

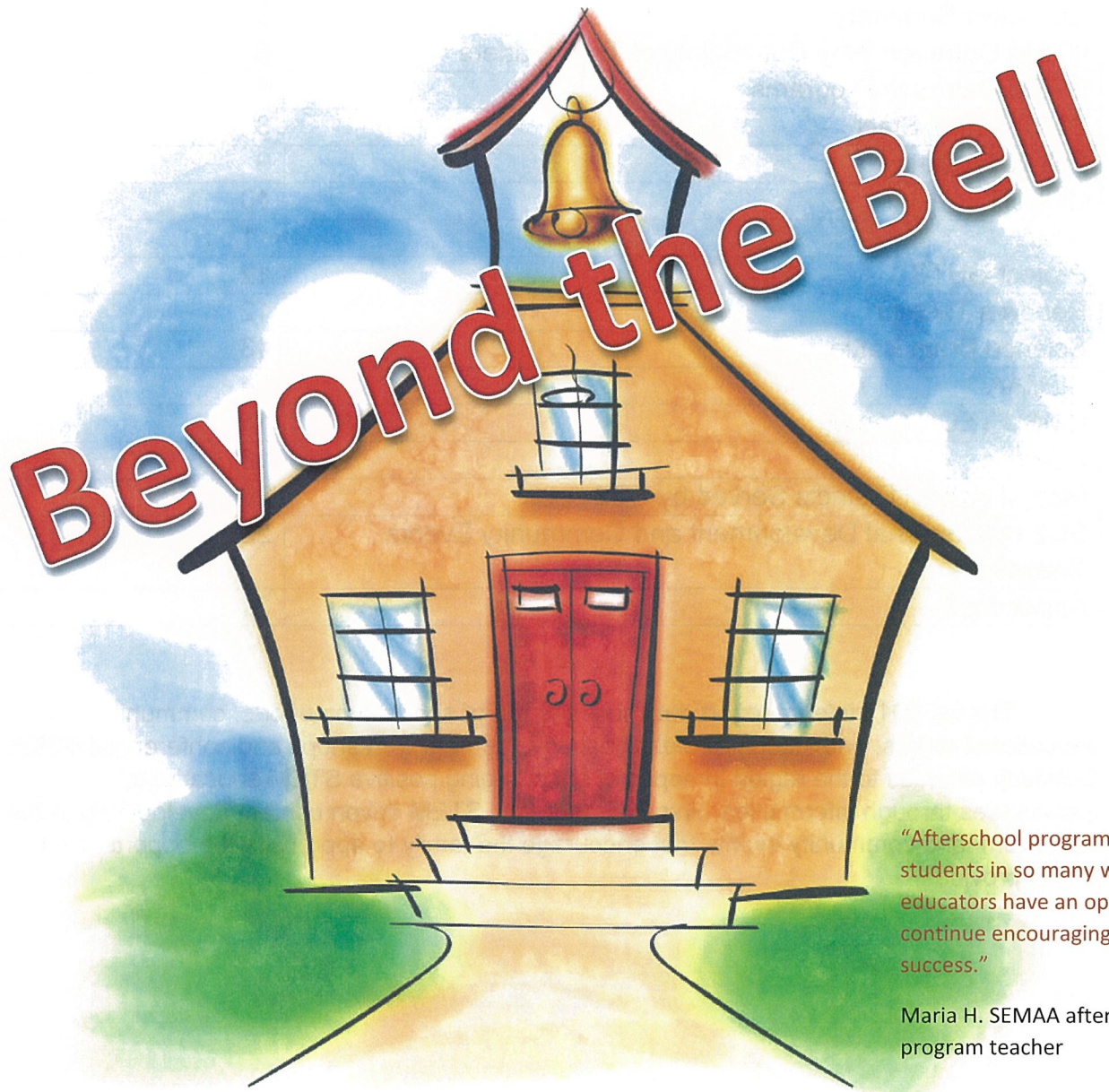
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Maria H. SEMAA afterschool program teacher

STEM Outreach Center Snapshot Report Fall 2017

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Table of Contents

Executive Summary	3
STEM Outreach Why Out-of-School Time Matters	5
STEM Outreach Programs	6
2016 – 2017 Stats	8
Fall 2017 Stats	9
COUNT	10
DiMA	11
Project GUTS	12
Readers Theater	12
Science Brain Battle	13
SEMAA	14
NMSU TECH Center	15
SC2	16
Map of School Districts Served by SC2	20
SC2 Professional Development and Community Events Snapshots	22
Appendix A -	31

The fall 2017 interim report describes the out-of-school time efforts, community educational events, and teacher professional development workshops and conferences STEM Outreach provides to the region in hopes of encouraging positive STEM educational experiences through informal learning environments, STEM driven content development in the classroom, and community events that encourage the family to appreciate the opportunities STEM provides.

Executive Summary

The Need for STEM Education: National Snapshot: The future economic well-being of New Mexico and our nation depends on students who have internationally competitive skills in mathematics, language arts, and science. It is also essential that students are motivated to enroll and complete postsecondary programs leading to highly skilled STEM (science, technology, engineering, mathematics) careers. Presently, we are in a crisis situation in that so few students continue in the STEM fields. According to *Preparing the Next Generation of STEM Innovators: Identifying and Developing Our Nation's Human Capital (2010)* in order to increase our students' interest in the STEM fields the authors have three recommendations: providing opportunities for excellence; casting a wide net; and fostering a supportive ecosystem. Additionally, a survey compiled by the America After 3PM (2014) and a parent surveys developed by the STEM Outreach Center, have documented that between 50%-70% of the parents want STEM education in their children's after school program.

New Mexico Snapshot: New Mexico has a great, albeit largely untapped, human potential in its diverse population. The challenge cannot be understated in virtually any national or objective standard or criteria for poverty, health, or education – that New Mexico is still close to last in mathematics and science with the achievement gap worsening. In the 2013 Nation's Report Card, only 23% performed at or above proficient level and the achievement gap is real in that Hispanic students' average score was 22 points lower than the Anglo students. In the 2013 Nation's Report Card, in reading only 22% of the NM students scored above the NAEP Proficient level. 2015 Kids Count report, which is an assessment of child well-being in each state based on eighteen indicators has ranked our NM students chance for success to be below 49 other states. This is not acceptable; we want our students to have the opportunity to receive the skills and knowledge required for success in the 21st century.

STEM Outreach Center Snapshot: The STEM Outreach Center understands the needs of the state and community; NM's overall graduation rates are among the worst in the US (Kids Count, 2016) as NM ranks 49th in graduating high school students and 49th in overall child well-being. Understanding the underlying social and economic hurdles NM's families face supports the overall mission and goals of the STEM Outreach Center as the organization works with partners and various funders to reach out to the communities in most need of educational services. Between the years of 2009 to the present academic year, over 24,000 students have participated in out-of-school time programs, 1,147 out-of-school time programs have been hosted, 2,000 individual teachers have participated in teacher professional development, and over 1,000 teachers have taught out-of-school time programs.

The STEM Outreach Center distributed a survey to the parents, students, teachers, and school administrators to better understand what types of out-of-school time programs the CLC site community desires. The questions included: what types of activities are most important; which subjects need more attention; and what obstacles parents face that prevent deeper family involvement in school activities. The survey (distributed in English and Spanish) results indicated more than 80% of all surveyed feel strongly that math, science, technology, and writing (literacy) are the most important types of afterschool programs to offer. In addition to this, 73% of parents feel that their student is not provided with enough activities that connect classroom learning to real world experiences and career readiness; 57% of parents feel that cost and transportation of after school programs are the biggest obstacles in preventing them from actively participating in their student's learning process. 65% of parents and 21st CCLC site personnel indicated that student health, diet and exercise or absence of these topics was a growing concern.

To address these concerns the STEM Outreach Center and partners (SEMAA, Reader's Theater, DiMA, COUNT, Science Brain Battle, electives chosen at each site, and programs provided through a network of community –based organizations) ensure rigorous, hands-on,

and well-rounded academic enrichment opportunities during the out-of-school program are provided that prepare students for future STEM and other careers needed throughout New Mexico and the nation. Additionally, activities integrated throughout the curricula educate students on healthy lifestyle choices, college and career choices that will serve them in their lifetime. Lastly, parents' concerns regarding costs of enrolling their students in the program and transporting them home after programs end is quelled because all programs are free and transportation is provided through GISD's Boone Bus Company and STS Transportation that serves LCPS.

The Need for the After School Experience: An informal after school experience in science, math, or reading has been especially successful for low-income and minority populations who are underrepresented in the STEM fields, and many times have low graduation rate. High quality after school programs increase student participation and achievement in school as well as being less likely to join gangs, victims or perpetrators of violence, or becoming teen parents.

