

## 2014-15 NEF Innovative Grant Winners

Lead Instructor(s)	Grant Name (if given)	School(s)	Amount Requested	Amount Awarded	Description of Grant
Donna Case	Facilitating Cause and Effect	Cooke School	\$ 1,800.00	\$1,800.00	<p>Cooke's students in the Severely Multiple Impaired (SXI) program are seated in their wheelchairs for most of their lives. When they are out of their wheelchairs, they are frequently positioned in other equipment. They, unlike their non-disabled peers, lack the opportunity to interact with their environment, and as a result have difficulty developing cause and effect. "Developing cause and effect means helping a child understand that they are able to extend influence and control over their immediate environment; that an action on their part can cause a response, either from other people or from objects around them." (Bean, 2011 p, 16). Cause-and-effect is a foundational skill that students <i>require</i> to begin work in communication, literacy and life skills. If a student does not understand where his or her body ends and the world begins, and how he or she can impact change upon that environment, higher level cognitive skills will be negatively impacted. "Cause and effect is not something that can be taught directly – rather our students develop their understanding through experiencing it in a range of different contexts" (Bean, 2011, p. 16)</p> <p>We propose to build 5 single-person sensory area frames to allow our students with severe multiple impairments to develop this pivotal skill.</p>
Lorie Farrow & Suzanne Plummer	Inclusive Eye Gaze Learning	Cooke School	\$ 3,290.00	\$3,000.00	<p>We currently have 113 multiply impaired students in the Cooke School program, 45 of these students have visual impairments. When presenting the core concepts defined by our school improvement plan, we need to make significant modifications for these students. Since understanding is demonstrated through a student's ability to make choices using eye gaze, we need innovative tools to help train their attending and tracking skills. Due to their significant disabilities, these skills are often very challenging for our multiply impaired population.</p> <p>We feel we have identified a piece of technology that will assist us in preparing our students to access the core curriculum. The Inclusive EyeGaze Foundation package provides a durable, portable, small and easy way to teach visual attending skills, cause and effect understanding and simple access skills. The myGaze Eye Tracker device is easy to use and is compatible with all of our school computers. The progressive skill activities included in the software can be personalized and will provide immediate success and feedback. It also records and reviews student skills.</p> <p>We would have two devices, one at Cooke School and one at Northville High School.</p>

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Tonya Nugent	"I Want to Buy That!" Filming and editing footage to create a commerical	Meads Mill Middle School	\$ 664.00	\$664.00	<p>Students investigate and analyze the content of commercials to gain an understanding of marketing techniques used to sell goods to consumers. Once familiar with advertising manipulation, they consider how commercials contain social values and stereotypes. Armed with this information, students team up and work collaboratively to plan and produce their own commercial using all the persuasive and production techniques of the professionals. Students will use their own personal device placed in a Swivl to film. "Swivl is a innovative robotic mobile accessory, app and connected cloud services made to help improve skills and organizational performance with video." Swivl is iOS and Android compatible, adapts to most tablets, smartphones and cameras, re-chargeable battery with a 5 hour run time, follows you 360 degrees with a 25 degree tilt and a 30 foot range and has a wireless microphone with remote controls called a 'marker.' After students film their raw footage, they learn to edit their footage into a commercial. Through each stage of the production process, careful consideration is given to the purpose, target audience and message of the television advertisements.</p>
Suzanne Lipshaw	Oceanography Project Based Themed Learning Approach	Moraine Elementary	\$ 1,047.00	\$1,047.00	<p>To enhance my teaching and the learning experiences of my students, I will employ the topic of oceanography as a yearlong themed project based learning (PBL) approach to teach my students the Common Core Standards (CCS) that relate to their Individualized Education Plan (IEP) and Tier 3 Multi Tiered Systems of Support (MTSS) reading goals. This approach provides struggling readers with access to curriculum and their individual goals in an authentic, fun, and unique manner; as well as increasing their motivation and engagement while learning at a deeper level. Research has confirmed that PBL across all grade levels and subject matter is an effective and enjoyable way to learn and develop deeper learning competencies required for success in college, career and civic life (BIE.org). The first PBL experience involves a partnership with the Georgia Sea Turtle Center (GSTC). Activities will include a virtual field trip to the GSTC, computer and text based research, a virtual all school assembly (consisting of cooperative small group PowerPoints, movies, project presentations, etc.) aimed at informing Moraine about the threats to sea turtles with the goal of raising money to "adopt" a sea turtle, capability of students to blog about their research with and get health updates about their adopted turtle from the GSTC personnel, and student reflection journals documenting their learning and progress through use of metacognition skills. At the end of this PBL experience, projects will be shared via Skype with the GSTC at one of their Professional Development "bag lunches" where my students become the teachers. Additional PBL experiences throughout the year will include the study of the ocean floor, coral reefs, marine animals, and wave energy culminating in the students creating and leading a presentation at the district's Renewable Energy STEM event in April.</p>

