

Innovation Resources for Teaching and Learning at The Henry Ford

Paula Gangopadhyay, Director of Education

The theme of the 2010 National History Day, *Innovation in History: Impact and Change* is a timely and relevant one given the current state of our national and global economy. Innovation and America have always been synonymous. However, as the world faces today's challenges such as climate change, demands for alternative fuels, decreased manufacturing jobs, increased competitiveness and the needs of a new workforce, our capacity for innovation is paramount. The world today requires a renewed commitment to skills and characteristics that innovators have shared over the course of our American history. These traits such as risk-taking, breaking the rules, curiosity, problem-solving, experimentation, persistence, overcoming failure, team work and collaboration have defined individuals and groups seeking a better future. To learn about innovation, one must turn back the pages in history and learn from the past. American history—and The Henry Ford—is filled with the stories of innovators whose innovations and actions radically changed people's lives. This spirit of innovation continues to impact our lives today. Who knows.... you or one of your students may be one of those future innovators who will change the course of history!

Innovation may not be called out as a curriculum strand or grade-level expectation in our state or national curriculum, but if we think realistically, innovation is the common denominator that transcends the boundaries of all the core subjects. Innovation is an integral asset that every child needs in order to be successful whether it is in academics or in life.

In the pursuit of meeting the currently mandated "one-size-fits all" educational expectations, we may be veering away from what defined the spirit of innovation in America. We are already seeing negative impacts of this action. G. Wayne Clough, president of the Georgia Institute of Technology and co-chairman of the National Innovation Initiative says that "The United States continues to have an innovative edge, but at the same time, our advantage is shrinking." According to several state, national and international forums, innovation is the key to re-establishing America's global competitive edge. As per the National Council for Competitiveness, "In the 21st century, innovation is the single most factor, the most prized intellectual asset in determining America's success."

Let us question ourselves. Are we as educators, mentors and parents allowing our children to be creative? Do we allow our children to fail and learn from failures in order to succeed? Are we allowing our students to be imaginative or reflective which are critical prerequisites for being innovative? Are we making genuine efforts and significant progress towards making history more relevant and inspirational? Are we giving our children the skills they need to compete in a

“flat world?” Can we create the appropriate environments in our schools, homes and communities that can nurture innovation?

While The Henry Ford is one of the world’s premiere history destinations with a mission to inspire people by presenting the stories of American innovation, ingenuity and resourcefulness, our focus is on the future. We help people learn from history and encourage them to use those lessons to imagine and shape a better future.

Now is the time for us to foster and fuel the next generation of innovators. Today we must inspire and energize our youth to innovate so that they too can help shape their future.

OnInnovation

At The Henry Ford, we believe that future can best be built by rediscovering and emulating the time-tested innovative and entrepreneurial characteristics that defined the American spirit as exemplified by earlier visionaries, like Thomas Edison, Henry Ford, Abraham Lincoln and the Wright brothers as well as the great innovators and visionaries of today.

We have been interviewing and filming dozens of leading, contemporary innovators. We have been to their workshops, laboratories and homes for the sole purpose of documenting their creative processes, the ways they work, the way they think and how they translate their ideas into tangible and valued realities. We research and identify common themes and patterns in innovation that emerge from these interviews and that transcend any given industry or person or historical period.

We will share these insight and inspiring stories with the world through a new website, OnInnovation.com launching February 2010. This site is part of The Henry Ford’s OnInnovation educational initiative that aims to advance a culture of innovation by exciting people to discover what thinking and working like an innovator really means. Above all, we’re working to make the very stuff of innovation—the objects, people, stories and content—accessible to everyone. Our goal behind conducting and sharing these interviews is to discover if these current-day innovators share some common traits and processes for their innovations and if there are common strands that they share with innovators from the past.

Educators and students will be able to explore these engaging oral history interviews of some of today’s leading innovators including Steve Wozniak, Dean Kamen, Pierre Omidyer, Carol Shelby and many more. Along with the oral history

interviews we will also provide full online transcripts, a photo gallery, biographies, curator insights and probe questions to make relevant educational connections. Inspire your students with America's stories of innovation, ingenuity and resourcefulness by getting a preview at www.OnInnovation.com (launching in February 2010).

Experiential Learning Resources

Educational research supports the fact that children learn the best by experiencing or by doing. Henry Ford believed in "learning by doing" so much, he founded The Henry Ford (then The Edison Institute) in 1929. Eighty years later, we carry on with Henry's dream and offer a variety of exhibits, programming and unique experiential learning opportunities in Greenfield Village and Henry Ford Museum.