According to the American 3 PM (2015) report, 56% of low income parents cannot afford after school care. Half of children from low-income households would be enrolled if one was available to them and Hispanic children (96% on GISD and 75% in LCPS) are at least two times more likely to participate if the after school program is convenient, free, and provides a safe way home. (Our CLC provides all three components.) 85% of the parents support public funds to be used for summer learning programs.

The Need for Teacher Professional Development: The STEM Outreach Center team is staffed with educators that have both credentials in educational and teaching experience. SC2 (Scientifically Connected Communities) is dedicated to increasing the achievement and participation of K-16 students in the STEM fields. The future economic well-being of New Mexico and our nation depends on students who have internationally competitive skills in mathematics, and science. It is also essential that students are motivated to enroll and complete postsecondary programs leading to highly skilled STEM careers. But for the present, we are in a crisis situation pertaining to STEM education. For example, in South Korea 37% of the undergraduate degrees awarded are in the STEM fields; 47% in France; 50% in China, and 67% in Singapore. Only approximately 15% of the U.S. undergraduate degrees are in the STEM fields.

It is imperative that U.S. students are comfortable in the STEM fields. There are jobs now and in the future and it is projected that 80% of all jobs in the next decade will require technology skills. According to the Washington Post, math and science graduates earn top dollar in the job market and with over 3 million STEM related jobs unfilled due to our lack of qualified people, and in New Mexico alone, there are 2.1 STEM jobs for every one unemployed person, while there are 3.2 unemployed people for every non-STEM job; It is imperative that together we make a difference in these statistics.

Answering this call and helping our community of students in southern New Mexico succeed in STEM, the STEM Outreach Center has formed a strong STEM Outreach community that involves the participation of New Mexico State University, Dona Ana Community College, Las Cruces Public Schools, Gadsden Independent School District, Hatch Public Schools, White Sands Missile Range, the International Spaceport, many foundations, and federal and state agencies. These programs include after-school components, professional development for teachers, workshops for families, programs for NMSU STEM majors to teach, educational resources, and other initiatives designed to align and encourage the K-16 pipeline in the STEM fields.

STEM Outreach Center Out-of-School Time Programs

Why Out-of-School Time Matters!

In today's economy more and more parents are working outside the home in order to insure their living needs continue to be met. Therefore the need for student after school care has increased in the last couple of years. Thus today's youth are spending more time alone and unsupervised. In response to this crisis, educational entities, non-profits, state agencies and school districts have collaborated to offer afterschool options for students. This provides an opportunity for academically focused activities through various forms of enrichment programs.

The STEM Outreach Center is dedicated to providing support to regional school districts through quality afterschool programs, teacher professional development, and programs aimed at parents and families – all in an effort to highlight the importance of education. In addition to this, we provide quality programming that meets the needs of students, schools and Southwestern NM communities through hands-on, enrichment activities in STEM.

The STEM Outreach Center challenges students with a rigorous curriculum that meets national math, science, literacy, and technology standards in afterschool programs, summer camps, and family nights. We also encourage parents/guardians and families to participate in workshops tailored to specific needs, for example, family nutrition, money management, and Explora!



The Benefits of Afterschool Programs according to the Afterschool Alliance:

- Ensures students are in a safe and secure location after school hours
- Ensures students receive a snack as many NM students go hungry after school hours
- Inspire a more diverse student population to pursue careers in STEM related fields
- Increase student participation and student achievement in the STEM fields
- Engage students, parents, and teachers by incorporating emerging technologies
- Challenge students with a rigorous curriculum that meets national, math, literacy, science, and technology standards in the after school programs
- Encourage overall participation in summer camps
- Work with parents and families through workshops and award ceremonies to continuously support them as they encourage academic success from their children.
- Encourage overall academic progress in measureable ways
- Improved cognitive skills, athleticism, and dexterity
- Increased creativity and problem solving skills
- An opportunity to socialize students across demographic barriers
- Increased opportunities for service learning

STEM Outreach Programs

- **SEMAA – Science, Engineering, Mathematics, and Aerospace Academy** provides overall STEM enrichment to kindergarten – 8th grade students afterschool.
- **Science Brain Battle** is an invitational to prepare students for the Science Olympiad.
- **Scientifically Connected Communities – SC²** provides nearly 1000 teachers with professional development including content and grade-level enrichment workshops, summer institutes, and STEM conferences.
- **Readers Theater** serves as the basis for STEM by encouraging kindergarten – 3rd grade students to cultivate a love of learning through literacy skills, reading fluency, performance, and art.
- **Project GUTS – Growing up Thinking Scientifically** encourages middle school students to take an in-depth look at complex systems, models and simulation, and learn to create computer models from scratch.
- **Parent and Family Workshops** are sponsored events that encourage the entire family to spend time together and learn about topics ranging in healthy lifestyle choices, money management, and social media education.
- **Electives** are selected at each school in addition to the academic enrichment programs designed by the STEM Outreach Center. Programs are offered and supported such as art, ballet folklorico, cooking, gardening, mariachi, photo journalism, robotics and many more.
- **DiMA – Digital Media Academy** inspires students to cultivate 21st century skills through projects utilizing digital media, educational technology, and their imaginations. This program is for 4th – 8th graders.
- **COUNT – Creating Opportunities Using Numerical Thinking** encourages and strengthens math skills through various hands-on art activities for 4th -8th graders.

Students served through these collaboration are often times:

- English language learners
- First generation to go to U.S. public schools
- Live below poverty
- Receive free breakfasts and lunches
- From single family households
- Have never participated in an afterschool program prior to this academic year.

STEM Outreach Center Out-of-School Time Programs

The STEM Outreach Center in collaboration with the Farmington Municipal School, Gadsden Independent School District, Hatch Valley Public Schools, and Las Cruces Public Schools will be working together to bring quality afterschool enrichment programs to Kindergarten – 8th grade students.

Each school receives the following through out-of-school time programs:

- **Curriculum developed by the STEM Outreach Center for each program:**
SEMAA – Science, Engineering, Mathematics, and Aerospace Academy, Science Brain Battle, Readers Theater, DiMA – the Digital Media Academy, and COUNT – Creating Opportunities Using Numerical Thinking. The curriculum is grade-level appropriate, matched to standards, and expands student knowledge from the regular school day. SEMAA and Readers Theater are individualized by grade level while COUNT, DiMA, and School Selected Electives are a combination of grades. This is done to both support grade and age level appropriate learning for SEMAA and Readers Theater while the other programs offer students opportunities to get to know their school peers and develop leadership skills because grades are combined. Programs run throughout the academic year and summers at select sites.
- **Support for school selected electives** – schools have an opportunity to support ongoing successful programs presently existing in their school sites.
- **Educational resource kits** – each program provides teachers with a resource kit filled with all supplies needed to provide 30 weeks of afterschool program instruction.
- **Professional development** – teacher receive two PD sessions per academic year in order to learn the program curriculum and discuss best practices for afterschool programs.
- **Ongoing site coordination** – STEM Outreach Staff will work with individual schools in order to ensure programs are delivered as intended, support teaching staff, and facilitate parent and family workshops as well as school wide award ceremonies.
- **Provide outreach support** to schools by participating in school sponsored events such as Math and Science nights and school fieldtrips to NMSU.
- **Programming that meet school needs** – schools such as Cesar Chavez, Sunrise ES, and Lynn MS will receive programming appropriate to the grade levels served during the regular school day.
- **Teacher stipends** – each teacher will receive a stipend per semester to compensate them for the additional instruction they provide.
- **Teacher/student ratio** – the student to teacher ratio will not exceed 15 students per teacher.

