

Forest Glen Middle School

200 Forest Glen Drive, Suffolk, VA 23434

I have had numerous opportunities to collaborate with Ryan Novitski and the International Technology and Engineering Educators Association's STEM Center for Teaching and Learning (CTL). Through ITEEA's Authorized Teacher Institutes, I was able to become an Authorized Teacher Effectiveness Coach (ATEC) to train other teachers in Virginia on the use of ITEEA's Engineering byDesign (EbD) Curriculum. Additionally, I took part in an internship to become a National Teacher Effectiveness Coach (NTEC) as well as projects with the University of Virginia (UVA) to establish an Ecosystem for Open-source Educational Computer Aided Design (CAD) Models. We also co-presented at a recent Virginia Technology and Engineering Education Association (VTEEA) Conference. The training, internship, and our work together have made me and others better educators, provided resources for those involved, and given me opportunities to expand my horizons.

The training to become an ATEC and internship to become an NTEC has allowed me to train with my colleagues to help them in their educational practices to reinforce pedagogy and provide instructional resources for them and their students. Being able to use and share the EbD Curriculum for middle school has brought new life to my classroom as well as to those who have participated in the training sessions I provided. The teachers and students get excited about the low-cost hands-on activities that are included and able to be completed. The lessons are based on the 5E Lesson Plan (Engage, Explore, Explain, Extend, Evaluate) Plan. The 5E Lesson Plan is so helpful as the Virginia Department of Education recommends it and required by our district! EbD does add a 6th E for Engineer between Explain and Extend, which is essential to our technology and engineering courses. This allows me to use my planning time to prepare materials for my students rather than writing extensive lesson plans. The activities themselves give students opportunities to problem solve and use critical-thinking skills with the Engineering Design Process that are essential to our program area and workforce readiness skills development.

Our collaborative work with UVA on the Ecosystem for Open-source Educational Computer Aided Design (CAD) Models has also been interesting and a place for growth for both me and my students. The UVA team has created projects using EbD curriculum written by Ryan and piloted by me in my classroom. I have been able to bring new activities into my classroom and my students have become innovators in the process. Students have found new ways to prepare materials for the projects and shared them with classmates and the UVA/ITEEA team! The opportunities for our students to have materials, equipment, and instruction that UVA and ITEEA has provided in this collaboration has resulted in growth of the students, excitement about technology and engineering, and the creation of interest in going beyond what we were learning in the classroom. We are now beginning to share these lesson plans with other teachers throughout the Commonwealth of Virginia.

Every interaction with Ryan and STEM CTL is a learning experience or confirmation of my current practices. Growth is so important to educators as well as our students. ITEEA's STEM CTL excels at providing continual opportunities for growth.



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