

In this issue >>>

Editor's Column

STARBASE 2.0 updates

Great STEM apps

Men at STARBASE

Technical reading/writing tie-ins

The spread of service learning

Introduction of new STARBASE staff



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Alive and Well in 2014!

The year 2013 will be a year which we at STARBASE will not likely forget. It was the year STARBASE Louisiana reached the 15,000 graduates milestone! It was the year we upgraded our classroom technology by incorporating student iPads for several lessons. It was the year we piloted a successful afterschool middle school STEM club, equipped a sophisticated manufacturing facility for production of student projects, and initiated a STEM career pipeline extending the program's impact. It was also the year we nearly lost the STARBASE program!

2013. As Dickens would say "It was the best of times, it was the worst of times." This past year, our executive branch was faced with some rather difficult budgetary decisions, and for a time, it appeared as if STARBASE would be one of the casualties. Indeed, a number of our STARBASE sister sites have been forced into a temporary hiatus while awaiting important decisions about the program's future. Through the uncertain months, the overwhelming support for the program demonstrated by concerned citizens, education, business and industry leaders, as well as students and teachers in all of the STARBASE programs nationwide persuaded our legislators to reject the administration's plans for termination, and to authorize operations for the DoD STARBASE program in the recently passed National Defense Authorization Act.

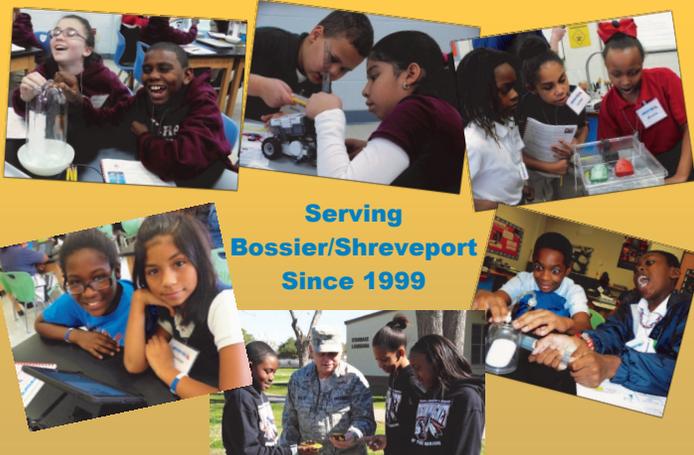
Kathy "Alpha" Brandon
Executive Director



Although we are not yet entirely out of danger, we are cautiously encouraged as we await the next congressional move, passage of the Defense Appropriations bill, which will determine the FY14 program funding levels.* Speaking collectively for all of the STARBASE programs, we were moved by the support and affirmations voiced in our communities when we needed it the most. However, until our future is secure, there is no time for complacency. The fight must continue! I encourage you to follow the status of our funding and to continue to express your support to our members on Capitol Hill. Keep fighting the battle with us until this victory is assured, and know that there may be additional struggles on the horizon.

The strength and growth of the program demonstrate that the struggle is not in vain. This year marks a new milestone for our local program – 15 years of service to the Bossier/Shreveport community. We are working on plans for a "FUN"tastic anniversary event to celebrate our progress, renew and reenergize our relationships, and forge new collaborations. Above all else, in these 15 years, we have seen that when we all work together, exciting things happen. With your help we have enjoyed the best of times, and have endured the worst of times and together, we can look forward to even better times to come!

*At the time of publication of this newsletter, the appropriations bill is still in committee.



The support staff models the newest t-shirt design.

- | | | | |
|-------------------------------------|--------------------------------|---------------------------------|----------------------------------|
| Amanda "Shutterbug" Williams | Teresa "Jersey" Johnson | Bea "Fantasma" Rodriguez | Minerva "M&M" Saravia |
| Program Assistant | Program Facilitator | Classroom Assistant | Classroom Assistant |

2.0: Teaming Up with New Partners

Mary Beth "Snow" Irvine
STARBASE 2.0 Instructor



In October of 2012, STARBASE Louisiana began a new partnership with Cope Middle School to provide an afterschool STEM-based program with future expectations for expansion. In October 2013, STARBASE's wishes came true through additional partnerships with Elm Grove and Rusheon Middle schools.