**Fall 2016- Spring 2017 Out-of-School Time Services through
The STEM Outreach Center at NMSU in Partnership with 21st
Century Community Learning Centers and Out-of-School Time
Program Sponsorship**

Elementary Schools	30
Elementary Afterschool Classes	308
Total # of Hours of Afterschool Programs	18,480
Total # of Elementary Students Served	4,543
Total # of Elementary Students Proposed	3,675
Capacity for Student Participation	124%
Total # of Parent and Family Events	115
Total # of Elementary School Teachers	285
Total Stipends for Elementary Teachers	\$819,200.00
<hr/>	
Middle Schools	16
Middle Afterschool Classes	60
Total # of Hours of Afterschool Programs	1,728
Total # of Middle Students Served	810
Total # of Middle School Students Proposed	1,080
Capacity for Student Participation	75%
Total # of Parent and Family Events	65
Total # of Middle School Teachers	54
Total Stipends for Middle School Teachers	\$68,000.00
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School Districts	4
Total Schools	46
Total Classes	368
Total # of Hours of Afterschool Programs	20,208
Total Students Served	5,353
Total # of Student Participants Proposed	4,755
Capacity for Student Participation	113%
Total # of Parent and Family Events	180
Total Teachers	339
Total Stipends	\$887,200.00

**Fall 2017 Out-of-School Time Services through
The STEM Outreach Center at NMSU in Partnership with 21st
Century Community Learning Centers and Out-of-School Time
Program Sponsorship**

Total # of Programs	270
Total # of 21st CCLC Students*	3173
Total # of GISD/LCPS Spaceport and Farmington Municipal School Students	320
Total # of Teachers	310
# Hours of Each Participating Students Per Year for 21st CCLC	120,000
Grade Levels Served	K - 8th Grades
Child Care Savings for Participating Families (\$13 per hour x 2,510 students x 60 hours) and	\$1,560,00.00
Capacity of Programs	94%
Total Teacher Stipends	\$340,250.00

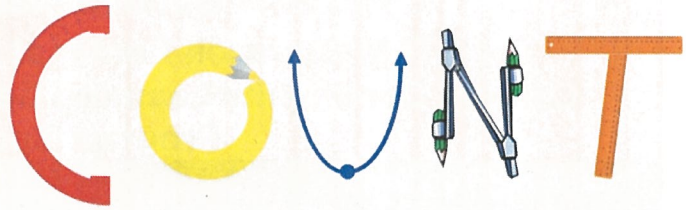
STEM Outreach Center's Out-of-School Time Programs

Afterschool programs professional development is one of the largest gatherings of afterschool providers in southern New Mexico that occurs approximately four times a year. Each program below dedicates several Saturdays per year to teaching STEM content to elementary and middle school teachers in order to encourage professional growth in content knowledge to positively influence their regular and afterschool time practices. The programs include the Science Brain Battle, SEMAA-Science, Engineering, Mathematics and Aerospace Academy, Readers Theater, DiMA-Digital Media Academy, COUNT-Creating Opportunities Using Numerical Thinking, and Project GUTS-Growing up Thinking Scientifically.



Various workshops were held for all teachers that participate in the afterschool or out-of-school time programs in Farmington Municipal Schools, Gadsden Independent School District, Hatch Valley Public Schools, and in the Las Cruces Public Schools. In addition to the workshops provide that provided teachers with information and hands-on experiences with STEM content, they also received training in inquiry-based learning in classroom and out-of-school time settings. Teachers also received CPR training as part of the opportunity to participate in out-of-school time programs. The table demonstrates how many individual teachers participated in the SC2-Out-of-School Time efforts provided through the STEM Outreach Center.

COUNT – Creating Opportunities Using Numerical Thinking is a brand new program that began in the spring 2015 semester at the 21st CCLC sites. Students explored math through art; learning about artists and how mathematics plays a valuable role in



Creating Opportunities Using Numerical Thinking

4th – 8th grade students will explore:

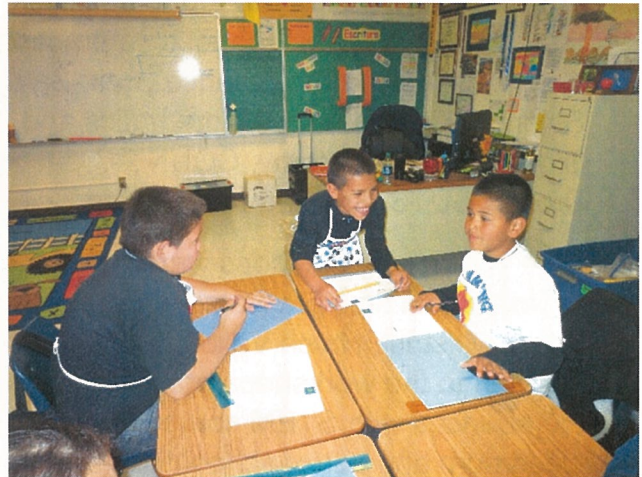
- Music
- Gardening
- Nutrition
- Cooking
- Fine Arts
- Sewing
- Engineering
- Social studies
- Architecture
- Literature
- Manufacturing
- Origami

creating masterpieces. The STEM Outreach Center is excited to provide students with opportunities to explore these areas through the lens of math, including origami, nutrition, gardening, and many more.

The world is surrounded by math – geometry, fractals, algebra, and fractions. This program challenges students to learn mathematical concepts through real world experiences for learning. Knowing the practical use of mathematics will challenge students to rethink their perspectives of mathematics.

Math is in everything so this program will organically flow from one content area to the next throughout the academic year. 4th -8th grade students will have a wonderful time exploring such

topics that are left out during the regular school day.



“COUNT is fun! Students are overwhelmed by having to do math everyday but this program introduces math through art so it is perfect for both kinds of students that struggle and succeed!”– S. Rodriguez, COUNT teacher.

DiMA – Digital Media Academy

The Digital Media Academy offers students opportunities to explore the digital world around them. Information is readily accessible to students so this program teaches them how to navigate through that stream of information and use it responsibly.

DiMA students are being taught 21st century skills that will prepare them to enter into higher education and/or the workforce. Students are also taught digital citizenship, responsible use of technology, and how to best use it as an educational resource.



DiMA • Digital Media Academy



In addition to this, DiMA's goal is to facilitate the use of, and provide access to various forms of technology and digital media such as educational technology, film equipment, and software that will enhance students' understanding of how to use technology responsibly and effectively. The program also serves to encourage students to make connections between technology, science, and their everyday lives within their communities through rigorous curriculum that complies with NM

standards and benchmarks. Students are challenged to incorporate their peers, schools, and communities in projects that explore their multi-faceted and multicultural lives in the borderland.

During the spring 2017 spring semester, students explored architecture, structural engineering and 3D modeling. Students learned how to properly use 3d printing pens that allowed them to freely draw in a 3 dimensional way; use 3D printers and print objects that they created using specific software and online tools; and research and build 3 dimensional models.

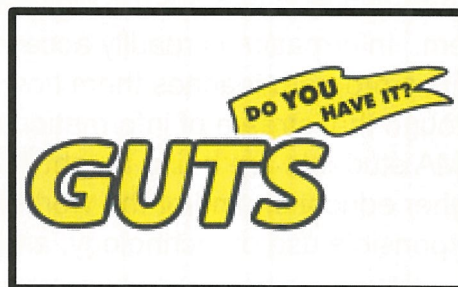


This program will serve 4th – 8th grade students and nearly 320 students are projected to participate in the upcoming school year. The photos on the left show GISD students on a recent fieldtrip to NMSU. The students participated in Sports and Digital Media activities where they did a relay race, constructed a rocket ship, all while recording their actions and peer interactions. This footage was edited to create a short video that

could be used as an instructional tool later in the course of the program.

Project GUTS

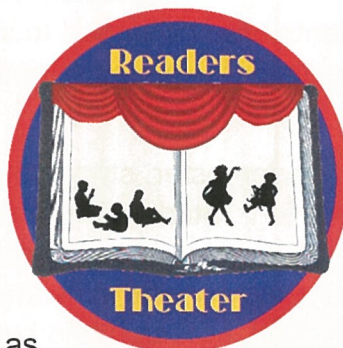
Project GUTS -- Growing Up Thinking Scientifically -- is a summer and after-school science, technology, engineering and math (STEM) program for middle school students based in Santa Fe, New Mexico and serving LCPS through Spaceport Taxation Funding. Growing up thinking scientifically means learning to look at the world and ask questions, develop answers to the questions through scientific inquiry, and design solutions to their problems. Students participating in this program develop computational thinking skills that will assist them as they move from middle school into high school where they have an opportunity to participate in the Supercomputing Challenge. Project GUTS was recently awarded the Afterschool Alliance's STEM Impact Award!



“Project GUTS has allowed my students to explore computer programming in such a hands-on way. The process is easily understood and ensures the projects developed at the end of the semester are student led, quality projects.” Anne, Project GUTS Teacher

Readers Theater

Readers Theater is one of the most popular afterschool programs offered to LCPS elementary schools. Readers Theater offers after school literacy curriculum is provided for students in grades K-3 in the Las Cruces Public Schools. School teachers are given the opportunity to teach the curriculum and are provided professional development, all necessary materials, and a stipend for doing so.



The goal of Readers Theater is to help students engage more authentically with literature by providing the means to make stories come alive. The traditional form of Readers Theater has been expanded to include costumes and props in order to enhance the students' ability to more fully inhabit the characters and stories. In addition, creative projects are provided to supplement each story as well as music materials and activities. Through this hands on, multisensory approach, Readers

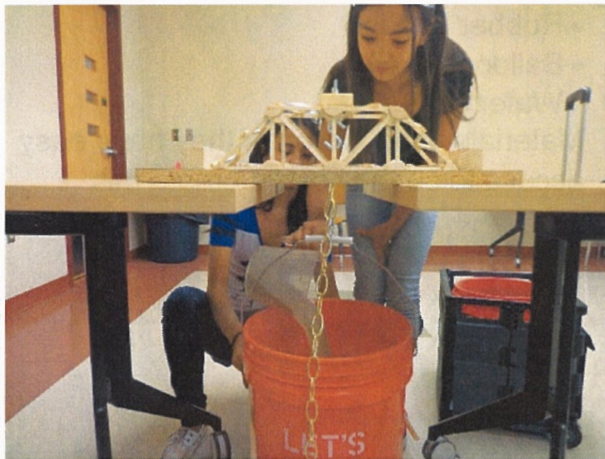


Theater hopes to foster a love of reading and storytelling in students and their communities that will continue throughout their lives.