This fall and upcoming spring, we will offer the following dramatic presentations that bring historic innovators to life. Be sure to check our website, www.thehenryford.org for more information.

Edison's Light Fantastic

Meet Thomas Edison and hear about his most "electrifying" invention! This live one-man show gives a glimpse into the inspiring life, work and mind of Thomas Edison. Edison speaks to a group of reporters — your students — who are visiting his complex on New Year's Day, 1880 — the day after he introduced the world's first practical incandescent light bulb.
Location: Greenfield Village
Program Length: 15 minutes

Home from Kitty Hawk

It's one thing to read about the thrill of the Wright brothers' first flight. It's quite another to have Wilbur and Orville tell you about it themselves. Three actors step into the roles of Orville, Wilbur and their sister, Katharine. From the porch of the Wright family home — now in *Greenfield Village* — they fascinate your students with the dramatic tale of their experiments, struggles and, finally, the triumph of their first flights on December 17, 1903.
Location: Greenfield Village
Program Length: 20 minutes

Elijah: The Real McCoy

Learn about the fascinating Elijah McCoy, whose inventions got trains into the station *ahead* of time. This 15-minute play takes your students on the stirring eight-decade journey that was McCoy's life: how he overcame racial injustice and went on to register 57 patents, including the automatic lubricating cup, which revolutionized the industrial machine industry.
Location: Greenfield Village
Program Length: 15 minutes

Innovation Reinforcers!

Our permanent exhibits including ***With Liberty and Justice for All, Heroes of the Sky: Adventures in Early Flight***, and Buckminster Fuller's **Dymaxion House** offer an up-close look at past innovators, activists and creative thinkers who dared to make a difference and imagine a better future.

Minds On Freedom

In addition to technological innovators, our exhibit *With Liberty and Justice for All* and our February program *Minds-on Freedom* feature social and political innovators. Henry Ford Museum hosts many activities during Black History Month in February. Few, though, are quite so stirring as "Minds on Freedom," a 30-minute interactive musical and dramatic program. America's civil rights movement of the 1950s and 1960s is recounted in a rich tapestry of spoken word and music that celebrates the groups and individuals who had the courage and commitment to ask more from their nation.

Location: Henry Ford Museum

Program Length: 25 minutes

See innovation and creativity even with our traveling exhibits this year. **LEGO Castle Adventure** (October 10, 2009 -January 3, 2010) invites builders of all ages to explore, create and play in a LEGO kingdom where they can become master castle builders. In **Good Design: Stories from Herman Miller** (February 6-April 25, 2010) discover the collaborative problem-solving and design-thinking skills and processes utilized by the world famous West Michigan-based company, Herman Miller Inc.

'Henry Ford and Innovation', new online teaching and learning resources and supplemental field trip enhancements

Launching as our first comprehensive online tool that fully supports grade level and high school content expectations, the *Henry Ford and Innovation* unit plans and supporting materials will add a new dimension to your teaching of this well-known innovator. These classroom instructional resources complete with newly digitized artifacts are a great prelude to a fully immersive field trip experience related to innovation. Find out more about these innovation-related units in the Michigan Teacher section of this issue.

"Create your own online exhibition" module:

Inspire your students to be innovative as they carve out and organize their thoughts and develop their own online exhibitions on the topic of innovation. Debuting in early 2010, our new America's Transportation Stories website will offer our online visitors the unique ability to access our digital resource bank of still images and videos to organize their own interpretative 3D exhibits. Students will be able to conduct online research using curator reports on any related topic on Henry Ford and Innovation, Transportation or American Auto Racing. They can even write their own interpretative labels to accompany the photos they

select. "Create your own exhibition" can be a great post-field trip student project, ideal for assessment. Best of all, students will be able to post and share their online exhibits with family and friends and engage in social networking.

Field Trip Enhancements on Innovation

Henry's Assembly Line

What better way to learn about an assembly line than to work on one? In this hands-on 20-minute program, your students will work together to assemble a miniature wooden Model T using the station and moving assembly line methods.