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Richard Cole	REAL Radioactive Decay (Study of Radioactive Decay and Half Life)	Northville High School	\$ 636.00	\$636.00	<p>Often nuclear reactions are one of the least emphasized, least developed aspects of chemistry and physics. Consequently, nuclear reactions seem abstract and detached from our daily lives. This is unfortunate because nuclear reactions (particularly radioactive decay) are all around us and they are important because of their potential uses as well as potential hazards (e.g. nuclear reactions are important for current and possibly future power generation, nuclear medicine treats cancer with radiation, nuclear decay facilitates species adaption, nuclear decay allows aging of human artifacts / soil samples, stars produce elements through fusion, nuclear weaponry). Still nuclear reactions seem exotic and beyond our reach as high school level scientists. This is not true though. There are safe and exciting labs that can be conducted in high school chemistry and physics classrooms with materials that display actual radioactive decay.</p> <p>As CP Chemistry teachers, we would like to purchase a classroom set of safe, hazardfree radioactive sources (needle sources of Pb-210 which are beta and alpha emitters) and cloud chambers* to AUTHENTICALLY study isotopes, radioactive decay and halflife.</p>
Cheri Sclater	Blended AP Computer Science	Northville High School	\$ 595.00	\$595.00	<p>We live in a world where access to knowledge and education can occur beyond the hours of 8:00am to 3:00pm via technology. My goal with the purchase of the Exposure Java software will be to allow my students to learn in a flexible environment beyond the walls of my classroom and outside the frame of a normal school day. Brick and mortar schooling doesn't mean what it used to – receiving an education can occur anytime and anyplace. Teachers no longer need to be gatekeepers. Instead, we can be coaches and tutors who guide our students to content mastery.</p>
Shannon Torres	Optimizing Student Learning and Creativity with 3D Printing	Northville High School	\$ 3,564.65	\$3,000.00	<p>I would like to create an Innovation &amp; Creation Station in the high school Media Center where learning is enhanced with the use of 3D printing using the MakerBot Replicator - 5th generation. Students will be able to engage in authentic hands-on learning with the exploration and creation of objects that are not currently available in the classroom. Difficult concepts and ideas that can be challenging for students can now be brought to life, not with pictures and videos, but with 3D models.</p>
Heather Zoldak	Focus for Wiggle Bottoms	Ridge Wood Elementary	\$ 510.80	\$510.80	<p>Each year the group of kindergarten students that arrive in the fall have a wide range of abilities and learning styles. For some students, being able to move while learning is key to adjustment and success in school. This year I have added additional alternative seating options for my students and have seen amazing progress in building their focus, as well as core strength. "Sitting still is overrated. It makes sense for the opera or for meditating, but in most classrooms and child care centers, it's given far more honor than it deserves. Children need to move.:- Tom Hunter, National Association for the Education of Young Children. By including more seating options and opportunities for students to move I am better able to meet individual needs of the range of kindergarten students in the classroom.</p>

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Heather Zoldak	Hot Dots for Differentiating Learning	Ridge Wood Elementary	\$ 382.66	\$382.66	Hot Dots and Hot Dots Jr. are standards based learning products that help students work independently on reading, phonics and math skills at their own ability level. By providing students with a self checking, independent and fun activity to reinforce learning and practice, students are able to meet success, build reading and math skills, and reach individual goals while having fun. The Hot Dots and Hot Dots Jr. are interactive tools for students to practice and retain information.
Angie Phillips	How Hard am I Working?	Silver Springs Elementary	\$ 1,509.30	\$1,509.30	My project includes using pulse monitors in the Physical Education classroom as a form of instant feedback for students to assess their activity level. Most cardiovascular improvements are made while exercising in a target heart rate zone. Often, young children have a difficult time self assessing their intensity. Pulse monitors allow students to know their pulse rate immediately and help them adjust their intensity level as needed. This activity would begin with a discussion about heart rate and target heart rate zones, including intensity and perceived intensity. Target heart rate charts would be examined and posted in the gym so students know their goals. Fitness testing and cardiovascular endurance are part of the Northville Public Schools Physical Education curriculum. These monitors would make it easy to assess a whole class in a very short time period. They are also very sanitary and easy to clean compared to other products on the market. This is innovative and something new that hasn't been tried in the district at any level. Pulse monitors can be used multiple times during warm ups and game play. They motivate students to work harder in order to be in their target heart rate zone. They also are very effective in setting goals and working toward those goals.
Michelle Wirth and Heather Gehrke	Sensory Strategies	Thornton Creek Elementary	\$ 897.29	\$500.00	These sensory items will enhance teaching and learning experiences for the students at Thornton Creek Elementary. If students have access to these materials, they will be able to concentrate and focus for longer periods of times. Research indicates that with increased time on task, students will make more academic growth.
Julie Papo	Differentiated Math Centers for NWEA RIT Bands	Winchester Elementary	\$ 1,355.86	\$1,355.86	Since Kindergarten is now taking the NWEA assessment, we are searching for additional ways to meet the needs of our students that are all at different levels of instruction. We've decided to assemble some classroom manipulative tubs with various activities to allow our higher students to be challenged in math as well as move our average and lower students forward. The tubs will include the purchased items from Lakeshore that will help us move the children along into the next RIT band category. On the hard copy application form, we have listed some RIT bands that each purchased item will connect with to organize our tubs.  Categories: Numbers and Operations, Measurement and data, Algebraic Thinking, Geometry
				<b>\$15,000.62</b>	