Readers Theater students, their families, and teachers gather for an awards ceremony and performance at the end of the semester. Girls join in to read a script that encourages reading fluency, collaboration, and positive peer interaction.

Science Brain Battle

Science Brain Battle is a science competition organized and hosted by STEM Outreach for the purpose of preparing local Science Olympiad Teams for the Regional and State Competitions. Eleven coaches from both middle and high school were in attendance. The session consisted mainly of going over which ten events would be a part of this year's Brain Battle and providing resource information for coaches to take back to their teams. Logistical details were also covered, including travel to and from competitions, accommodations at the State Competition, and monetary concerns, including coach stipends and material spending allotments per individual team.



The NMSU STEM Outreach center offered middle schools a unique opportunity to increase interest and achievement in STEM fields, inviting local schools to start a student after-school Science Olympiad team and participate in NMSU's Science Brain Battle. Students honed their problem-solving and mathematical skills by using experimental design, identifying rocks and minerals, building their own mousetraps, and became disease detectives. Science

Olympiad is a national non-profit organization dedicated to improving science education with tournaments and non-competitive events. The Science Brain Battle is made possible with contributions from Spaceport Tax Funding from Las Cruces Public Schools.

Science Brain Battle competition includes:	
Bottle Rockets	Simple Machines
Write It, Do It	Egg Drop
Experimental Design	Bridge Building
Green Generation	Entomology
Mousetrap Car	Anatomy and Physiology

SEMAA

The Southern New Mexico Science, Engineering, Mathematics, and Aerospace Academy (SNM SEMAA) is a collaborative program between the College of Education, the College of Engineering, Las Cruces Public Schools, NASA, as well as several philanthropic foundations and is funded through 21st CCLC funds and Spaceport Taxation Funding. SNM SEMAA began in the spring of 2001 with 300 students. Now, in its 16th year the program has reached over 25,000 students and continues to expand.



SEMAA has three components: a hands-on, inquiry-based approach to learning STEM that provides an aerospace curriculum program for students. The second component is the Aerospace Education Lab. This is a computer enhanced classroom with 10 workstations, a flight simulator, an academic grade wind tunnel, and a microgravity drop tower. The last component of SEMAA is the Family Festivals and Student Award Ceremonies. Which provide yet another opportunity to engage families through involved activities



Students race their Hot Air Balloon Cars In the hallway of an elementary school. Students use recyclable materials to construct their cars including

- Recycled water bottles
- Rubber bands
- Balloons
- Water cups

Materials used are ones they have easy access to so they can recreate this

activity with their family and friends.

Using Styrofoam, dye, and glue students recreate the surface of Mars to get an idea of its size in relation to the other celestial bodies in our solar system.



"SEMAA gives so many wonderful opportunities to my students. Most importantly, it's letting them visualize themselves as scientist.

This alone is invaluable in raising their self-esteem, and promotes ambition to be successful in their learning."

-Diana B. SEMAA Teacher

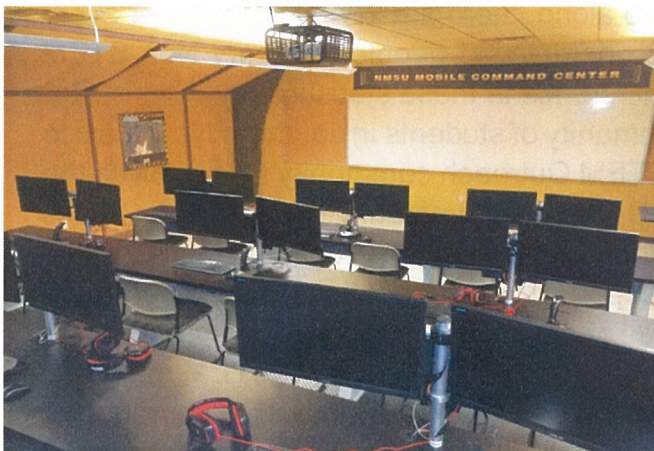
NMSU TECH Center

The Department of Defense made it possible for NMSU College of Education to turn ordinary classrooms into a novel learning environment that engages students in a complex Science, Technology, Engineering, and Math (STEM) curriculum. The TECH Center is configured with computer-based aviation platforms and simulators that engage students in a variety of missions that require critical thinking while applying core math and science competencies ranging from time-speed-distance calculations to advanced physics.

The Test and Evaluation Collaboration Hub (TECH) Center is a set of technologies to create a new immersive learning environment for STEM students of every age by embedding learning objectives in an entertaining narrative and enhancing the story with virtual world game play and simulation technology. The TECH Center currently focuses on T&E scenarios and aviation, but it is envisioned that the center will evolve over time to other areas (e.g. hypersonics, autonomy, robotics, virtual reality, and augmented reality.)

The TECH Center will be available for 5th – 12th grade students in the many NMSU STEM outreach programs offered, NMSU undergraduate and graduate students, and professional development for pre-service and in-service teachers. Additionally, the TECH Center will be utilized to support WSMR's professional development training. This is the first time that a TECH Center has been installed in a higher education institution. Thanks to the support from the NMSU administration as well as the extensive STEM Outreach programs, NMSU was chosen for the site for this new TECH Center.

The lab was installed during the summer of 2017 in preparation for the 2017 – 2018 school year. The lab has hosted over 450 students from regional schools and is projected to host an additional 500 K-12 and NMSU students and a number of special interest groups.





Scientifically Connected Communities Teacher Professional Development Program

Statement of Need

The team of the NMSU STEM Outreach Center is dedicated to increasing the achievement and participation of K-16 students in the STEM fields. The future economic well-being of New Mexico and our nation depends on students who have internationally competitive skills in mathematics, and science. It is also essential that students are motivated to enroll and complete postsecondary programs leading to highly skilled STEM (science, technology, engineering, and mathematics) careers. But for the present, we are in a crisis situation pertaining to STEM education. For example, in South Korea 37% of the undergraduate degrees awarded are in the STEM fields; 47% in France; 50% in China, and 67% in Singapore. Only approximately 15% of the U.S. undergraduate degrees are in the STEM fields.

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Answering this call and helping our community of students in southern New Mexico succeed in STEM, we have formed a strong STEM Outreach community that involves the participation of New Mexico State University, Dona Ana Community College, Las Cruces Public Schools, Gadsden Independent School District, Hatch Public Schools, White Sands Missile Range, the International Spaceport, many foundations, and federal and state legislators. These programs include after-school components, professional development for teachers, workshops for families, programs for NMSU STEM majors to teach, educational resources, and other initiatives designed to align and encourage the K-16 pipeline in the STEM fields.

Professional development for teachers is a strong component because research has documented the fact that four out of five college students made the decision to study STM in high school or earlier; one in five STEM college students decided to study STEM in middle school or earlier. Teachers make a difference; therefore, they must be comfortable with STEM content as well as innovative, interesting teaching strategies.

Parents want more STEM in the classrooms as noted by the May, 2013 Smithsonian magazine. Sampling over 1100 adults nationally respondents, Americans crave stronger mathematics, science schooling for U.S. kids. On standardized tests, (for example, 70% of 8th grade students and 79% of 12th grade students fell short of science proficiency on the NAEP, 2011) the U.S. students continue to fall behind in the STEM fields and parents are worried about the future of their state as well as their nation.

We have a wonderful team of educators who are excited about the programs and dedicated to making sure that students meet success. Our offices are housed in O'Donnell Hall, room 136 and we have an STEM Learning Laboratory in the Engineering Foreman building, room 213. We welcome everyone!

SC² Vision:

To increase scientific interest, participation, and achievement for **all** students by providing professional development for K-12 educators that promotes & supports science standards-based inquiry learning in the classroom.

Goals:

Focusing on public elementary, middle, and high schools in southern New Mexico that primarily serve minorities and underrepresented students in the science fields by doing the following:

- Provide high quality professional development for teachers that increase student scientific inquiry and mastery in their classrooms;
- Increase K-12 educators' STEM content knowledge and brain-based learning strategies as outlined in current academic research in the science of learning;
- Supply classroom resources and materials to conduct inquiry based activities;
- Establish and support a professional network as colleagues share educational best practices.

