2017-18 Voya STEM Career Initiative

ASTC partnered with Voya Financial to pilot a national, STEM-centered program for youth in grades 4–8. As part of the Voya STEM Career Initiative, five sites in Boston, Hartford, Jacksonville, Minneapolis, and Phoenix conducted multi-hour programs designed to interest youth in STEM (Science, Technology, Engineering, and Mathematics) and STEM careers. These programs were full-day, weeklong, or multiple-week offerings and reached 1,629 youth.

As part of this pilot program, the Museum of Science, Boston (MOS) evaluation team investigated change in youths' interest in STEM and STEM careers after participating in related programming from informal learning institutions. They were guided by the questions:

1. How, if at all, does Museum programming affect youth interest in STEM and STEM careers?
2. Which aspects of Museum programming influence youth interest in STEM and STEM careers?
3. How, if at all, can Museum programs be improved to encourage greater youth interest in STEM and STEM careers?
4. What programmatic aspects should be maintained or changed in order to broaden implementation of this Initiative?

Museum and Science Center Project Summaries

Arizona Science Center (ASC) conducted a "Girls in STEM" one-day event in June 2018. This program, designed for 4th – 8th grade girls, engaged participants in a broad range of STEM topics, including coding, engineering, robotics, health and life science, and chemistry. Girls were split into small groups that rotated through activities and included a "women in STEM" mentor who assisted girls throughout the event.

The Bakken Museum (Bakken or Bak) conducted six sessions of "Camp Innovation," which was a 4- or 5-day-long summer camps focused on invention and problem solving with STEM skills, VOYA STEM Career Initiative pg. 2 including hands-on and challenge-based activities related to circuitry, robots, and Legos, among other creative themes. Attendees were in 2nd–8th grade.

Connecticut Science Center (CSC) conducted an afterschool program for three weeks that consisted of twice-weekly, hour-long meetings each week. The audience consisted of 6th–8th grade school students from three nearby low-performing school districts. Youth learned about the engineering design process and problem solving by using the Engineering is Elementary

afterschool curriculum about creating prosthetics for animals, a challenge-based educational extension activity developed at the Museum of Science, Boston.

THE MUSEUM OF SCIENCE, BOSTON (MOS) conducted week-long summer courses in August and July that presented a variety of STEM topics. Full-day and half-day programs included hands-on STEM activities, presentations from STEM professionals, and group projects and experiments related to STEM and STEM careers. Attendees included youth in 3rd–8th grade.

THE MUSEUM OF SCIENCE AND HISTORY, JACKSONVILLE (MOSH) conducted "She's an Engineer," which included two overnight sleepover camps STEM with Girl Scouts ranging from 4th–8th grade. For younger Girl Scouts, who were in kindergarten through 3rd grade, MOSH hosted fourteen workshops that were 3-hours long. Both programs focused on helping girls connect with engineering through hands-on, challenge-based activities to earn Girl Scout engineering badges. The overnight program also included professionals from STEM fields to help broaden girls' conceptions of STEM and STEM careers.

How Voya supported the work of funded museums and science centers

All sites used Voya funding to start new programs or enhance aspects of their existing programming. Institutions were able to add additional sessions, workshops, or camps than in past iterations of these sorts of programs. Several institutions were able to expand their programs' formats and activities to reach a younger audience, such as modifying activity materials originally designed for older youth and offering a half-day programming.

In addition to expanding their programs to a larger quantity and greater diversity of participants, some sites used VOYA funding to provide financial assistance to groups for whom cost was previously a barrier to participation. One site partnered with Title I schools that typically do not have funding to participate in this type of programming and used VOYA's support to cap their admission cost to a more accessible amount.

Furthermore, project funding helped to forge new partnerships. Two sites partnered with the Girls Scouts of America to encourage girls' interest in STEM and STEM careers. Lastly, this partnership allowed some institutions to more formally invite STEM professionals to take part in the program and work with participants in meaningful ways. These professionals discussed how they used STEM skills in their jobs, which expanded participants' understanding of STEM careers and how STEM skills can apply to a wide diversity of career paths.