

**LOUISIANA ASSOCIATION of
TEACHERS of MATHEMATICS**

Issue 2

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STEMulate Your Mind

**Conference Reflections
from the 2019 Joint
LATM/LSTA Conference**

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*All presentation materials can be found at
[LATM Conference Reflections Google Drive](#)*

Letter from the LATM President

Dear Math Educators,

This past fall the Louisiana Association of Teachers of Mathematics along with Louisiana Science Teacher Association joined forces to provide a multi day professional development opportunity for teachers around the state in our capital city, Baton Rouge. Teachers were able to “STEMulate their Minds” by participating in rich mathematical discussions with other educators. We had over 750 educators and vendors networking over the two day period. A variety of sessions were offered at each grade band.

Whether you were able to attend the conference or were unable to attend this year, we have compiled what we considered the “best of” sessions for you in this publication. After considering session ratings and feedback from the attendees, the presenters included here were asked to submit information from their session to share with LATM members. We appreciate the extra effort these presenters took to prepare and share with other math educators.

We hope you enjoy this second edition of Conference Reflections!

Trisha Fos, President

Get Moving with Math

Presenter: Amanda Coffill

The session was created to encourage math educators to get students up and moving with math. The session included topics such as vocabulary charades, getting students up and out of their seats, and creating body movements and motions to memorize the mathematical vocabulary needed to master that standard and skill. We also discussed the use of BreakoutEDU sessions in the math class and Escape Rooms that allow outside of the box thinking, introducing critical thinking skills as well as cross-curriculum use. Classroom transformations are another way to get students invested in the math class. I have used integer boot camp and Willy Wonka Candy land themes to name a few. The students became fully invested and learned about careers they didn't think involved mathematics! Building a human number line allows for student collaboration and differentiation when numbers/integers/rational numbers are strategically given to your students. Students are then instructed to get out of their seats and place themselves either quietly (without speaking) or verbally.

FITT Rotations was created by the curriculum specialists in Rapides Parish. Fluency, Independent, Task/Technology and Teacher Table is a take on math rotations to ensure every type of learner is reached. I am an advocate of FITT Rotations in the classroom and believe that this type of instruction promotes student growth and ensures a higher level of knowledge retention. For more information on FITT Rotations, you can follow my twitter @CoffillAmanda or send an email to Amanda.coffill@rpsb.us and I will be more than happy to discuss the process.

About Amanda Coffill

My name is Amanda Coffill and I am on my third career. It took a while to decide what I wanted to be when I grew up. I served in the Army and then sought my Bachelor's and Master's Degrees in Health Administration. I worked for the Department of Defense in Hospital Education and Staff Development where my love of teaching continued and led me to pursue public education. I have used my experience from the military and working for the military to shape how I work with my students. My values run deep and help keep me grounded in my philosophies.

I have been a public school teacher for six years and am currently seeking my Doctorate in Curriculum and Instruction. I have found that students come to me with a thought already engraved in their brains of "I'm not a math person" and that is so not true! I too grew up with that thought. I had a teacher, yes a teacher, break me when it came to math. I was told I would never be good at math and that made me hate the subject. I swore that I would not be that person, I would do everything I could to encourage students to at least give math a fighting chance. I didn't learn to love math again until I became a teacher and saw those wonderful little people loving something that I hated so much!

Being given the opportunity to share my successes with other teachers has been a dream come true and helped me to become a better teacher. I have had some of the best feedback and questions from the LATM community to encourage student growth and motivation as well as teacher motivation. I have met peers and formed life-long bonds with educators across Louisiana and wouldn't change it for the world. I am thankful for the opportunity and look forward to presenting and attending many more LATM Conferences throughout the years.