Main Components of the SC² Program:

- SC² Support in the classroom throughout the School year
- (science materials, equipment, science resources, expert, and team teaching)
- Professional Development Events & Opportunities Each Semester
- Summer Professional Development Institutes

Professional Development Partnerships: New Mexico State University 's College of Education, College of Arts and Sciences (Chemistry, Physics, Biology, Astronomy, and Geology), College of Agriculture (4H, Agriculture Extension, Animal & Range, Fishery & Wildlife Sciences, Food Science and Nutrition), College of Engineering; Alliance for the

Advancement of Teaching and Learning; Environmental Education Association of NM; Mesilla Valley Bosque State Park; The Bureau of Land Management; The Department of Cultural Affairs of NM; NM Experimental Program to Stimulate Competitive Research (EPSCoR); NM Mathematics, Engineering, Science Achievement (NM MESA); Project GUTS (Growing up Thinking Scientifically); Santa Fe Institute; Science Educators Alliance (SEA); Southern New Mexico Science, Engineering, NM Mathematics, and Aerospace Academy (SEMAA); Supercomputing Challenge; U.S Forest Service; Western New Mexico University; Young Women in Computing; and Spaceport America.

STEM Outreach Strives To...

- Inspire a more diverse student population to pursue careers in STEM related fields through academic engagement in exciting, hands-on ways.
- Increase student participation and student achievement in the STEM fields through positive experiences including fieldtrips to New Mexico State University and classroom visits.
- Engage students, parents, and teachers by incorporating emerging technologies in community outreach events, afterschool programs, and teacher professional development.
- Challenge students with a rigorous curriculum that meets national, math, literacy, science, and technology standards in the afterschool programs.
- Encourage overall participation in week-long hands-on summer camps.
- Work with parents and families through workshops and award ceremonies to continuously support them as they encourage academic success from their children.
- Work with community organizations, school districts, and outreach agencies to provide southern NM with quality STEM educational opportunities.

Scientifically Connected Communities Stats

Scientifically Connected Communities, SC2 has had a wonderfully busy, enlightening and productive fall session. SC2 facilitates professional development opportunities for local teachers by bringing content specialists ranging from NASA educators to nutrition experts into direct contact with teachers in order to support their development and provide them with additional resources for the classroom. SC2 assists teachers by providing content knowledge and support through the numerous activities we facilitate in the classroom, during fieldtrips and for special occasions such as science fairs, and field days. SC2 also provides materials, lesson plans, and experiments to teachers and are available for checkout. In addition to SC2's involvement in local school districts and teacher development, we continue to be involved in organizations within the Las Cruces community, NMSU campus, and regional school districts.

The STEM Outreach Center at New Mexico State University had a great Fall 2017 semester filled with teacher professional development, and community outreach. We had the opportunity to work with great community members such as La Semilla Food Center, New Mexico Voices with the New Mexico Out-of-School Time Network,

and the 21st Century Community Learning Centers, and school districts throughout New Mexico. Our goal is to continue to provide STEM-based professional development to teachers that fit their individual and student’s needs.

Scientifically Connected Communities, Fall 2017 SC2 Stats	
Number of Professional Development Events	18
Number or Participants	1615
Total Stipends Provided	\$36,500.00
Number of Classroom, and Community Events	68
Number of School Districts SC2 Serves	26

STEM Outreach Center Supporters

GISD Spaceport Taxation

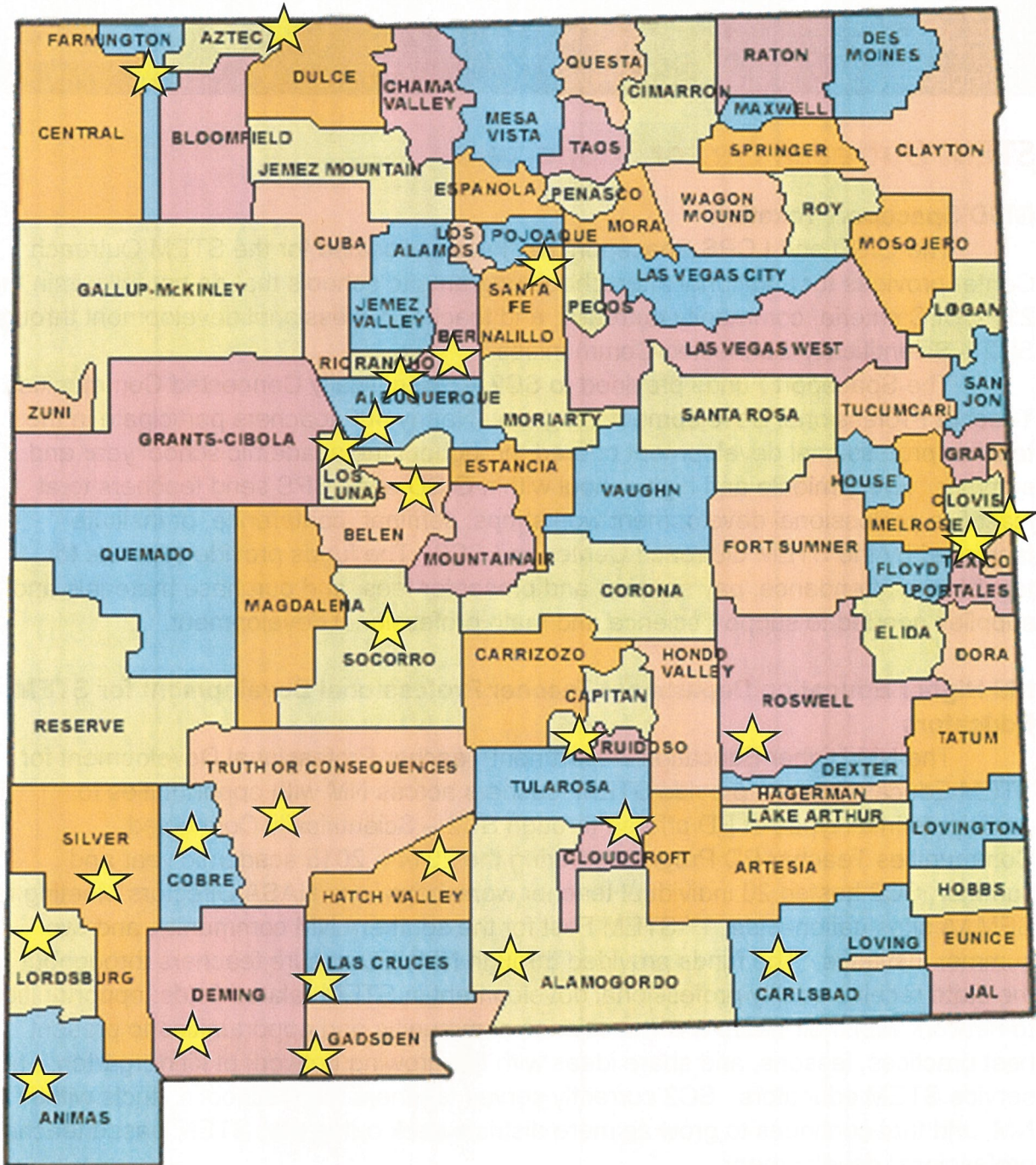
The GISD and LCPS Spaceport Tax Funds allocated for the STEM Outreach Center provides for additional afterschool programs to schools that do not fall within the 21st CCLC criteria, community outreach, and teacher professional development through SC2 – Scientifically Connected Communities.

The Spaceport Funds provided to SC2 – Scientifically Connected Communities Teacher Professional Development Program. Nearly 400 teachers participate in the teacher professional development offered throughout the academic school year and summer. Every middle and high school within GISD and LCPS send teachers to at least five professional development workshops, seminar, conference, or institute facilitated by the STEM Outreach Center and SC2. The funds provide stipends for teachers in attendance, pay speaker and presenter fees, and purchase materials and supplies needed to support science and math professional development.

NM Higher Education Department Teacher Professional Development for STEM Educators

The NM Higher Education Department Teacher Professional Development for STEM Educators funds provide STEM teachers across NM with opportunities to participate in all types of PD offered through SC2 – Scientifically Connected Communities Teacher PD Program. During the 2014 – 2015 academic year and summer, SC2 hosted 20 individual teacher workshops, one NASA Directors Meeting for SEMAA sites nation-wide, 1st STEM Fest for the southern NM community, and two summer institutes. The funds provided through NMHED ensure teachers throughout the state receive quality professional development in STEM related fields; opportunities to network with their peers and the science community; and opportunities to present best practices, lessons, and share ideas with the growing network of kindergarten – pre-service STEM educators. SC2 currently serves teachers in 25 school districts within NM, and that continues to grow as more districts seek out quality STEM-based teacher professional development.

