STEM Education Roundup

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The STEM Education Roundup, a monthly publication of WPLLC, provides an executive summary of legislation, research, and initiatives affecting STEM Education policy.

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1. Federal STEM Policy this Month by Della B. Cronin, Principal, Washington Partners, LLC

The September STEM education policy headline came at the end of the month. After weeks of rumors circulating in STEM policy circles, President Donald Trump unveiled a new policy supportive of STEM and computer science education. The initiative takes the form of a Presidential Memorandum that directs Secretary of Education Betsy DeVos to identify competitive grant programs that can incorporate STEM and computer science as priorities in their awards. Her task is to identify at least $200 million in funds available to the agency’s programs to support the effort. The one-page memorandum leaves the community with a lot of questions, and it has been reported that more guidance is coming soon. The White House event, which featured local Boys and Girls Club participants, was followed by a Detroit event at which the expected tech companies announced investments that total $300 million in computer science.

In other policy news, a slew of states sent the Department their ESSA plans earlier this month, and agency staff and the community are busily reading them. The first batch of plans had encouraging STEM elements, so the community is hopeful the trend continues. The recent solicitation from Amazon related to building an HQ2 in some lucky city could also have states and cities looking at their computer science education plans. The RFP specifically asks bidders to discuss “information on your local/regional K-12 education programs related to computer science,” as well as the overall quality of their public K-12 and higher education institutions.

On Capitol Hill, the stretch between now and the end of the year will be busy. In addition to resolving federal spending for fiscal year 2018, the education community has been told that there will be hearings and bills that focus on apprenticeships to watch for, as well as a comprehensive Higher Education Act reauthorization proposal from House Education and the Workforce Committee Chair Virginia Foxx (R-NC). Her Democratic peer, Ranking Member Bobby Scott (D-VA) is working on his answer to that plan as well. And, the call for enactment of a bill to update the Carl D. Perkins Career and Technical Education Act remains unanswered. The Senate is still a challenge on getting the bill done, but the STEM and broader education communities are calling on Senators Lamar Alexander (R-TN) and Patty Murray (D-WA) to take on the bill—and soon. Here’s hoping something good happens. Soon.

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NOAA AND NASA GET NEW LEADERSHIP

On Sep. 1, the White House announced that President Donald Trump nominated Representative James Bridenstine (R-OK) as the administrator of NASA and Rear Admiral Timothy Gallaudet to take the second-in-command position at the National Oceanic and Atmospheric Administration (NOAA) as the assistant secretary of commerce for oceans and atmosphere. Bridenstine, a former Navy combat pilot and a member of Congress since 2012, is a controversial pick due to his political background and lack of science or engineering experience. In an interview with Politico, Senators Marco Rubio (R) and Bill Nelson (D), both of Florida, where the agency’s Cape Canaveral space center is located, expressed their disappointment with the appointment. “I just think it could be devastating for the space program,” Rubio tells Politico. “Obviously, being from Florida, I’m very sensitive to anything that slows up NASA and its mission.” Nelson adds: “The head of NASA ought to be a space professional, not a politician.” Gallaudet, a former Oceanographer of the Navy, does have a background in science, with masters and doctoral degrees in oceanography from the Scripps Institution of Oceanography. Jonathan White of the Consortium for Ocean Leadership praised the appointment in a statement, writing that “[Trump] has chosen someone who has the scientific and oceanographic expertise necessary to fulfill the requirements of this position and whose exemplary leadership, professionalism, and dedication will allow him to serve with distinction.” Both nominees will require confirmation from the Senate. For more information, click here.

OECD RELEASES ANNUAL “EDUCATION AT A GLANCE”