Deeper Learning with Instructional Technology

Presenter: Seana Smith



It has become my experience that educators are living in a 21st-century classroom without the training or expertise to be successful in the use of instructional technology. The Deeper Learning with Instructional Technology presentation was designed to address some of these very issues for educators. The objective of the presentation was for educators to gain insight in how to use technology to enhance lessons and create deeper thinking in their students. The intended outcome of this presentation was that educators would leave with instructional ideas to take back to their schools and classroom, they would gain confidence in some of the instructional technology ideas presented, and they would gain the ability to prepare lessons that appropriately use instructional technologies.

Many times we see educators who are truly trying to use instructional technology in the classroom, yet they are becoming frustrated and seeing no results in the students learning. Mostly it is because they have no model to drive how to use instructional technology in the classroom. They are just finding the latest new technology and throwing it in a lesson without the understanding of how to effectively use it. The want and desire are there but the understanding

of the process to make it successful is missing. I used the SAMR model to drive this presentation.

Though there are many models that can be used I find that the SAMR is easy to follow and its ties to Bloom's Taxonomy gives educators a level of comfort and understanding of how it relates to their classrooms. So what is SAMR? SAMR is a model that demonstrates the levels in which instructional technology can meet the needs of students in the classroom through four phases. The phases are broken down as substitution, augmentation, modification, and redefinition. Many times in a classroom we are seeing substitution as the only phase used. This is not a bad place to be but you do not see the student growth in learning really impacted here. If you tie it to Bloom's Taxonomy, substitution is equivalent to remember. As educators, we know this is an important step but it is just the beginning phase of students' learning process. We see redefinition as the last phase of the SAMR model. Bloom's Taxonomy equivalent is evaluating and creating. Now we are getting somewhere in the depth of the student's understanding!

As educators, we can understand that all phases of SAMR are important in the process of learning. This particular presentation gives the educator an idea of which instructional technology tool can meet each phase of the learning process. For example, if you are in the redefinition phase of SAMR, then you may want the students to create a Powtoons where they demonstrate their understanding of the unit that they just learned about. It is here that we as educators get to really see how deep the students' understanding of the topic is and how well they can demonstrate their understanding to others and bonus students are able to learn new technology and share their own thoughts and ideas.

Presentation materials can be found at: [Deeper Learning with Instructional Technology Slides](#)

Websites: [EdTech Simplified](#) and [Portfolio](#)

About Seana Smith

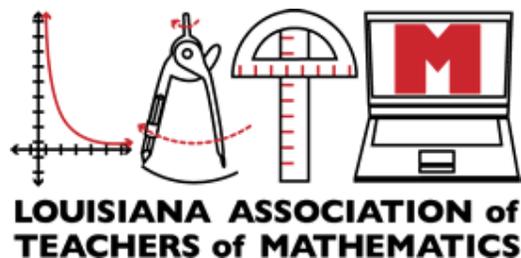


Seana Smith has been teaching secondary mathematics for 13 years. She has taught in the state of Oklahoma, Louisiana, and now Texas. During her 6 years of teaching in Louisiana, she had the honor to be part of Southwood High School in Caddo Parish Schools. Seana has a BS in Secondary Mathematics Education and an M.Ed in Educational Technology. Seana has a passion for helping teachers learn how to use technology to enhance their instruction and increase student learning outcomes. While at Southwood High School Seana served as a teacher leader and technology site coordinator. Besides giving monthly professional learning sessions on technology for teachers, she also oversaw a student technology team and was upper math department chair. Seana is dedicated to helping students grow in their understanding of mathematics and being prepared for the technology of their future.



Check out the LATM website

<https://www.lamath.org/>



Teaching Engineering in the 21st Century

**Presenters: Vanessa Begat
Victoria Hogan, and Jaquincia Williams**

The purpose of this session was to provide teachers with an inside look at curriculum for three of the core courses that are part of the LSU Pre-Engineering Certification Pathway. Before jumping into the curriculum, teachers were given an overview of the other LSU STEM Pathways: Biomedical Sciences, Computing, and Digital Design and Emergent Media. Two foundational pillars are present throughout the pathways: computational thinking and 21st century skills such as presenting, writing technical lab reports, and reading technical documentation. These pathways were developed so that both TOPS University and TOPS Tech students would have access to high quality STEM courses in high school.

