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Service-Learning Experiences in a High School Math Classroom

I arrived at CCHS on a Friday at 9:10 for my first tutoring session, hoping to be placed in an English class. A few of my colleagues arrived just before me, and they had already been assigned to the first period English class. Ms. M, the graduation coach, asked if I was comfortable with math; I squirmed a little, since I hadn't taken a proper high school math class since tenth grade, four years ago. She said the math classes really needed help, so I told her I'd give it my best. If I wanted to switch after the first week, she said, I could come to the English class another day. She showed me an Algebra class first, but there were only a few students there and the teacher was still getting organized. We went to the class next door, Ms. S's room. Ms. M introduced me, and Ms. S seemed glad I was there. After helping a student for the period and finding I remembered more than I thought, I happily told Ms. M I was just fine in the math classroom, where I spent my semester at CCHS.

The Institution

The classroom was set up as a half-computer lab – computers lined two of the walls, but whiteboards and several tables with chairs took up the rest of the room. Every student in the class was at a different level and course. Often, they worked on other online courses like Personal Health or Spanish at the beginning when Ms. S wasn't looking. Most students were at computers with Edgenuity courses, but some worked entirely from worksheets or workbooks and seemed to have a course tailor-made for them by Ms. S, as she gave them every new assignment once they were ready. They received one-on-one help from her and occasionally other assistant teachers, but they still moved slowly compared to what I was used to. The beginning was almost always slow – students took about 10 minutes to actually start what they were doing, after finishing breakfast, watching videos, and being interrupted by other students coming in and out.

My high school was MUCH more structured, although morning classes were slow to start in general. We had some students who took online classes in a centrally-located computer lab, but they usually had chronic illnesses and only went for partial schooldays or were taking special classes not offered at the school, like forensic science. Most students came for the entire school day from 8:15 to 3:30 unless they were dual enrolled at local universities. Each math class was a single course, and the teacher taught all students at the same time. The students at CCHS are much freer to move around and come in and out, and go at their own pace, which may be slower or faster than a standard class depending on the student. I heard about some after-school programming at CCHS, called [21st Century Programming](#) by most teachers. It seems like the supplementary fine arts option for students, but those with jobs after school would be unable to participate. A friend of mine worked for this program with a UGA professor at an area middle school, and she said they had different activities each day, like theatre and rap.

When seniors were gone from class on senior skip day, Ms. S said “all five Career Academy kids are gone.” It sounds like mostly seniors who participate in this, and I actually worked with a student at the beginning of the semester who was a part of it. He had a job after school, and actually finished all his high school classes by the end of February. The Career Academy also offers unique electives, like “Culinary Skills.” My high school had career-focused

coursework, called Career, Technical, and Agricultural Education. Students could take three courses in a pathway to get a certificate, and I actually took the first course of the Graphic Design pathway. Nutrition, Medicine, Agriculture, Business & Computer Science, and Mechanics were other offered pathways. This is part of the state curriculum and is also offered at other high schools in CCHS's district.

In the online courses, some students really worked to understand the material and watched the video lectures with their online courses. Others zoned out during the instruction. One student with whom I worked zoned out during these lectures because he was retaking the course. He still struggled when it came to the assessment, but it didn't make him pay more attention later. Several students told me that they didn't like math because it stopped being useful around middle school. Some example problems in the online courses used "real-life situations," (Ex. Joe and Tina are racing bikes, Joe starts at the two-mile mark going 20 mph, Tina starts at the three-mile mark going 15 mph, how long will it be until Joe catches up to Tina?) but they really did beg the question "what's the point?" for students' lives outside of school. Considerations of curriculum aside, the online approach doesn't help make the material more interesting for students. According to Dr. Daniel T. Willingham in my group's second book club pick, the teacher often makes "boring material interesting" by their "way of interacting with students that [students] find engaging," and "[t]he emotional bond between students and teacher – for better or worse – accounts for whether students learn" (50, 50-51). With prerecorded instructional videos, an "emotional bond" between students and the primary instructor is impossible. The online format also allows cheating and short-cuts quite easily – I frequently watched one student copy and paste every question from his personal fitness quizzes into Google and find the answers on Quizlet. It was actually useful information about health, but he was mindlessly looking up the letter answers, hardly even reading them. However, the instruction and practice form of the online classes was useful for individualized instruction. When a teacher cannot be with every student at once and there aren't enough teachers to offer every course, this seems like a pragmatic solution for individualized instruction. I could only do so much working with students on worksheets and was more of a guide/moral support than a tutor.