On Sep. 12, the Organization of Economic Cooperation and Development (OECD) hosted a webinar to discuss the primary results of their annual report, “OECD Education at a Glance.” This yearly publication showcases cross-national data for education policy outcomes and allows governments to compare and develop more effective education systems. The 2017 edition focuses heavily on the career choices of young adults. It finds that a majority of students, especially in the U.S., are pursuing careers in non-STEM fields such as arts and humanities, social sciences, and journalism, despite more than favorable employment rates in STEM fields like engineering or manufacturing. However, the study also finds that although employment rates are high within some STEM fields, others – natural sciences, statistics, and mathematics – closely mirror the employment rates associated with arts and humanities graduates. As far as gender and career choice goes, data from OECD shows that the gender gap within teaching is disturbingly apparent. While 7/10 teachers across OECD countries are women, the opposite is true for science and engineering professions. Moreover, data shows that US teachers “earn less than 60 percent of the salaries of workers with similar education,” placing the US at the bottom compared to other OECD nations’ teacher salaries. Finally, further data outside of career choice shows the U.S. lagging far behind other countries in early childhood education, with preschool enrollment is expanding at a faster rate outside the U.S. A full copy of the report is here.

STEM ED COALITION HOSTS BRIEFING ON ESSA AND STEM IN THE STATES

On Sep. 13, the STEM Education Coalition hosted a briefing on Capitol Hill titled, “STEM in the States: Impacts of the Every Student Succeeds Act (ESSA).” The event featured expert panelists Anand Vaishnav of Education First, Stephanie Rodriguez of the Afterschool Alliance, and Michael Feder of Battelle/STEMx, who each examined the impact ESSA has had on state-based efforts to provide quality STEM education opportunities in K-12 and informal education settings. Vaishnav presented what Education First has found regarding how states are including such efforts in the ESSA plans being submitted to the Department of Education as required by
the new law. He noted that, interestingly, while elements of STEM education are coming out where expected (in state efforts related to the new Title IV, Part A, grant, for example), states are also taking a more holistic approach to their STEM offerings. Accountability plans, professional development offerings, and career and technical education strategies are among the areas that feature STEM education in plans that have been examined to date. Rodriguez noted that states are continuing the trend of using out of school time to engage students—particularly underrepresented and underserved populations—in STEM education offerings, as informal settings can be particularly effective in allowing students to explore unfamiliar subjects and activities. Feder noted that the work that ongoing work that Battelle and STEMx are doing in states to support statewide STEM work and initiatives has produced a give and take between state STEM networks and state education administrators, to mutual benefit. The panelists also discussed how state and local advocates, including afterschool and informal learning advocates, are influencing state plans through the ongoing advocacy work. Presentations are available here.

**Kaine and Capito Introduce Bipartisan Apprenticeship Bill**

On Sep. 14, Senators Tim Kaine (D-VA), a member of the Health, Education, Labor and Pensions (HELP) Committee and co-chair of the Senate Career and Technical Education (CTE) Caucus, and Shelley Moore Capito (R-WV), introduced the bipartisan *Middle School Technical Education Program (Middle STEP)* Act. The bill, which Sen. Kaine has introduced in previous congresses, would focus on career exploration for middle school students through CTE programs. The bill would establish a pilot program where postsecondary institutions, local businesses, and middle schools partner to develop and offer CTE exploration programs. These programs would include apprenticeships and project-based learning opportunities, which are often not available to students in middle school. “Career and technical education is a powerful tool in preparing students for good-paying jobs in fields that help drive our economy in West Virginia and across the country,” Capito said. “By making sure students are aware of the opportunities provided by this kind of education early on, we can help set them up to succeed both in school and in the workforce. The Middle STEP Act will help more of our students find the path to success that works best for them and prepare a new generation to meet the demands of a 21st century workforce.” Middle school is a time for students to begin thinking about what they want to pursue in life. Helping them explore how their coursework could support those interests can make a valuable difference down the road,” said Kaine. “I believe this is a meaningful strategy that can propel them toward the careers of the future, and help to fill workforce shortages across the Commonwealth.” The bill is cosponsored by Senators Jeanne Shaheen (D-NH), Ron Wyden (D-OR), Bob Casey (D-PA), Sheldon Whitehouse (D-RI), and Mark Warner (D-VA). For more information, go here.