Locations Served by STEM Outreach Center and SC² -
Scientifically Connected Communities Teacher Professional
Development Program
AY2009 - Fall 2017



School districts that participated in one or more PD events held by SC ²	
1	Alamogordo Public Schools
2	Albuquerque Public Schools
3	Animas Public Schools
4	Aztec Municipal Schools
5	Belen Consolidated Schools
6	Bernalillo Public Schools
7	Carlsbad Municipal Schools
8	Cloud Croft Municipal Schools
9	Clovis Municipal Schools
10	Cobre Consolidated Schools
11	Deming Public Schools
12	Farmington Municipal Schools
13	Gadsden Independent Schools
14	Hatch Valley Municipal Schools
15	Las Cruces Public Schools
16	Lordsburg Municipal Schools
17	Los Lunas Public Schools
18	Mescalero Apache Schools
19	Portales Municipal Schools
20	Rio Rancho Public Schools
21	Roswell Independent Schools
22	Ruidoso Municipal Schools
23	Santa Fe Public Schools
24	Silver City Consolidated Schools
25	Socorro Consolidated Schools
26	Truth or Consequences Municipal Schools

Scientifically Connected Communities (SC²) has continued to partner with programs and organizations to provide outstanding professional development and support for K-12 teachers in southern New Mexico. Many nationally recognized educational experts traveled to Las Cruces to share their knowledge with teachers and administrators. SC² presented several workshops on STEM related content for all grade levels throughout the fall 2015 semester; classroom support in the form of materials and resources for local elementary, middle, and high schools; coordinate fieldtrips to NMSU and STEM related organizations; and classroom visits.

SC2

Professional Development and Activities Snapshots

STEM Community and School Outreach

During the fall 2017 semester, the STEM Outreach staff have participated, provided, or planned special events, field trips, and professional development opportunities for the educational community of southern NM.

Date	Location	Event/Title	Type
8/26/2017	NMSU	21st CCLC Out-of-School Time Conference	PD
9/9/2017	NMSU	La Semilla Edible Education PD Kickoff	PD
9/16/2017	NMSU	La Semilla Edible Education PD	PD
9/23/2017	NMSU	STEM and Literacy PD	PD
9/27/2017	NMSU	Tech Center Ribbon Ceremony	SE
10/7/2017	NMSU	CPR Training for 21st CCLC Teachers	PD
10/7/2017	NMSU	La Semilla Edible Education PD	PD
10/13/2017	Tombaugh ES	Fall Festival	SE
10/14/2017	NMSU	CPR Training for 21st CCLC Teachers	PD
10/14/2017	NMSU	STEM and Literacy PD	PD
10/19/2017	Desert Trail ES	Math Night	SE
10/19-21/17	NMSU	College of Ed Symposium	PD
10/20/2017	Columbia ES	Donuts with Dads	FE
10/20/2017	Columbia ES	Fall Festival	FE
10/20/2017	Rio Grande ES	Fall Festival	FE
10/26/2017	Chaparral ES	Fall Festival	FE
10/26/2017	District Wide	Lights On Afterschool	SE
10/26-29/17	Las Cruces HS	NMSTA NMCTM Conference	PD
10/26/2017	Chaparral ES	Lights-On Afterschool Workshop	FE
10/26/2017	NMSU	STEM Up	PD
10/27/2017	Gadsden MS	Career Day	SE
10/27/2017	Alameda ES	Fall Festival	FE
10/27/2017	Doña Ana ES	Fall Festival	FE
10/28/2017	NMSU	CPR Training for 21st CCLC Teachers	PD
10/30/2017	Garfield ES	Family Night	FE
10/31/2017	Vado ES	Fall Festival	FE
11/4/2017	NMSU	STEM and Literacy PD	PD
11/4/2017	Loma Heights ES	Super Science Saturday	FE
11/7/2017	Sunrise ES	Family Night	FE
11/8/2017	Anthony ES	Career Day	SE
11/8/2017	Science Learning Lab	STEM Up	PD
11/9/2017	Columbia ES	2nd Grade Concert	SE
11/14/2017	Loma Heights ES	Literacy Night	FE
11/16/2017	University Hills ES	Family Night	FE
11/16/2017	Cesar Chavez ES	Literacy Night	FE
11/17-18/17	Albuquerque, NM	Fall Into Place Conference	PD
11/18/2017	NMSU	LCSCA Tournament	SE

11/29/2017	Columbia ES	NGSS PD at Columbia ES	PD
12/2/2017	NMSU	La Semilla Edible Education Capstone	PD
12/4/2017	Columbia ES	NGSS PD at Columbia ES	PD
12/5/2017	Desert Trail ES	21st CCLC Award Ceremony	FE
12/6/2017	HVMS	21st CCLC Award Ceremony	FE
12/6/2017	Chaparral ES	Literacy Judging Contest	SE
12/6/2017	Sunrise (LCPS) ES	Literacy Night	FE
12/9/2017	NMSU	Science Brain Battle Competition	SE
12/12/2017	Cesar Chavez ES	21st CCLC Award Ceremony	FE
12/12/2017	Loma Linda ES	21 st CCLC Award Ceremony	FE
12/13/2017	Riverside ES	21st CCLC Award Ceremony	FE
12/13/2017	Santa Teresa ES	21st CCLC Award Ceremony	FE
12/13/2017	Chaparral ES	Reading Night	SE
12/14/2017	Sunrise (GISD) ES	21st CCLC Award Ceremony	FE
12/14/2017	Anthony ES	21st CCLC Award Ceremony	FE
12/14/2017	Alameda ES	21st CCLC Award Ceremony	FE
12/15/2017	Alameda ES	Registration Night for 21st CCLC	SE
12/16/2017	NMSU	STEM and Literacy PD	PD
12/18/2017	Sunrise (LCPS) ES	21st CCLC Award Ceremony	FE
12/19/2017	Vado ES	Gingerbread Competition	SE
1/13/2018	NMSU	21st CCLC Out-of-School Time Conference	PD
1/16/2018	Loma Linda ES	Math and Science Night	SE
1/16/2018	Loma Linda ES	Science Fair	SE
1/17/2018	Santa Teresa ES	Reading Night	SE
1/18/2018	Vado ES	Literacy Night	SE
1/18/2018	Tombaugh ES	Stargazing Night	FE
1/18/2018	Anthony ES	Literacy Night	SE
1/25/2018	Columbia ES	STEM Night	FE

TECH Center

Date	Location	Event/Title	Type	# of Students
10/10/2017	TECH Center	Camino Real Middle School	FT	28
10/12/2017	TECH Center	MESA Students	FT	20
10/27/2017	TECH Center	Pebble Hills High School	FT	30
11/3/2017	TECH Center	Mesa Middle School	FT	23
11/13/2017	TECH Center	Desert View Elementary School	FT	60
11/17/2017	TECH Center	Berino Elementary School	FT	65
11/30/2017	TECH Center	Del Valle High School	FT	20
12/1/2017	TECH Center	North Valley Elementary School	FT	52
12/8/2017	TECH Center	Santa Teresa Elementary School	FT	30

12/12/2018	TECH Center	Bridges Dinner Meeting	SE	39
12/13/2017	TECH Center	La Union Elementary School	FT	27
12/14/2017	TECH Center	Sunland Park Elementary School	FT	26
12/15/2017	TECH Center	Mesilla Valley Christian School	FT	17
12/19/2017	TECH Center	Anthony Elementary School	FT	55

Event	# of Events	# of Participants
Special Event – this type of outreach includes events that are geared toward increasing student success and parent and family participation.	18	1,800
Family Workshops – are events that are held at the 21 st Century Community Learning Centers and also encourage parents and families to engage in informal learning environments	27	2,500
Professional Development – are workshops, events, and conferences that encourage STEM content development in pre-service and in-service elementary, middle and high school teachers.	20	500
Field Trips – are special events for students to the TECH Center where they had an opportunity to explore immersive learning environments.	13	453

Key: SE==Special Event, FW==Family Workshop, PD==Professional Development, FT==Field Trip

SC2 Teacher Professional Development

Professional development in the forms of workshops, conferences, focus groups, and excursions promote partnerships between local STEM teachers and area resources; challenges teachers to incorporate new and innovative ideas into their curricula; and encourages them to develop and maintain a network for both veteran and new teachers to draw upon when exploring STEM related topics. Professional development also provides local teachers with access to STEM professionals working in the field so they will continue to promote the sciences through all available avenues.

Classroom visits are also a crucial component to the overall vision of SC2 as it provides teachers an opportunity to implement the resources presented to them during professional development. Having SC2 personnel available for visits reinforces the importance of STEM education in all grade levels. The added instruction provided to teachers also encourages them and students alike to develop new perspectives on the practical applications for STEM; problem solve in new ways; and explore project based learning.

