career fields.
- Minimize the gap between business/labor and academia through increased collaboration so curriculum more closely aligns with employer needs to better prepare the future workforce.

Addressing the cost of education

- Establish public-private partnerships and look for other creative ways to provide assistance to qualified students pursuing STEM careers and technical training in high-demand fields.
- Encourage recruitment and certification of CTE experts entering the teaching profession directly from industry in high-demand fields.
- Address adequate funding for CTE and STEM programs.

Providing high school work experience

- Provide job shadowing in industry to build experience and contacts with potential employers.
- Provide incentives for employers to hire apprentices and interns.
- Encourage more employer sponsorship of students.
- Partner with labor organizations to expand access to apprenticeships, including more "School to Registered Apprenticeship" (STRA) programs.

Perception Challenges

STEM education is foundational to pursuing a skilled trades or STEM career. Both STEM and skilled trades suffer perception issues which must be overcome for students to understand and to pursue the path that meets their interests and aptitudes. For example, there are general perceptions that skilled trades are for students who are not college-bound; that working conditions are less than ideal; and salaries cannot support a good standard of living. STEM suffers from the perception that it is too difficult, not exciting, and expensive to pursue.

Overcoming perception challenges

- Encourage counselors to break down perception barriers with relevant data about different career opportunities.
- Educate counselors on the benefits of employer-sponsored programs so they can raise student awareness of post-secondary training opportunities (apprenticeships, etc.).
- Partner with intermediate and local school districts, employers, corporations, labor, and industry associations to promote and recruit students, and expose them to real workplaces in order to change the image/narrative of skilled trade career paths.
- Engage the print and broadcast media to communicate with students and parents about STEM and skilled trades to increase awareness of opportunities, recruit students, and dispel myths.
- Include labor organizations and apprenticeship programs as regular participants in "college nights" and similar post-secondary recruiting events.