Thanks to the dedication and collaborative team work between STARBASE, Bossier Parish Schools, and participating educators and administrators at each school site, we have been able to raise the bar from 24 participating students to a total of 96 students in 6th, 7th, and 8th grades. In addition to the celebrated growth within our student body, STARBASE 2.0 has witnessed the Air Force's core values of integrity, service, and excellence with the increased mentor presence from Barksdale service men and women, which further meets the needs of our students.

Last year, 8th graders successfully used the foundational knowledge learned throughout the year in 2.0 to custom design and race an electric slot car, produced using PTC ProEngineer CAD software and manufactured at the STARBASE facility. Now in the pilot phase, select groups of 8th grade participants will also compete in the Team America Rocketry Challenge (TARC), an aerospace-specific STEM competition in which they will put their intellect and ingenuity to the test while testing and improving custom designed model rockets.

With the extraordinary response and enthusiasm brought on by the additional partner schools, and the continued alliance with Cope, the 2.0 staff is looking forward to working alongside students, educators, and mentors to make this year's program an even greater success. Our goal is to make a lasting impact on the next generation of leaders in STEM professions, as well as persist in partnering with additional members and schools in our community.

Maj Kenneth Horton and TSgt Katlyn Brookshire assist students from Rusheon and Cope with their activities.



Mentors Add Another Dimension to 2.0

Benjamin "River" Williamson
STARBASE 2.0 Coordinator



After the success of the STARBASE 2.0 program's pilot year, the 2.0 team brainstormed the best way to carry over the initial success of the program into its expanded format. If we hoped to broaden our impact on the community and quadruple the capacity for participants, how could we ensure the interaction we had with the students retained the STARBASE quality? We knew one component that would be integral to the program's future success: more volunteer mentors.

As we made preparations for a new year of STARBASE 2.0, a great deal of my focus shifted toward recruiting mentors to volunteer. The search for mentors was not merely to have more people on hand – though that is an added benefit! Rather, the emphasis on mentors is founded in research which demonstrates the benefits of having STEM professionals serving as positive role models in the lives of young adults. Data collected by the National Institute on Out-of-School Time demonstrates mentors involved in STEM afterschool programs can help students from typically underrepresented populations envision themselves as scientists and engineers. Furthermore, we have seen how mentors enrich our program and increase student interest by helping students make connections between the academic material and the real-world.

In our pilot year, we were grateful to the mentors who volunteered and noticed the impact that their presence had on the students, especially when it came to connecting the concepts that students investigated with real-life problem-solving. A wonderful example of this came when Lt Col Diana Burian indicated why understanding center of mass (center of gravity) is so important by explaining how fuel is distributed throughout the wings of the B-52 Bomber.

We were extremely pleased by the positive response we received from the local community following our campaign to recruit mentors. Well over 70 individuals indicated interest in volunteering with the program, and there are currently 44 assigned to work with student participants of the 2.0 program. Dr. Meredith Geltz, a local veterinarian and 2.0 mentor at Cope Middle School shares, "I have really enjoyed my experience as a mentor and am very impressed with the program. I am excited to see what the students will learn and experience." The impact of these volunteers can already be seen as students are being challenged to think more critically and independently through their investigations.

Legislative Contact Information

Voice Your Support!

- The Hon. Mary Landrieu
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Shreveport, LA 71101
<http://www.landrieu.senate.gov/?p=contact>
- The Hon. David Vitter
United States Senate
920 Pierremont, STE 113
Shreveport, LA 71106
<http://www.vitter.senate.gov/contact>
- The Hon. John Fleming
House of Representatives
6425 Youree Drive
Shreveport, LA 71105
<http://fleming.house.gov/>

Digital Learning: Great STEM Apps for Kids

Robert "Jazz" Sayers
STARBASE Instructor

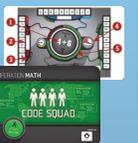


Our kids are growing up in an atmosphere of hand held computers embedded in electronic devices. They are referred to as the NetGen (Internet Generation) because they are surrounded by a network of digital information and communication. They are innately aware of how to use electronic devices to message friends, check on homework assignments, or catch up on the latest episode of their favorite TV series. They have an advantage over previous generations because they can use these electronic tools to enhance their education. Parents have a ready resource when kids cry out "I'm bored and there is nothing to do!"