LCPS and GISD Edible Education Series

This education series involved a partnership with La Semilla organization of southern New Mexico. Established in 2010, La Semilla Food Center's mission is to build a healthy, self-reliant, fair, and sustainable food system in the Paso Del Norte region of southern New Mexico and El Paso, Texas. They work with children, youth, and families to build awareness around food issues, provide informed analysis, and create alternatives for healthier environments and communities. The organization's vision:



We envision a vibrant food system that prioritizes community & environmental health. SC2 had worked with La Semilla last year and we have continued our successful collaboration. We give them the contact with our teachers and they share their knowledge that translates into action in the schools of southern New Mexico!

During the fall 2017 semester, the teachers continued participating in the series of professional development where the school gardens were put in place and planting occurred. Throughout the professional development teachers learned about naturally local produce, how best to start seedlings, plant, and harvest their produce, and ways to increase student knowledge in many aspects when it comes to locally grown food.

Topics covered throughout PD were:

- Horticulture, plant science, and botany – teachers learned about plants, the process in which plants grow, and how best to assist that process. Many topics were reviewed including photosynthesis, aeroponic and aquaponics systems, climate, biomes, biochemistry of plants, and many more.
- Health and nutrition – teachers learned the nutritional aspects of many fruits and vegetables including how to introduce them to students; what their natural properties are, and how to prepare, cook, and eat each item grown.
- Best practices in reference to school gardens – teachers learned how to care for the gardens, activities to excite students about using produce grown from the school farm, and lessons to integrate throughout the regular school day that will reemphasize the importance of the school garden.

The final professional development capstone meeting was held at the Las Cruces Farmers Market where teacher set up presentations about the PD series and how they used the information throughout the academic year. The presentations were made to the peer teachers, students, parents and patrons to the farmers market.

Edible Education is based on the idea that the health of our community and future generations can be improved through hands-on experiences growing and cooking fruits and vegetables.

Our program works with local schools to establish thriving school environments that make the healthy choice the easy choice for students, their families, and staff. During a three-year relationship, La Semilla works with schools to establish gardens, and trains teachers to incorporate gardening and cooking activities into their classrooms. La Semilla supports schools and teachers with the supplies, training and technical assistance to ensure they are successful.

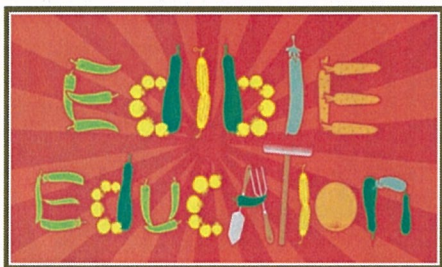
La Semilla works with schools to design school gardens that serve as outdoor classrooms and living laboratories for hands-on learning. Gardens include fruit trees, a compost system, raised beds for growing vegetables and herbs, habitats for pollinators, and spaces for project based learning. Students engage with every step of the seed to table process from preparing soil to planting seeds to harvesting and eating vegetables, ending in composting food scraps to return nutrients to the soil.

Teachers are the center of a successful Edible Education program. Teams of 5 committed teachers participate in fun, hands-on professional development workshops where they learn basic gardening skills, garden-based lessons, and prepare recipes for classroom cooking. La Semilla's staff collaborates with teachers to ensure that all activities teach required benchmarks and standards. Teachers completing the professional development series are certified as Edible Educators by La Semilla Food Center.

Students learn about new fruits and vegetables through monthly classroom cooking activities. Teachers work with students to prepare healthy recipes using fresh seasonal produce from local farms delivered to their classroom by La Semilla staff.

Seed to Table events are the culmination of the student's experience in Edible Education. Students invite parents and family members to taste delicious dishes prepared with produce they have grown and harvested. These celebrations provide an opportunity for students to share their cooking and nutrition knowledge with the family and take Edible Education home!

We all want our students to grow up healthy and strong. La Semilla helps schools ensure that lessons about healthy eating are consistent and reinforced throughout the school. Using a Healthy School Toolkit, La Semilla helps schools identify and set goals to foster a healthy school environment. We then provide support, research, and guidance to help schools achieve their goals. Students make choices about what to eat three times a day, every day. Fostering a healthy school environment ensures that at school, the healthy choice is the easy choice.



Edible Education Program Overview 2016-2017

Tier Sembrar, will be composed of up to 7 new schools throughout the Paso Del Norte Region who are new to Edible Education. Schools will be selected through a competitive application process requiring principal and district support and a cohort of 5 teachers committed to attending all professional development workshops and integrating monthly gardening and cooking activities.

Tier 1 schools will create their school garden design and work with La Semilla, facilities, parent volunteers and students to install raised vegetable garden beds. Students and teachers will plant their first cool weather vegetables in the new beds in early January. In the spring, Tier 1 schools will plant a mini-orchard of fruit trees of their choice. At the end of the year, schools will harvest their first produce and host their first Seed to Table event sharing their harvest with the school communities and preparing some of their favorite recipes from the year.

If schools will have teachers or students, or other personnel present over the summer they can choose to plant a summer garden, if desired.

Tier 2, Crecer, is composed of schools in their second year of Edible Education. If schools chose to plant summer vegetables, they are welcomed back by garden beds full of tomatoes, chile, eggplant and melons!



In Tier 2, schools take advantage of our year-round growing season and grow vegetables throughout the entire school year. In Tier 2 teachers and students will perfect their growing skills, having ample opportunity to plant, care for, harvest vegetables, and learn how to troubleshoot common garden issues. In late October, schools will receive a 3-bin compost system and build their first compost pile with students to observe decomposition

and return nutrients to the soil. In addition to flexing their growing muscles, schools in Tier 2 will be required to complete the Healthy School Action Plan, selecting 1-3 goals to work on throughout the school year.

In the spring, Tier 2 schools will build a pollinator habitat garden, herb garden, and design their own theme or project for an additional garden bed. Throughout Tier 2 teachers continue to attend professional development workshops and implement monthly Edible Education lessons and monthly classroom cooking activities with students. In order to continue into year 2, schools must successfully fulfill commitments of Tier 1 and recommit to the second phase of programming.

In Tier 3, Cosechar, schools will have a complete school garden with the exception of a simple outdoor classroom. Tier 3 is the last year of formal programming, after which La Semilla will provide limited technical assistance and resources to ensure that gardens continue to thrive. Schools will continue to grow year round in the school garden, and conduct classroom cooking. The third year will be heavily focused on tailoring Edible Education activities to the schools' vision and preparing schools to sustain a school garden. This can include exploring simple fundraisers like produce, plant, seed, or flower sales.

Schools will also be encouraged to apply for small school garden grants. There will be a focus on making teachers comfortable and confident in the garden especially harvesting produce and using it in their classroom.



NM Public Education Department Fall into Place Conference

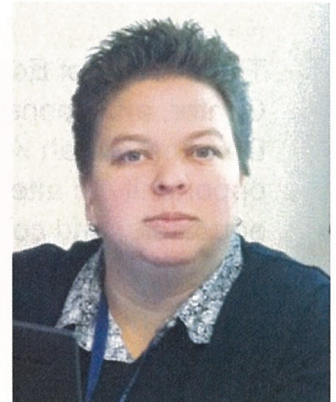
Staff from the NMSU STEM Outreach Center had the wonderful opportunity to participate and present at the fall into Place Conference. We presented two workshops: Origami and Math, a workshop designed to encourage participant so better understand geometry through hands-on activities. We also presented a workshop on Coding for Young Students using Cubetos which encouraged teachers to think of coding as a useful practice in their classroom for critical thinking skill development. Each of these workshops provided resources, training and ideas for enriching teaching practices and afterschool programs with STEM concepts and activities.



STEM and Literacy PD Series

Dr. Mary Fahrenbruck and

Dr. Leanna Lucero



Dr. Mary Fahrenbruck is a teacher/researcher who focuses on access to literacy and on comprehension strategies. Within this focus Dr. Fahrenbruck examines preservice and in-service teachers' knowledge and perceptions of how children and adolescents develop as literate beings. Dr. Fahrenbruck has published articles in Reading Matrix, Childhood Education Journal and Journal of Children's Literature. Dr. Fahrenbruck serves on the Board of Advisors for the Worlds of Words; International Collection of Children's and Adolescent Literature organization. She is also member of the Center for the Expansion of Language and Thinking, the National Council of Teachers of English and the International Reading Association. Dr. Fahrenbruck earned a BS in Elementary Education from Montana State University-Billings and a MS in Curriculum and Instruction from Black Hills State University. She earned a Ph.D. in Language, Reading and Culture from the University of Arizona.

Dr. Leanna Lucero is an Assistant Professor of Curriculum and Instruction, College of Education, New Mexico State University. She is committed to, and specializes in, diversity, educational equity, and social justice.

Having earned in B.A. in liberal arts at the University of Texas at El Paso, she went on to pursue a Master's degree in Educational Leadership and Foundations. After that, she earned her Ph.D. in the Department of Teaching, Learning and Culture at the University of Texas at El Paso, where her coursework focused on mathematics, science, and technology education as well as queer issues in education. Her dissertation research forged new ground in scholarly knowledge about the ways in which multiply marginalized LGBTQ youth use social media to create safe identity spaces.