Whenever I helped a student with an assignment, it was almost always a test or a quiz. This felt strange to me, since both were always solitary assessments of knowledge in my educational experience. I only remember a few times in classes with "group quizzes" or open-book quizzes and tests where the goal was mainly to remind students of material. This never happened in my math classes, though. Assistance on quizzes and tests seems like an approach that deemphasizes grades in a format where students must earn a passing grade to move on to the next course or graduate. CCHS math state test score data is unavailable online, but I know students spend time reviewing for end-of-course tests because Ms. S mentioned students using USATestprep towards the end of the course. The USATestprep homepage claims to "help teachers create customized remediation for students at risk of failing high-stakes test," to "empower administrators to assess and track the performance of students, classrooms, and schools," and to "help students prepare for test with standards-aligned curriculum resources." This echoes the "current preoccupation with test scores and data" of which Diane Ravitch disapproves as a measure for funding (xxvii). Money spent on test preparation resources (about \$250 per course EOC, according to USATestprep's website) and time spent taking tests could be used by a teacher, providing face-to-face instruction and building relationships with students slogging through online course re-takes.

CCHS has a really great format for students who need a flexible schedule, and I saw many who took advantage of it. Students only came for partial days if they only needed a class or two, and their time outside school was respected as their own. Even students who stay for the whole school day have a later starting time and earlier ending time than traditional high school schedules. This might help students who may have to work in the evenings or have other responsibilities to still get a decent amount of sleep.

The Teachers and Administrators

The teachers and administrators with whom I interacted all seemed pleasant and like they were happy to be there. The woman in the front office was always cheerful, and we made small talk when I went in and when I left. As a graduation coach, Ms. M seemed to be a cheerleader and motivator for all the students. I heard a student say that he wasn't sure what he'd do after graduation, but he was planning on talking to Ms. M to figure it out. Even though Ms. M prepared us to work with students who didn't have plans post-high school, every student I asked had some sort of plan. It seems like a combination of Ms. M doing her job well and students who really know what they can/want to do in the future.

I got along well with Ms. S. She and I chatted most weeks before or after class. We discussed studying abroad when she found out I'll be at Oxford in the fall, and she said she has a daughter who is a junior at UGA and wants to study abroad. Ms. S said she really likes *Pride & Prejudice* – she's read the book and loves the Keira Knightley movie, and said one of her relatives lives in England and gave her a copy of the BBC mini-series version, which she plans on watching this summer. She had me write down my contact information and said she may be sending me more tutoring opportunities in the future.

Ms. S really had a great relationship with her students, even without direct instruction. She fussed sometimes at them to get off their phones, and students playfully argued with her. One student in the class may or may not have been her nephew – Ms. S said she was his “auntie” and it sounded like his mother was her sister, but when I mentioned that in passing to Ms. M, she didn't know that and said it might be an adoptive relationship. In any case, she wasn't afraid to actually take his phone sometimes (she didn't do this much with other students), and often threatened to call his mother when he wasn't doing his work. Ms. S often joked with the students, and they weren't afraid to joke back. I watched a student pull up a video on his computer simulating a broken computer screen and call Ms. S over to look at it. She briefly glanced and told him to switch computers, saying she'd let IT know, and the student kept drawing her attention to it, finally showing her that it was a video. Ms. S laughed and told him to get back to work.

Ms. S's role in a class with students moving at their own pace seemed to be more supervisory than standard classrooms. She was there to answer students' questions and keep them on track with their courses. She directed their curriculum to some extent, as I heard her talk about taking students off of the online courses at a certain point to do USATestprep for the EOCs, and some students were working solely out of worksheets or books. I saw Ms. S give a mini-lesson to a student with a small whiteboard, when the student I was working with was learning a new topic which I couldn't explain. It seemed similar to how I was taught math, working out practice problems and asking questions after the teacher demonstrated a solution. The video portions of the online lessons are pre-recorded, so students can't ask questions or ask for clarification in the process. Personally, I can't imagine learning math that way.