The iPad or other tablets are wonderful tools for teaching math, science, reading, or many other subjects. There are many apps for iPads, smart phones, or other devices that can be downloaded free or for a small fee that give kids hours of fun, while learning or reinforcing important content and nurturing their interest in STEM subjects. Space only permits reviewing a few from the thousands available, so we will look at a few really good science and math apps.

Britannica Kids: Volcanoes is created by the encyclopedia folks, and teaches kids about volcanoes all around the Earth. Videos, pictures, and games highlight and entertain while promoting learning.

Operation Math Code Squad requires teamwork and quick thinking while practicing all four math operations, bundled into an exciting game format!



Solar Walk is an awesome app that allows you to explore the solar system and learn about the planets with astounding 3-D movies!

Virtual Frog Dissection enables virtual dissection of organs without bringing harm to any animals and without the queasy, smelly effects.

Dragon Box allows students to work with abstract algebraic content in concrete meaningful ways.

Many STEM topics can all be explored in the digital world. A quick internet search of app reviews can help you select the best apps for your students.

The Male Presence

In the Elementary Classroom

When you walk on the campus of an elementary school, you may think that school is an entirely female enterprise. From the principal, to the teachers and even the school's custodian, it is likely all are female. The only male presence may be the school's security guard. During my years as an elementary student, the only male I encountered was during my fifth and sixth grade years, the jolly green giant, Mr. Edward Gooch. In the article, "We Are in Desperate Need of More Male Elementary School Teachers", Mullenhoz states, "When elementary and middle schools are combined, men account for roughly 17 percent of the teaching force compared to the 42 percent of male teachers in high school classrooms" (*Takepart.com*, 2013). The data demonstrates a shortage of male educators on the elementary level.



One reason contributing to the shortage of male teachers in elementary schools is the low pay compared to other careers. The teaching profession salaries are not as lucrative as salaries of doctors, attorneys, CEO's of a big companies just to name a few. In the minds of most men, we are considered the primary breadwinner or the main source of income for the family. Because of the discouraging pay, teaching may be far down the list for men seeking employment. Secondly, there is a mistaken view that men who teach younger children may be predators or potential pedophiles. If, for example, a male teacher is reading a book to a class and there are children leaning against him, it may be perceived as inappropriate. The same behavior displayed by a female teacher is perceived as motherly and caring. This may discourage a lot of men from teaching on the elementary level.

Eric "Iceman" Freeman
STARBASE Instructor



Keep in mind that teaching is a profession where kids on the elementary level need nurturing, fostering, and care-giving. According to the U.S. Census Bureau, 24 million American children, that is one out of every three, live without their father. Statistics show that this contributes to increases in poverty, emotional and behavioral problems, health issues, incarceration, crime, teen pregnancy, drug abuse, childhood obesity, and poor school performance. Male teachers possess positive attributes and nurturing skills, too, and can do much to fill the need of fatherly involvement and care that so many children lack.

Now that I teach 5th grade STEM at STARBASE, I am teaching on the elementary level for the first time, and it is awesome, and I DO MEAN AWESOME! I see firsthand the benefits of children having a male presence in their educational development. Having a male teacher on the elementary level provides positive role models, especially to those without a father in their life. Having a male teacher is critical in helping boys build good relationships with other boys. This teacher-student relationship can especially help prevent boys, regardless of their backgrounds, from dropping out of high school, a process that begins early in their elementary years. At STARBASE, I am teaching boys and girls on the elementary level alongside three GREAT men who are making a difference in the lives of so many children. A big thanks to the STARBASE staff for seeing the need for male educators on the lower level. And a big thanks to three AWESOME EDUCATORS: Robert Sayers, Benjamin Williamson, and Shawn Fields!



Service Learning — Spreading the Vision

Pam "Roller" Thornell
STARBASE Instructor



Service learning can be defined as a teaching and learning approach that integrates community service with academics to enrich and extend learning. Through service learning, young people from kindergarten to college can use what they learn in the classroom to help solve real-life problems. Winston Churchill said, "We make a living by what we get, but we make a life by what we give." Good teachers always look for any teachable moment to connect students to learning. What better way is there to connect students' learning experiences than by using an opportunity that allows students to give back?

