Impact

The HESA Difference

In their testimonials, hundreds of teachers shared how the knowledge they gained from HESA changed their approach to teaching in ways that are making a significant difference. Many students, inspired by their HESA teachers, are now studying science and math in college. HESA was the catalyst for the following accomplishments:

- Redesigned science and math curriculum for their classrooms, schools, and school districts for advanced, integrated learning in STEM education to support the Next Generation Science Standards
- Won multiple grants from NASA, states, corporations and many other funding organizations including:
    - $100,000 grants from the State of Oklahoma and Cherokee Nation to develop STEM projects
    - $75,000 grant from the NASA ***Endeavour Project*** to offer STEM classes to teachers
    - Raised funds to introduce innovative science programs and competitions at the local level in numerous countries
    - Project Lead the Way – New Aerospace Curriculum

- Entered students in state, national and international science projects, including:
    - NASA's Student Spaceflight Experiments Program – student experiments were sent to International Space Station
    - Arizona Space Research Center, receiving a grant from NASA Explorer Schools to fly student-designed scientific payloads into the atmosphere using weather balloons
    - NASA Teach from Space MicroGravity Experience -- students developed experiment to fly in microgravity during parabolic flight
    - NASA Digital Learning Network visited several districts as a result of the networking between HESA educators
    - International Symposium "Communication without borders" and "Let's motivate and inspire on students to become the next generation of explorers" in Suceava, Romania
    - Multiple prestigious international science competitions, such as NASA Space Settlement contest, The Grand Prize, Science Olympics, Physics and Match Olympiads, National Siemens "We Can Change the World" Challenge, science and math programs from IBM, Epcot and many more

- Created multiple after-school programs in both schools and school districts:
    - Space Science Clubs
    - NASA Astronaut Day
    - Robotics Clubs
    - Lego Classrooms
    - Rocketry Workshops
    - Astronomy Classes
    - Annual 'Space Day' events
    - Engineering design challenge programs
    - GEMS (Girls in Engineering, Math and Science) Clubs
    - Physics Olympics with FOTAD (Future of the African Daughter)

- Developed multiple programs to promote science and math in their schools and communities:

  - iSTEM (Invigorating Science Technology Engineering and Mathematics) www.spacecamp.com.au
  - Created community partnership mentoring groups with Northwest Hospital and Johns Hopkins University with physics labs
  - STEM Teacher Training in Kenya
  - HESA Days - HESA teachers with their students interact around the globe using Skype
- Raised funds for hundreds of students from across the globe to attend Space Academy

HESA Beyond the Classroom

Many HESA teachers have been inspired to go "above and beyond" teaching science and math with their new HESA lessons and knowledge:

- Designed workshops, online courses and presentations for teachers in their schools, districts and states to showcase best practices in science education
- Created special programs to teach future teachers, such as the "Learning to Learn about Teaching Science and Social Studies" in Canada
- Presented hundreds of talks, workshops, written articles and blogs promoting the best teaching practices in STEM education
- Shared the HESA experience and learning with fellow teachers on Facebook, Twitter, Google+ and Blogs
- Organized International Education Round table to share best practices in STEM education
- Assisted the editors of *Popular* Science to design a national STEM competition to help classes to buy STEM supplies for their classrooms
- Ambassadors for US Space and Rocket Center and NASA educational projects such as Airborne Astronomer Ambassador in the NASA SOFIA project and NASA Solar ambassador

Top 20 State, National and International Awards

- 2014 and 2013 NASA Mentor Award, USA
- 2013 International STEM Teacher of the Year Award from MIT, Cambridge, USA
- 2013 Prime Minister's Prize for Science, Australia
- 2013 Prime Minister's National Award of Teaching Excellence in Education Sciences, Canada
- 2013 Romanian Society of Mathematics Teacher of the Year, Romania
- 2012 Honored by German Chancellor Merkel with the "International Year of Chemistry and Energy" Award, Germany
- 2012 MINT (Math, Informatics, Nature, Technology) Teacher of the Year Award, Germany
- 2012 National Science Teachers Association's PASCO STEM Educator Award, USA
- 2012 New South Wales Science and Engineering Award for Innovation in Science Teaching, Australia
- 2010 New South Wales Australian Academy of Science Teacher Award, Australia
- 2009 National Australian Teacher Leadership Award, Australia
- Prime Minister Award for Space Teaching Excellence, Canada
- Achievement Award by the National Space Club, USA
- Top Gun Teacher Award, the Challenger Learning Center, USA
- Air Force Association Prescott and Arizona Teacher of the Year, USA
- Alan Shephard Technology in Education Award, USA
- Air Force Association Chapter Teacher of the Year – Long Island, USA
- STEM Fellowship, Siemens Foundation and Discovery Education, USA
- National Science Teachers Association's Vernier Science and Technology Award, USA
- Arizona Educational Foundation Teacher of the Year, USA