The Students

I worked with seven different students over the twelve weeks I tutored at CCHS. I worked with K and Q three times each, M and J twice, and L, T, and P once each (one week, I worked with two students, half the period each). The first student with whom I worked was M, an African American male. He was soft-spoken, smiled often, and dyed his hair bright green for part of the semester. It was fortunate that he was the first student I tutored, because his unit of College-Readiness math in January was Quantitative Reasoning, a unit where I could actually be of assistance. If I'd started helping a student with algebra, I think I would've felt out of my league in the math classroom. He was very willing for me to help, and I was able to ask leading questions that steered him to the right answer. He said at the beginning of the semester that he wanted to go to Georgia Southern but would most likely end up at Athens Tech, and when I talked to him later in the semester, it seemed like he was going to AT to study Business and Real Estate. He loves fashion and interior design, though, and wants to incorporate those interests if possible. He was often dressed fashionably, and I saw a friend compliment a striped sweater he wore one day.

I worked with Q, an African American male, for the following three weeks. He seemed genuinely motivated to learn from the video lectures in his course, but still struggled with some. He told me he just had this course and his U.S. History course to finish in order to graduate and showed me the progress he was making. He worked a job outside of school with the Young Urban Farmers program at Athens Land Trust, and he said he really likes history. He wants to go to Georgia Southern and major in Engineering or Political Science. We had a friendly relationship, and he would always wave and say "hi" if he saw me in the hallway before class. At one point, he asked me if everyone at UGA had a dog, since he saw so many of them downtown. I asked if they were wearing yellow vests and he said they were, and I told him about the Guide Dog Foundation. Q had a friend sitting on the other side of him who helped him with math sometimes, and he seemed to help Q regularly on Mondays and Wednesdays when he wasn't doing his own coursework. His friend only came in three days a week, working the other two days. Q sometimes struggled with basic things (like $-1 + 1 = 0$), but I could tell from his tone and the look on his face when he understood things at the end. His friend and I helped him through a few quizzes and tests, and he seemed happy and confident at the end of them. After three weeks in a row working with Q, he finished his coursework in mid-February and didn't need to go to class anymore.

I worked with J, an African American male, the first week Q wasn't there. He was working on a test that Ms. S had made, on probability. When I asked about his plans after high school, he said he wants to go to Athens Tech to major in Game Design and minor in Philosophy. I asked him which philosophers he's read, and he said he's read Plato. J frequently became frustrated and would inhale sharply and shake with anger over small things like miswriting a number. One day, he raised his pencil towards my chin like he was threatening me after I tried gently telling him a number was wrong. That was the second time I worked with him and I was somewhat used to his reactions, so I reacted calmly and didn't say anything, and he turned and kept working. He wrote very slowly and deliberately, and it seemed like this caused him to make more mistakes in writing. He knew the material for the most part, and he was able to do problems himself if I reminded him of formulas. There was actually almost a fight in the classroom the first day I worked with J. There were several students in the classroom that day who weren't normally there (Ms. S fussed at them for being there at the beginning of the period, but they stayed), and I didn't notice the beginning of the fight since the room was louder

that day. One female student (1) thought another (2) had said something about 1's boyfriend (and 2 protested, saying she was talking about someone else), but 1 had already started advancing towards 2 and they were both yelling insults. Ms. S and some others pulled 1 into the hallway as 2's friends held her back, telling her not to fight 1. The school police officer came and several students were pulled out to answer questions and describe how the near-fight happened. Ms. M came to sit in the room while Ms. S and the others were out of the room. When everything had settled down, I took a deep breath (my heart had been racing a little) and J and I went back to work. The students in the room all seemed a bit more reserved for a time afterwards, since the exchange was a bit jarring to witness.

The week after first working with J, I worked with L, an African American female. Ms. S told me to work with her, but she didn't seem to need or want help. She spent the entire class facetimeing her boyfriend, who was also in class (I'm not sure what school) and talking to her friend in front of her. Another UGA student from Human Development and Family Sciences was volunteering that day, and she worked with L's friend. Her friend was actually working on her classwork and the UGA tutor helped, but L was simply clicking through sporadically to get through the instructional segments. Her friend told her it was "rude" to be on her phone and ignore a tutor, and L said she'd ask me for help when she needed it. She and her friend and her boyfriend started talking explicitly about sex at one point, and the other tutor and I really didn't know what to do. I felt like I was intruding the entire time I sat with L and felt like I really didn't do anything that period.