**NASA Center Named After Hidden Figures Trailblazer**

On Sep. 22, NASA held a ribbon-cutting ceremony at its Langley Research Center in Hampton, Virginia to name their newest building after Katherine Johnson. Johnson, a former NASA mathematician who has received the Presidential Medal of Freedom, most recently gained fame with her role in the 1962 orbital mission of John Glenn being publicized by the book and movie “Hidden Figures.” Johnson was the human check on the computations by a worldwide communications network that linked tracking stations to computers in Washington, Cape Canaveral, and Bermuda. The Katherine G. Johnson Computational Research Facility, or CRF, is named after the 99 year old trailblazer who was supported by family, friends and fellow “human computers,” such as students from Black Girls Code and the 21st Century Community Learning Centers program. Political guests included Virginia Governor Terry McAuliffe. The CRF, the third building in the Langley revitalization plan, is a state-of-the-art facility that will enable
innovative research and development supporting NASA’s missions. At a cost of $23-million, the building consolidates four data centers that house powerful computers capable of complex analysis and simulation that can both validate and compliment the research done in NASA’s labs and wind tunnels. For more information, click here.

**TRUMP ADMINISTRATION UNVEILS NEW STEM AND CS EDUCATION INITIATIVE**

Earlier this week, President Trump unveiled a new initiative supportive of STEM and Computer Science (CS) education. The Presidential Memorandum signed in the Oval Office on Monday directs the Department of Education to devote at least $200 million in grant funds per year for advancing access to STEM and Computer Science (CS) education. In the memorandum, President Trump instructs Secretary of Education Betsy DeVos to prioritize STEM and CS through existing competitive grant programs, with a strong focus on supporting women and minorities. Since the would-be grants are from existing department funds, no congressional approval is required, and specifics for the investments will be at the discretion of Secretary DeVos. It is assumed that she and her team at the Department will identify existing competitive grant programs and develop guidance for future awards that convey the presidential priorities. In June of this year, the President signed an executive order expanding apprenticeships throughout the country, displaying a commitment to the American workforce. This week’s memorandum builds on that commitment and “recognizes the need to provide better, more relevant education in our schools.” In addition to recognizing the important role STEM and Computer Science education plays in “developing a new generation of American workers,” the memorandum outlines a dedication to gender and racial equality and diversity in the field. Additionally, Ivanka Trump traveled to Detroit on Tuesday, September 26th, where she joined members of the tech community to announce an additional $300 million in investments from various technology corporations that will support the administration’s initiative. In response, Hadi Partovi, Founder of Code.Org, a national non-profit dedicated to expanding access to computer science, and increasing participation by women and underrepresented minorities, stated, “Today, Code.org and the entire computer science education community thank Salesforce, Microsoft, Infosys, Google, Facebook, Amazon, and the other participants in today’s announcement, for their generosity, and for their support of the vision that every student in every school deserves the opportunity to learn computer science.” The STEM and computer science community will be watching for further guidance from ED and Secretary DeVos. For more information, click here.

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**3. Announcements, News, and other Notable Updates**

- **American Companies Fund $300M in Largest Joint Effort for K-12 Computer Science**

- **Ivanka Trump: Computer Science Education a New “Priority”**
  Ars Technica (Sep. 26, 2017)

- **Latina Air Force Veteran Is Changing the Face of STEM and the Drone Industry**
  Huffington Post (September 25, 2017)

- **3 Ways to Get More Young Women Interested in STEM**
  Ed Tech Magazine (September 21, 2017)

- **Univ. of Montana Grant to Boost Native American STEM education**
  Valley Journal (September 20, 2017)
Possibly Elon Musk's Biggest Idea Yet - Revolutionizing Education
Forbes (September 18, 2017)

Melania Trump Promotes STEM Education at Youth Center
CNN (September 15, 2017)

After-School Spending Gets Boost in Revised House Education Bill
Education Week (September 14, 2017)

27 New NSF INCLUDES Awards Aim to Enhance U.S. Science and Engineering
National Science Foundation (September 11, 2017)

NSTA Releases STEM Curriculum Series Focused on Innovation
The Journal (September 11, 2017)

How to Close the Gender Gap in Tech
Bloomberg (September 6, 2017)

4. Upcoming Deadlines and Events

Senate HELP Committee Hearing on State Innovation in ESSA
Date: October 3, 2017

SETDA Education Forum
Date: October 23, 2017

Society of Women Engineers Annual Conference
Date: October 26, 2017

Council on Undergraduate Research Call for Posters on the Hill Abstract Submissions
Date: Due November 1, 2017

2017 DC STEM Summit
Date: November 8, 2017

5. About WPLLC

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