

West Virginia's Comprehensive Approach to STEM Education

Under the leadership of Dr. Steven L. Paine, the State Superintendent of Schools and Dr. Jan Barth, the Assistant Superintendent, West Virginia has developed a plan to implement a comprehensive approach to STEM education. A STEM Advisory Panel was established to guide the implementation process. The panel consists of members of the West Virginia State Department of Education, representatives from institutions of higher education, business and community members, STEM leaders across the state, and the ARCC. Initiative leaders identified five key areas and established working groups to support each area—computer science, workforce development, community engagement, STEM learning in and across disciplines in grades 6-12, and STEM learning in and across disciplines in grades PK-5.

During the first meeting of the Advisory Panel and working groups in February 2018, Dr. Paine shared his vision for STEM education in West Virginia. He challenged members to leverage their expertise to improve the quality of STEM teaching and learning throughout the state. One ARCC staff member noted, “A lot of great work relating to STEM education is happening throughout the state, but it is happening in silos. The comprehensive approach to STEM education initiative is working to unify those efforts in West Virginia.”

To-date, the advisory panel and working groups have taken steps towards accomplishing activities outlined in the state's implementation plan. While all groups have made gains, the computer science group has been especially productive. According to Code.org, a nationally recognized thought leader in computer science education, there are nine policy ideas states can implement to make computer science fundamental in K-12 education. West Virginia currently makes use of only four of the nine policies. The computer science workgroup is taking steps to remedy this by establishing a state plan for K-12 computer science, creating preservice teacher offerings in computer science, developing pathways for teacher credentialing or certification in computer science, and looking at ways in which computer science credits count towards graduation and admission requirements.

The ARCC will continue to support West Virginia's efforts to improve STEM education by facilitating working groups, hosting frequent communications calls, providing research-based resources and strategies, and monitoring the progress of the initiative. ARCC looks forward to watching STEM education flourish in West Virginia.