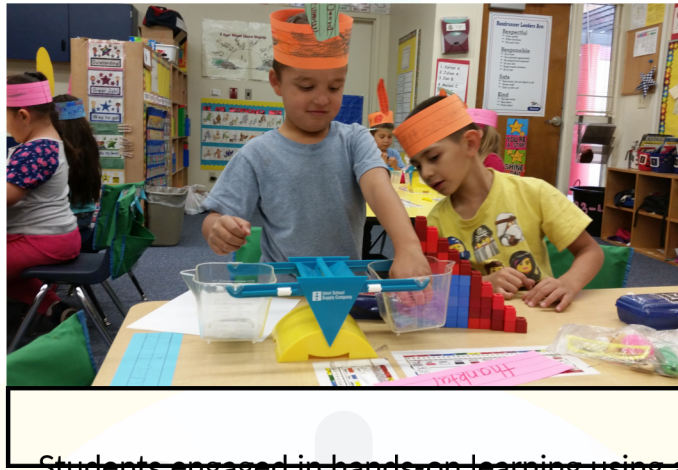


# Small Moments, Big Thinking

by dottysplace



Students engaged in hands-on learning using a scale and connecting blocks.

For a long time, I had idealized what a Year 3 STEM class was supposed to look like. I had this very specific picture in my head.

I imagined that it would consist of long, uninterrupted blocks of time. During these periods, I'd present carefully planned projects. My lessons would all come together perfectly. They would build towards a meaningful final product. And at the end of the day, I'd walk away feeling a sense of closure. It's probably no surprise that I wasn't successful. But for a time, this was the standard that I tried to set for myself.

Instead of mountaintop moments, I was often hindered by earthly problems. Mostly because I lacked the expertise and knowledge. No matter how hard I tried, I just couldn't produce that "real" STEM experience.

## When the Ideal Doesn't Match the Day

In my case, time was usually the biggest culprit. I was always feeling pressured to pack more in. I wish that I had been more comfortable discussing the dilemma that it created. Instead, I tried to be flexible and adapt to each different circumstance. Some years I would have close to an hour for Science. Then I would turn around and have years, where I only had 30 minutes, a few times a week.

Time constraints meant that I would sometimes avoid starting really meaningful projects. I'd reason it away. But really, it was all out of fear that I would have to end them abruptly. Learning suffered when projects ended midway through the process. That was usually before my students could have the chance to make connections or reflect. I also did not enjoy when I would have to rush through units, in order to stick to my densely packed schedule. At times Science was no more than prescribed worksheets and activities that were more like Arts and Crafts.

And that was a problem. My students needed more.

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This situation was made even more difficult because I was also battling competing priorities. I had core curriculum and specials that were mandatory. Some years, they would take up most of the day. Planning my schedule, each new year, became a balancing act, where I wrestled with how to squeeze in as much as possible.

With no real options, I often made changes in real time. The best way to describe it, is to say that I made trade-offs. Sometimes, I would skip a core lesson so my students could complete a project. Then, I would turn around and skip STEM because a Reading or Math unit needed more attention.

I have to admit, none of this felt ideal. But as a 3rd generation teacher, I knew that teaching rarely is. Here's the thing: I would have accepted the way things were going, if I hadn't been forced to change. My students were being asked to write about their science kit, and I had a really big problem. They were all English Language Learners. I needed to improve their STEM related skills. I could not afford to be lackadaisical.

The question became, "How can I provide the better quality STEM experience that was necessary for my students to be successful?"

## What My Students Actually Needed

I started off by determining what I really needed from my students. I came to the conclusion that I was asking them for two things. On the one hand, I wanted them to perform specialized skills, like observing, drawing, and building. On the other hand, I was asking them to engage in behaviors, like reasoning, creating, testing, revising, and problem solving.

By identifying the components, I was able to see why I was frustrated. I was trying to cram too much into each experience. What also stood out was that by identifying the components, I was able to look at STEM according to the tasks involved.

I noticed where my students were lagging and where my instruction needed refinement. What I observed was work that was often rushed and shallow. Activities that often lacked depth and quality. I decided that I wanted my students to be better at performing STEM-like skills and behaviors. And the only way I could do this was to make changes to how I presented STEM.