The first curriculum deep dive was for the freshman level course “Introduction to Engineering”. This course is designed so that students are exposed to the variety of engineering disciplines while developing skills like problem solving, computational thinking, and perseverance. Because students are not graded on the successful outcome of their project but rather on a successful implementation of the Engineering Design Process, students are allowed to truly explore without fear of failure. The course begins with an exploration of safety, communication, teamwork, ethics, work ethic, and the engineering design process.

Students then take a closer look at each of the ten primary engineering disciplines offered in the LSU College of Engineering.

Each discipline unit is composed of the following components:

- Local guest speaker from the discipline
(or teachers use Nepris to schedule a virtual speaker)
- Hands on project highlighting a major concept from the discipline
- Lab report of the project
- Oral presentation of the project
- Engineering notebook documenting engineering design process
- Quiz on discipline

Students should leave the course with a deeper understanding of the field of engineering and the variety of careers available to them in both engineering and related technical careers.

The next course that was explored during the session was the sophomore level “Introduction to Robotics”. This curriculum is based on VEX V5. The first four units of the course focus on building mechanics allowing students to understand proper building techniques, how to design gear reductions for speed and for torque, and how to correctly design lifts and accumulators. Units 5-10 focus on autonomously programming the robot by exploring the different sensors and integrating them using functions, variables, while loops, and if statements. The final project requires students to create a program that can complete a mystery maze that is only revealed on the day of the challenge. For each unit, students receive grades for their building practices, programming practices (Units 5-10 only), engineering notebooks, and work ethic. Students must also do homework and take a quiz for each unit.

The third curriculum that was reviewed during the session was “Principles of Engineering”.

This sophomore level course follows a similar format to “Introduction to Engineering” meaning that students take a deep dive into each of the primary engineering disciplines; the difference is that now students are graded on the results of their projects and are required to complete homework which reinforces math concepts learned in each unit. Many of the projects build on the concepts learned in “Introduction to Engineering”. For example, in Biomedical Engineering Unit, students build a cardboard robotic hand in the “Introduction to Engineering” course; then, in “Principles of Engineering”, they build a robotic claw that is controlled using a Myoware sensor that measures electrical impulses from the body. This course is also a state approved alternative to Physical Science.

If you would like to see the presentation given during the conference, you may access the slide deck [here](#). If you would like more information about any of the LSU STEM Pathways, you may contact Vanessa Begat (vbegat@lsu.edu).

The logo for the LSU College of Engineering. It features the letters "LSU" in a large, bold, yellow font, positioned above the words "College of Engineering" in a slightly smaller, bold, yellow font. The entire logo is set against a dark purple rectangular background.

LSU
College of Engineering

About Vanessa Begat, Victoria Hogan, and Jaquincia Williams



Ms. Vanessa Begat received her B.S. in Industrial and Systems Engineering from University of Florida, her M.S. in Industrial Engineering from LSU, and is currently pursuing a PhD in Industrial Engineering with a concentration in 9-12 engineering education from LSU. She is an instructor in the College of Engineering and Associate Director in the Cain Center at LSU and is certified in 7-12 high school math. She is the lead curriculum writer for the LSU Pre-Engineering Pathway courses and the primary pre-engineering trainer for the intensive professional development for teachers wishing to teach an LSU pre-engineering course. Through a partnership between LSU and a local high school, Lee Magnet High School, Ms. Begat has been teaching pre-engineering to high schoolers since 2016. Vanessa is also the Lee High VEX Robotics coach, leading her team to the World Championship for the second year in a row.