Every year, fifth-grade students that attend STARBASE complete service learning projects as a part of their graduation requirements. Students choose one of the lessons taught at STARBASE and expand on that knowledge to provide a real needed service for their school or the community. This year, Bossier Parish decided to ask EVERY school to participate in a district-wide service program called "Helping Hearts One Week at a Time". At the beginning of the school year, Bossier Parish sent a list of service ideas from which schools can choose. Some schools have connected the Helping Hearts program with the STARBASE service learning project.

Whatever the need is, big or small, teachers have stressed to their students the importance of giving back. Whether giving back is sharing content knowledge with younger students, such as wearing seat belts as a follow-up to Newton's 1st Law investigations, or collecting trash for recycling in a neighborhood park as a tie-in to chemical and physical changes, students will always remember that project and how they felt knowing THEY made a difference.

STARBASE is Helping Students Dig to the "Core"

Louisiana, along with many other states, has recently adopted the new Common Core State Standards (CCSS) that hold higher expectations for all students. In response to the new criteria of the CCSS, Louisiana educators have shifted emphasis from teaching reading and writing for pleasure to teaching and practicing skills necessary for reading comprehension and application writing of technical information.

The rigorous 25-hour STARBASE curriculum has always included a generous dose of technical reading/writing including reading and creating graphs and tables, reading and following manual-based instructions for robotic programming and CAD drawings, and understanding diagrams and technical illustrations. However, in response to this trend, STARBASE is now providing daily

Shawn "Rip" Fields
STARBASE Instructor



writing prompts for the teachers to use with their students when returning to their school. Each prompt requires application of content covered in activities and lessons at STARBASE, and allows them to practice their technical reading and writing strategies. In addition to the countless science and math standards already covered in the STARBASE curriculum, we are now providing teachers tools to help their students construct arguments and support claims with evidence and further develop their higher-order thinking.

Sample Writing Prompt
LACC Science GLE 3: PS-M-A2; ELA CCSS: W.5.1
Are most substances on the Earth made of elements or compounds? Give specific evidence for this claim.

Up Close and Personal: Meet the New STARBASE Staff

Laurie "Deuce" Ilgenfritz
Deputy Director/Instructor



STARBASE Louisiana has a very different face this year! The STARBASE family was told early last year that our funding had been cut from the Department of Defense budget. For months we were uncertain whether we would have to close our doors after the school year ended. For this reason, several staff members took positions in the local school districts. When we were granted funds to remain operational, we worked furiously to find just the right people to rebuild our staff. We have certainly succeeded! STARBASE Louisiana is proud to introduce our new team members.



Instructor Shawn Fields leads the class in the "percent dance"!

Minerva Saravia serves as classroom assistant. Originally from Puerto Rico, she has a rich history of volunteer work with students from elementary age through college and loves helping our kids with the lessons and activities. She is married and has a daughter and son.

Our new Bossier Parish teacher is **Pam Thornell**. Bossier generously assigns a full-time teacher to STARBASE. She comes to us as a former STARBASE participant from Apollo Elementary where she taught 5th grade for 24 years. Pam is married and has two adult sons.

Joining the teaching staff after transferring to the area from Greenville, Mississippi is **Eric Freeman**. As a master teacher, he previously taught STEM applications in middle and high school but has enjoyed working with the younger students at STARBASE. Eric is married with two young daughters.

Shawn Fields taught fourth grade math and science at Meadowview Elementary in Bossier Parish before joining the STARBASE team. Shawn was elected to serve as an Ambassador for the Kids Choice Foundation and attended special training in Boston. Shawn enjoys the challenge of taking children to a higher level of thinking.

After expanding the STARBASE 2.0 afterschool STEM clubs, it was necessary to bring on board an additional teacher. **Mary Beth Irvine** joined the staff in November, and works exclusively with the middle school program. She recently earned her education degree with honors from Stetson University in Florida.

The staff, both old and new, feel truly blessed to have such a dedicated and hard-working team!

Important Dates >>>

MLK Holiday—January 20

Presidents' Day—February 17

Spring Break—March 24-28

Good Friday—April 18

iLeap Testing—April 7-10

Summer Middle School Academy

Applications available—April 28

Memorial Day—May 26

Middle School Academy

Applications Due—June 2

Summer Middle School Academy—

June 23-27

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