**My students didn't necessarily need *bigger* STEM experiences. What they needed was more practice.**



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That's when I made a subtle, but important connection. It was concerning how I taught Reading and Writing. I noticed that my students didn't pick up these skills naturally. It was less about how well I explained things, and more about the amount of time and the types of opportunities I gave them.

Then came my aha moment. When I first asked the question, "Would this work with STEM?"

At first, I thought the answer was no. But then I remembered what I needed from my students. I considered the various behaviors and actions. Was there some way that I could focus on components outside of longer, more evolved lessons? What if I could offer my students more time and ways to practice STEM related skills.

STEM-related skills were the back bone of most of my projects. But I rarely gave my students the opportunity to practice them. I knew skills like drawing and designing were not natural abilities. Some of my students had those inherent talents, but most of them needed to develop those skills through repeated opportunities. Practice was the key.

That realization changed how I looked at my day. How was I spending my time? And did I have moments that I could dedicate to the practicing of STEM-related skills?

I had been waiting for the "perfect" STEM block, instead of using the time that I had. That was the catalyst for why I began looking for smaller windows. I found them in places like center time, choice time, and early finisher periods. I felt that these were opportunities that already were present in my day. They were times where learning was already happening, but could be tweaked to offer deeper learning experiences.

And that is how I came to the conclusion that small moments can matter. Though they lacked the grandeur of a comprehensive lesson, my students could still have meaningful experiences.



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## Small Moments...Big Thoughts. Letting Go of the Spotlight

At first, these small STEM moments didn't feel impressive. I didn't make them elaborate. My students didn't always produce something display-worthy. These periods weren't anything to brag about. But they worked.

My students had space to tinker, experiment, sketch, and revise. With time, my students started leaning into the freedom. It became normal to see a myriad of activities happening all at the same time. Some students would work slowly and carefully. Others would be testing ideas quickly and learning through trial and error. You could hear students suggesting activities to their friends. And then there were the sounds that erupted from success and failure. I loved how my students were so engaged.

My students were busy thinking. And that meant, I was suddenly under less pressure.



Students are engaged in small group discussion, as they work together to solve a challenge.

## The Quiet Benefits I Didn't Expect

Here's what it took me some time to understand. These small moments did more than support STEM learning. My students were strengthening their fine motor skills. They were improving their drawing and planning abilities. They were becoming more creative and confident. They were learning to think outside the box. Without realizing it, I was teaching my students to become more independent.

These moments gave my students permission to be curious without fear of failure. Eventually, they became our break from conventions and constant structure. It was a way that I offered freedom, without creating chaos.



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And because my students were engaged, I was able to shift my role.

Instead of being concerned with controlling the flow of information, I could move around the room, offer encouragement, and give feedback. Later on, I found that I could use this time to pull students for brief one-on-one tutoring sessions.

I used these moments to simultaneously serve multiple purposes.

## Accepting That Teaching Is Adaptive

Looking back, I can see what I struggled to understand at the time. The fact that teaching isn't about finding one perfect approach and sticking to it. In order to be successful, I would need to make constant adjustments. Adjustments in how I responded to time, materials, students, and expectations. And, the real challenge was how to do this all at once.

For me, using these small periods for STEM wasn't a compromise. It was a necessity. It allowed me to work with the time I had, rather than waiting for the time I wished I had.

## Why I Still Believe in Small Moments

STEM doesn't need to dominate the schedule to be meaningful. I've witnessed how small moments can produce big results. For many of my students their most important thinking happened quietly; while they were engaged in repeated practice, low-pressure exploration, and opportunities to try again. Small moments gave my students time to build the skills they needed. They also gave me more flexibility. Something that was beyond value for a teacher navigating real constraints.

Big thinking doesn't always come from big lessons. Sometimes it grows in the spaces we almost overlook.

## A Familiar Thread

If this article sounds familiar, you aren't imagining it. These small moments were similar to ideals I shared concerning Tinker Stations. Tinker Stations are a type of set up that allows students to have short, open-ended opportunities to explore ideas independently and at their own pace. More examples and support for this kind of learning can be found throughout my STEM Learning Page. For now, I'd like to offer you this simple invitation. Notice the small moments in your day. Ask yourself, "How can I fill these small moments with big thinking?"