Ms. Victoria Hogan is a graduate of Louisiana State University with a degree in Biological Sciences. She has been a teacher for 5 years at Iberville MSA East. In the past 5 years Ms. Hogan has taught 6th-8th grade middle school science, Biology, AP Environmental Science, AP Biology, Introduction to Engineering, Robotics, and Principles of Engineering. As a first year teacher she started a FIRST Robotics team with her high school students. The program has expanded from high school to middle school. MSA East now has a full middle school and high school robotics competition team. During the summers Ms Hogan works with the Pathways Program at the LSU Cain Center where she works with a team of teachers writing curriculum for the Pre-Engineering Pathway. Through the pre-engineering pathway she trains teachers across Louisiana to teach engineering courses. Ms. Hogan is passionate about creating a network of students and teachers that are empowered and love STEM as much as she does.



Ms. Jaquincia Williams has been teaching high school engineering electives, middle school science, and business education at Northeast High School since 2015. She earned her B.S in Finance in 2011 from Southern University. In 2014 she completed her alternative teaching certificate offered through Teach Louisiana. Ms. Williams currently holds certifications in Business Education and 6-12th Science. Currently Ms. Williams is teaching all engineering and robotics classes piloted through Louisiana State University of Baton Rouge, LA.

Active Engagement in the Low-Tech Classroom

Presenter: Mary Bissell

While my curriculum is a great resource for application problems, I find my students need more skills practice either before a lesson or in the middle of a lesson. There are many ways to practice skills, especially if you have technology at your fingertips. Without technology, you may be tempted to overuse worksheets, which can be tiresome and boring. With a little bit of work on the part of the teacher, you can use strategies to increase student engagement.

By using active engagement, you can create an environment where students are actively participating in the learning process. You can also get the students thinking and communicating about a skill. As students work together, they are assisting their peers and reinforcing skills that are necessary for application. As educators, we know the importance of having student engagement, but what if we do not have access to technology on a regular basis? The activities I have used in years past when there was no technology are just as effective now as they were then.

The presentation consisted of showing the different activities I use to teachers, who were divided into groups. One of the activities I shared was based on the kid's game Connect Four. I created a game board with a grid which looks similar to the real game.

This activity can be used with many skills. I use it with factoring polynomials each year. Connect Four can be tailored to any group of students, differentiating for students who are struggling with factoring specific types of polynomials.

One of my students' favorite activities is the Tarsia Puzzle. This is a puzzle that the teacher creates, or finds already created online, in which the students must cut out and put back together correctly, matching questions to the correct answers. When I find my students struggling with a skill, I can create this and print it out with ease. The software is user friendly and FREE. You must have the software downloaded in order to view the tarsia puzzle or to create and print. This activity is also easily differentiated. I build a puzzle for my strongest students and choose the shape and number of puzzle pieces I want. From there, I can choose to have fewer pieces and a different shape puzzle for others. Students don't notice the number of pieces, just the shape of their puzzle. This helps my struggling students have success without being overwhelmed with too many pieces.

Anytime there are dice in an activity, I have the students' attention and participation. Exponent Rules Rolling Review and Dickey Polynomials are two activities that I use. Both of them involve working in pairs, either as opponents or as partners. Students see this as a game versus a math lesson.

Speed Dating is an activity I use after getting to know my students and their sense of humor. If students are not comfortable with this terminology, I have them come up with a new name for the game. Basically, I have two rows of chairs facing each other, usually in a horseshoe shape. One row stays where they are at all times. The other row rotates after each question. To begin, each student has a card with a problem to work and check. I usually do this the day prior to the game. Any questions are asked then. That makes each student an expert on their problem. To perform the activity, students sit across from each other and begin their "date." Each pair switches

cards and has a set time to complete the problem. If one person needs assistance, they have their “expert” sitting across from them to get help from. After the time expires, the moving row gets up and moves to their next “date.” Of course I like to play it up and have students introduce themselves each time they switch. This activity is great the day before a test.