She has worked in many capacities within the field of education, including teaching in K-12 private and public school systems, serving as K-12 school administrator, serving as K-12 curriculum instructional facilitator, as well as adjunct faculty/lecturer at the University of Texas at El Paso.

The STEM and Literacy PD series provided teachers that participated in the SC2 Summer Institute an additional opportunities to explore text through the lenses of literacy, science, math, engineering, and social justice. The PD series participants met four times throughout the fall 2017 semester and together, discovered new ways various texts were used in their classrooms to encourage inquiry-based practices.

NMSU College of Education Symposium

The College of Education in partnership with the STEM Outreach Center, and sponsored by the W.K. Kellogg Foundation and Don and Sarrah Kidd, provided the state of NM with a unique opportunity to attend this conference developed for K-12 educators, and community members. This conference was held on October 19-21, 2017 at NMSU-Las Cruces and featured National Experts and State Leaders for **Educators, Administrators, Legislators, and Community Members**



During this conference, teachers and participants had a unique opportunity to Re-Imagining the Future of Learning through workshops, speakers, and networking opportunities on:

- Re-imagining **Literacy Education**
- Re-imagining **STEM**
- Re-imagining **Play and Cognitive Development**
- Re-imagining **Educational Policy & Leadership**

This symposium sought to bring a diverse population together as a means to broaden and deepen the discussion on how best to serve our children and adult learners, school administrators, counselors, and families.

It was our hope that this symposium provided the following to all in attendance:

- Inspiration and rejuvenation to a workforce that feels devalued and underappreciated
- Tools to improve teaching and leadership practices
- Multiple teaching and learning lenses in which to support growth and change
- A renewed partnership between the NMSU COE and statewide school districts

Columbia Elementary School Next Generation Science standards PD Pilot Series

The STEM Outreach Center partnered with Columbia Elementary School to explore ways to better prepare teachers with the adoption of the Next Generation Science Standards. Through this PD series, the teachers discussed the ways they currently explore science in the classroom with their students, how to explore texts through the lens of science and engineering; experience they had with NM standards and benchmarks and NGSS; and ways they would like to learn how to be more science inclusive in their classrooms.

Appendix A

College of Education SYMPOSIUM SESSIONS AT A GLANCE

A detailed description of each session begins on page 11

Thursday 6:00-8:30pm		
Atkinson Music Recital Hall	Mondale & Aronow	A Backpack Full of Cash: A Film Exploring the Cost of Privatizing America's Public Schools
Friday 8:30-10:00am		
Corbett Mid. Ballroom	Brown	Understanding your child's innate play nature
Corbett Auditorium	(Panel) School Models	Miller, Monfiletto, Moreno, Snyder, Wunder
Friday 10:15-11:15am		
Corbett Auditorium	Tulley	Pathways to intrinsically motivated learners
Corbett Senate Gallery	Lopez	Preparing For & Managing Complex Emergencies
Corbett Senate Chamber	McMath	Taking Action with Text Dependent Questions
Corbett Col. Fountain	Keller	Using virtual science labs to enhance/expand inquiry skills
Corbett Doña Ana	Moore	Project-Based Learning with STEM
Friday Lunch 11:45am-1:00pm		
Corbett Ballroom	Chamberlin	It's OK to Play
Friday 1:15-2:15p		
Corbett Doña Ana	Tulley (workshop)	Letting Curiosity Lead (note: 1:15-3:15)
Corbett Senate Gallery	Jones	Community Led Vision for Public Education in NM
Corbett Senate Chamber	Krimbell	Online Safety: Training for Families and Schools
Corbett Col. Fountain	McCuller	Re-imagining the edges
Friday 2:30-3:30pm		
O'Donnell (1 st floor)	Tech Center Tour	Visit the Aviation simulation lab
Rentfrow Hall	Planetarium Tour	The mobile planetarium visit
O'Donnell Hall 104	Evanuick	Art, Beauty, and Aesthetic as a Textual Stimulant
O'Donnell Hall 227	Lockard	A Class to Chase My Dreams: Making Spaces for Agency and Authenticity
O'Donnell Hall 232	Corbin	Crystallizing Your Purpose in STEM
O'Donnell Hall 233	Gherardi	Rethinking Teaching as a Helping Profession
O'Donnell Hall 242	Kherra	Locative Media for Learning: A Workshop

Corbett Senate Gallery	Greenberg	Transforming Education through Community Schools
Corbett Senate Chamber	Rider	Re-imagining Online Interactions: Building Ethics
Corbett Col. Fountain	Pando	Supporting English Language Learners with Dyslexia

Friday 3:45-4:45pm		
O'Donnell (1 st floor)	Tech Center Tour	Visit the Aviation simulation lab
Rentfrow Hall	Planetarium Tour	The mobile planetarium visit
O'Donnell Hall Atrium	Poster Session II	Over 25 Posters-presenters
O'Donnell Hall 104	Tabrum	School revitalization through the Academy Model
O'Donnell Hall 111	Brown	Reimagining Nature as a Site for Connecting with Families
O'Donnell Hall 133	Chavez	Principal Leadership Development Program
O'Donnell Hall 227	Roos	The Education Plan - NM's 529 College Savings Plan
O'Donnell Hall 232	Wang	Future Teacher and Teaching Future
O'Donnell Hall 233	Martinez	Project-Based Architecture in a 3-D World
O'Donnell Hall 242	Sabol	Re-Imagining the Library for Future Ready Learning
Saturday 6:00pm: Keynote Banquet with Dr. Stuart Brown		
Corbett East Ballroom		
Saturday 8:30-10:00am		
Corbett Center Middle Ballroom	Martin	Good teachers never quit! (Administrators)
Corbett Center East Ballroom	Brown	Multicultural Children's literature and a Justice Oriented Citizenship
Saturday 9:00-10:00am		
O'Donnell Hall 104	Delgado	STEMOLOGY - Exploration of STEM in Your Classroom
O'Donnell Hall 133	Bulger-Tamez	The Power of Productive Struggle in Learning Mathematics
O'Donnell Hall 232	Diaz	Today's "WOW!"... Tomorrow's Innovation
O'Donnell Hall 233	Tillman	Creating 21st-Century Instructional Technologies
O'Donnell Hall 242	Valverde	Education Policy and Re-Imagining the Future
Saturday 10:15-11:45am		
Corbett Doña Ana	Mishra	Educational design in the real world
O'Donnell Hall 111	McComas	How do you teach silent reading?
Saturday 10:15-11:15am		

O'Donnell Hall 104	Aceves	The Xinachtli Project: Mesoamerican Pedagogy in Elementary Education
O'Donnell Hall 227	Hernandez	Academic Language for ELs and Bilingual Learners cognate Instruction
O'Donnell Hall 232	Wagner, Brinson and Garcia	Instructional Role: Facilitating for Deeper Learning
O'Donnell Hall 233	Salazar	School Improvement Technical Expertise (SITE)

Saturday Lunch 12:00-1:00pm		
Corbett East & Middle Ballrooms	Brown	The promise and potential of Latinx Children's Literature
Corbett Fountain	Trujillo	Educators Rising Meeting
Saturday 1:15-2:15pm		
O'Donnell (1 st floor)	Tech Center Tour	Visit the Aviation simulation lab
Rentfrow Hall	Planetarium Tour	The mobile planetarium visit
O'Donnell Hall Atrium	Poster Session II	Over 25 Posters-presenters
O'Donnell Hall 104	Fahrenbruck	Re-Imagining STEM as a Utilitarian Tool
O'Donnell Hall 111	Pando	Science education through model-based reasoning
O'Donnell Hall 133	Muhammed	A participatory approach in adult literacy
O'Donnell Hall 227	Montelongo	Summarizing Expository Text Is Thinking!
O'Donnell Hall 232	Corbin	STEM Dispositions and 4 C's Create Future Leaders
O'Donnell Hall 233	Kanim	Using Number Talks to build math fluency and flexibility in the classroom.
O'Donnell Hall 242	Trussell	Maker-Based and Mixed Reality Learning
Corbett Senate Gallery	Valverde	The SUN Project: Ensuring a Bright Future for NM
Corbett Senate Chamber	Potter	Re-Imagining Literacy as a Life Skill
Corbett Col. Fountain	Degardin	Language Learning Through Role-Play and Games for ELL/ESL Students
Corbett Doña Ana	Oldham	Science and Math Literacy through YA Literature
Corbett Otero	Altamirano	What teachers ought to know about how technology is changing democracy and political participation
Saturday 2:30-4:00pm FINAL KEYNOTE and FAREWELL		
Corbett Ballroom	Martin	Motivate to Educate