FREE with Museum admission

Location: Henry Ford Museum

Offered: Daily

Build a Model T

Grab a wrench and join in the fun as we celebrate Henry Ford's Model T! Students will gain new perspective about Henry Ford and the car that changed the world as they assist in the assembly of an authentic Model T. Spend as much or as little time as you want in this one-of-a-kind activity led by experienced presenters. FREE with Museum admission

Location: Henry Ford Museum

Offered: Daily

History Hunters: Innovation

SCAVENGER HUNT

Henry Ford Museum

- Investigating Inventions in Your Place in Time: 20th Century America
- Investigating Advertising in Automobile in American Life
- Investigating Early Aviators in Heroes of the Sky: Early Adventures in Flight

Greenfield Village

- Investigating the Making of Inventors: Henry Ford and the Wright Brothers
- Investigating George Washington Carver

The 21st Century Factory: Environmental Innovations at the Ford Rouge Complex

POWERPOINT SLIDE SHOW

Examine the sophisticated technological and environmental innovations that were built into the Rouge in 2004 as part of The Ford Rouge Factory Tour.

Today, the Rouge is a workplace that protects the environment by using emerging technologies to manage water, soil and daylight

Research Resources at the Benson Ford Research Center

From its beginning in the 1940s as a library of books and trade literature to support the exhibits and collections of the Henry Ford, the Benson Ford Research Center has grown to become a treasury of research, historical

expertise and unparalleled collections documenting the American experience that you can access both in person and electronically. The Benson Ford Research Center maintains one of the largest and most significant collections concerning the impact of the automobile, industrial and manufacturing design and many other aspects of American culture, innovations and everyday life. We have primary resources and research materials on many innovators beyond Henry Ford, Thomas Edison and Buckminster Fuller. The Benson Ford Research Center reading room is open to the public free of charge Tuesday-Friday from 9:30 a.m. - 5:00 p.m. Appointments are not required but they are recommended. Special fee based behind-the-scene tours of this state-of-the-art facility are also available for groups.

Upcoming Professional Development Opportunity

In 2010, The Henry Ford will host a one-day immersive Teacher Training workshop on the topic of Innovation for K-12 teachers. Teachers will have once-in-a-lifetime opportunity to meet and listen to a famous current day innovator. Curatorial and Education staff will offer educational tours of innovation-related artifacts and buildings at Henry Ford Museum and Greenfield Village. A culminating dialogue and tools to create your own lesson plans will make this teacher workshop unique and empowering. Stay tuned for more information.

Education Innovation in Action! The Henry Ford Academies

Did you know we have a charter high school with more than 480 students on site called the Henry Ford Academy, which is an exemplary national model for innovation in education? Did you also know that we have replicated the Henry Ford Academy model at three other locations across the nation this year in Chicago, Detroit and San Antonio, Texas? The Henry Ford Academy exemplifies the innovative approach of a public school in a public setting. Teachers and students use the Museum and Village exhibits, curators, Research Center and other resources in their everyday teaching and learning. In fact the Henry Ford Academy is one of the very few schools in the nation that actually offers a "Foundation of Innovation" course and "Stop, Drop and Design Challenge Days" where students immerse themselves in creative thinking, problem solving and empathy building activities around global issues. Find out more about the Henry Ford Academy and its innovative approach to education by visiting <http://www.thehenryford.org/education/academy.aspx> or <http://www.thehenryford.org/education/institute.aspx>

Ask a Henry Ford Teacher Fellow: Cynthia Andrews of Ann Arbor Learning Community has been tapping the Henry Ford's resources for multiple years as she has prepared and supported her students in the development of past Michigan History Day projects. Contact Cynthia at charris1967@yahoo.com for more information and insights on how you can optimize the Henry Ford's resources for the upcoming Michigan History Day.

Paula Gangopadhyay

Paula joined The Henry Ford as Director of Education in January 2008. In her role as the primary education voice for the institution, Paula oversees education programs, services and product development for K-12 students, teachers, youth, adult, families and the corporate sector. Paula was charged to lay out a paradigm-shifting education strategic plan for the Henry Ford that will eventually position the institution as a global educational resource. She also serves on several national and state panels on museum and cultural education and is widely recognized for conceptualizing and project directing many national-level 'out-of-the-box' educational grant projects. Paula has extensive experience in the field of K-12 school reform having served as the Executive Director of Commission for Lansing Schools Success and Great Lakes Center for Education and Research. She also served as the Executive Director of Meridian Historical Village in Okemos as well as the Curator of Education and Public Programs at the Public Museum in Grand Rapids. Paula likes to work with teachers as a proactive partner in education and recently initiated the Henry Ford Teacher Fellow program that engages teachers from across the state of Michigan at The Henry Ford. You may contact Paula at paulag@thehenryford.org or (313) 982-6063.