My curriculum is effective at helping to raise the level of rigor in my classroom, however, the procedural skills necessary to perform application problems have to be addressed as well. By making this practice into a more engaging process, students are more apt to eagerly participate in their learning. If a little work on my part can make a difference in the level of engagement in the classroom, I’m willing to make it happen. I hope you’ll try one or more of these activities and see how your students react.

Please follow these links for the [handouts](#) and [presentation](#).

About Mary Bissell



Mary Bissell, a veteran Caddo Parish mathematics teacher of 26 years, is currently teaching at Southwood High School in Shreveport, LA. Mary enjoys teaching reluctant learners as well as mentoring young teachers in order to help grow the profession. She holds a Bachelor’s degree in Mathematics Education and a Masters degree in Educational Leadership. Mary has had success at writing several classroom grants to purchase items to help engage students in the learning process. From manipulatives to technology, she strives to encourage students to become more active participants in their educational growth.

Did I Really Just Flip This Classroom?

Presenter: Cecelia Gillam



Did I Really Just Flip This Classroom? was a session on how to flip your classroom with little to no effort. Participants were shown how to use Pear Deck. Pear Deck was founded by educators on a mission to help teachers engage every student, every day. With solutions rooted in active learning and formative assessment, they make it easy for you to connect with learners of every age and ability. When that happens, more students participate and learn, classroom community improves, and you will know you're making a difference.

Teachers are a busy bunch, and learning to use new tools can be time-consuming. That is why Pear Deck was designed to integrate with tools you already know and use. Whether your school is Google or Microsoft-based, Pear Deck will work in your classroom. This innovative technology allows teachers to make their classroom more interactive. Student engagement is increased and each teacher will see academic gains. Pear Deck works very well with Google Slides. Teachers can easily transform their current slides into user friendly Pear Decks by downloading an add-on in the Google store.

Pear Deck also has premade slides that a teacher can easily customize to make it their own.

Pear Deck is not only for high school students; it can be easily adapted at any level. Teachers can easily embed formative questions that will help them to assess where the students are in the lesson. Students can create vocabulary reviews in Pear Deck as well. Students will fall in love with Pear Deck and beg for it each day. Engagement increased in my classroom by 100% when I used Pear Deck. The students of this time love technology, and with this platform, you are able to integrate technology. Pear Deck works on a tablet, phone, computer, or any device that allows you to connect to the internet.

During the presentation, participants were exposed to EdPuzzle, Schoology and Flipgrid. Participants were shown how to use these free resources in their classroom to help facilitate the blended learning model. Each of these platforms is free and syncs well with Google Classroom.

Please click [here](#) to access the presentation.



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About Cecelia Gillam



Cecelia Gillam is a proud graduate of Southern University A&M of Baton Rouge. She earned her Bachelor of Science in Secondary Education with a concentration in Biology and General Science. She has been teaching science at Hahnville High school since 2005. She is currently the Science department chair. Cecelia has a zeal for learning and later earned a Masters of Educational Leadership from Southeastern Louisiana University. She is currently enrolled in Southeastern Louisiana University Doctoral program where she is studying Educational Leadership.

Cecelia has presented at numerous conferences including LSTA, Louisiana Teacher Leaders and LACUE to name a few. She firmly believes in educating and empowering other educators. She has served as a tutor and grade recovery teacher for Hahnville High school for over ten years. She was nominated for Teacher of the Year twice and named a Louisiana's State finalist for the Presidential Award for Excellence in Mathematics and Science in 2015 and 2019. She has written for and received numerous grants to help at-risk students have the experiences needed to be successful in high school. She took initiative to become trained by the Louisiana Association of Public Charter Schools in 2018 so that she could serve on a school board for a school system when the time came. Cecelia serves as a chair for the Girl Talk committee for Delta Sigma Theta Sorority. She currently leads the mentor program at Hahnville High School. She is the founder and creator of a Step Team for at-risk youth.

Enjoyed this issue of
Conference Reflections?

Ready to network with
other math teachers from
Louisiana?

Be sure to attend the next
conference in
Lafayette in **2021!**