

Finding Your Stem Identity in the English Classroom



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Before I fully understood what the A in STEAM stood for, I just knew I was thrilled to see it. STEM and its programs, workshops, and teachers were flooding educational discourse spaces with so much buzz and excitement. It was electrifying to witness the merging of curriculum with the creation of new ideas and technology, to see the ways in which lessons and activities were addressing 21st century concerns, and to see scholars fully engaged and committed to this new learning.

STEM (Science, Technology, Engineering, and Math) was becoming desirable and palatable to a much larger audience, including those who had never envisioned themselves in these fields before. This grew such rallying support for STEM fields, especially in K-12. I mean, it is quite exhilarating to watch creativity, innovation, and collaboration transform part of today's education. And so, when conversations about STEM would flood



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my social media timeline and impregnate professional learning spaces, I knew I wanted in. The "A" (Arts) in STEAM was the wiggle room I needed to feel like I could learn, teach, and create in this new innovative space.

Yet still, I wasn't sure how English Language Arts/ English Literature & Composition would fit into that mold. For me, as a high school English teacher, it still felt separate. I could never remember a time when the English department ever collaborated with STEM teachers. In fact, we were often given the literacy part of the work, extending the narrative that reading and writing belonged largely in the English classroom. It was a vow to teach students all of the technical parts of literacy and writing so that they could take those skills into their other classes. It was also the unspoken belief that English content and curriculum were somehow disconnected from anything outside of academia--a myth we can dispel. English teachers often challenged this idea with vigorous and

earnest efforts to teach through a social justice lens and to promote the teaching of life long skills through practical standards; and there was of course all of the other magic that is created in wonderful ELA spaces. Still, I wondered what a true merging of these fields would look like.

In the spring of 2021, I learned about SMASH--"a three-year, intensive and holistic STEM program... [which] empowers dedicated students of color with an intensive science, technology, engineering and math (STEM) education, culturally-relevant coursework and access to resources and social capital that allow them to be successful in college and in their careers" (SMASH). With some apprehension, I applied to work as a STEM facilitator for SMASH at Morehouse and what an awakening it was. Culturally relevant coursework was always at the forefront of my teaching so seeing it incorporated into SMASH's curriculum was reassurance that even as an English educator moving into a STEM program, I was at least moving in the right direction. In the STEM Workshop, scholars were placed in teams and asked to create technology as part of a solution to address a real world social issue. Many of the scholars chose issues that affected

them and their communities firsthand, while others approached more global issues. The program emphasized a focus on equity, innovation, and collaboration. Teams used the concept of design thinking--a “human-centered approach to innovation—anchored in understanding customer's needs, rapid prototyping, and generating creative ideas” (IDEOU) along with data visualization and tech tools like Miro, Figma, Hoverlay, and Flourish to ideate and prototype solutions to issues like climate justice, food desserts, and COVID-19.

In their To & Through course, scholars were asked to identify their STEM identity. What is your STEM identity? This is a question that remained with me for the duration of the program. Did I, as an English educator, have an identity in STEM? I was fully invested in my team’s project to address climate injustice. To be clear, this was a team of high school scholars and I was simply their facilitator, but in leading them throughout this program, I found myself thinking creatively, befriending technology, analyzing data, and broadening my curiosity about STEM and social justice. At the end of the program, I was invigorated and full of new ideas and experiences. SMASH, a four week summer program, was not something I was easily ready to let go of. It was the embodiment of the kinds of

teaching and learning we push for in today’s classrooms and the diving board for my deep exploration into the immersion of English and STEM.

The skills scholars were learning and the strategies facilitators were using in the STEM workshop were similar to those often used in the English classroom, but there was a new sense of both freedom and personal accountability. It was a vigorously fresh take on inquiry based learning. Scholars and facilitators were constantly questioning ideas and possibilities. “How Might We...” became the greatest question of challenge and growth throughout the program. Scholars asked how they might further improve their prototype and widen accessibility and equity. Facilitators questioned scholars in ways that encouraged constant growth. I witnessed growth mindset shift from theory to true practice. What kept these scholars engaged and committed to success, even without the promise or threat of grades?

During a debrief with the SMASH Morehouse site director, Dr. Brian Garrett, I expressed my marvel at such a program and shared that I began searching for my own STEM identity. How did I become so wrapped up in the idea of myself as

someone who belonged in STEM? It was curiosity, he said. Curiosity is what kept us, facilitators and scholars, eager to learn the next day. It is what had us at the edge of our seats, or at least glued to our computer screens in this case. I might add that innovation, creativity, activism, and the opportunity to question and experiment without judgement were also driving factors in this experience. That is what I want to take back to the world of English.

There exists this idea in education that fields of study are exclusive of each other--where English is separate from Science and Math would never meet History, but I am proposing a different notion. One where they merge so beautifully to create magic, or in the most practical sense, something that can impact the world and students' communities. Reading and referencing informational and literary texts, researching data, writing, and presenting pitches were all skills scholars were using daily. I thought about the ways in which their rhetorical skills would influence their final presentations--how they chose to hook their audience, their use of emotive language, and building ethos with credible sources. I was facilitating a STEM workshop and I couldn't stop thinking about English--and not because I am such a great English teacher. It was because the merging of what these students were doing in STEM

and what I had taught for so many years in English made perfect sense! I thought about how this project of addressing a social issue could have easily been assigned in an English classroom, but the final product wasn't just a paper or presentation. As a writer, I must say this is no rejection of the academic paper, but a push to layer this with something more and offer opportunities for students to approach solutions in ways they might do so outside of a classroom--by pulling from different fields a *mélange* of resources and ideas.

Now I ask you to imagine a classroom with no limits on learning; a classroom where creativity and innovation thrive; where activism is done through writing, but also through prototyping, engineering, building, and designing. This is a classroom where curiosity is the greatest facilitator. It is a classroom where learning moves beyond the traditional space and out into the world. It is a classroom that allows ideas to leap from a page and into someone's hands. It is the brilliance of everything we already do in the English classroom and the joy of everything else the world has to offer. There is a STEM identity waiting to welcome us all and what delight it will be when we embrace it.