K, an African American male, was the student who might be Ms. S's nephew. I worked with him most towards the middle and end of the semester, but I had a few interactions with him in the first couple weeks. Two different weeks, I was assigned to work with him and he wouldn't get off his phone. I acted interested in the video lectures (since I was still afraid of not remembering math enough to be helpful at this point), and K made sure to turn the volume up and tilt the screen so I could see them. He still watched videos on his phone and said he had taken the class before. I didn't think it was my role to nag him since I didn't know him well, so I kept quiet. Both times, Q needed help and I was told to work with him after spending a few minutes with K. However, after Q left and I spent a period with L, Ms. S assigned me to work with K again. This time was so different from the earlier times I sat by his desk. I'm not sure what the difference was, but he finished his Health quiz and answered a text message quickly before switching to math after I sat down. We worked on a quiz, and I was able to guide him to the right answers on most problems. He tried most of them, but some looked more difficult at first glance and he turned and asked me, "can you do it?" I walked him through the steps to solve a problem and he watched as I explained, but I'm not really sure this was helpful for him in the long-run. He always looked for shortcuts with graphing calculators (which really is smart, as the adage goes, "work smarter, not harder"). We had a few minutes to spare after finishing the quiz, so we chatted. I found out his mother works in the O-House dining hall and their family really likes Georgia football. He said he has a friend on his street who's a loud Alabama fan, and they were mad at the friend after the championship this year. He said he's looking forward to next year, though, since the team should be good. I also found out he's planning to join the military after he graduates. I worked with him two other weeks. His friend, a Hispanic male named G, usually sits next to him, and the two joke and share videos sometimes. One week, K was imitating a dance from this video of a dancing, featureless alien, and when they showed Ms. S the video, she said "oh, that looks like you!" to K, much to the amusement of G. It was fun to watch him and Ms. S interact, and she definitely treated him like a nephew. On my last day, K

was watching the Tobey Maguire *Spider-Man* movie. We connected over this, since that's my favorite adaptation of Spiderman, too. G was teasing him for watching it and said "you just like the kissing scene!" referring to the famous upside-down kiss. K said "gross!" and said he could kiss girls if he wanted to but didn't like to watch people kiss. G kept bugging him about it, and I finally joked and said, "maybe G keeps asking because he likes that scene" and they both laughed. G talked to me directly after that, so I felt like I might have earned a little of his respect. When I talked to Ms. M as I was leaving on my last day of tutoring, she was impressed that I worked with K, and said it's usually difficult to get him to put his phone down. Ms. S was really the one who told him to put his phone down, and in any case, I was touched that he was willing to work with me.

I worked with T, an African American female, for half a period between weeks working with K and J. I had been sitting with Ms. S at the beginning waiting to be assigned a student, and she said she needed help. She was quiet and smiled graciously when I was confused by problems on her quiz, and we finished the quiz with a good grade just before a fire drill interrupted class. When we came back to class, she had gone to talk to Ms. M and M needed help, so I worked with him the rest of class. I felt bad for leaving her mid-class, but she was moving on to a new assignment when she came back, anyway. I made sure to say "bye" to her as she left.

In my second-to-last week, I worked with P, a white, female student. It sounded like she was relatively new to CCHS and mentioned taking APs at Cedar Shoals. She sat near J, and they had occasional friendly banter. She loves art, and her dream school is SCAD. She wants to either become a professional artist or go to grad school to teach college art, since she doesn't think she's good with kids and doesn't want to teach high schoolers who "forgot to sign up for electives," which sounds like her experience with high school art classes. She was working from a GaDOE workbook, which seemed like more of a review book than an instructional book. The book had short explanations and two or three example problems before working on a new topic, and we needed Ms. S to explain how to solve a few problems. P said she was glad there wasn't an EOC for her course, since she said it would go badly if she had one. On my last day when I worked with K and was talking about movies with K and G, I mentioned *Isle of Dogs* as a new movie I want to see and found out P and I both really like Wes Anderson as a director.

I really wasn't able to get to know any one particular student well, but I felt like I was a part of the class. I enjoyed knowing the names of multiple students, and it felt like a sort of preparation for my practicum and student teaching semesters. I addressed K by name on the last day, and he noticed, asking "how did you know my name?" His friend pointed out that it was on his computer screen, but I told him Ms. S introduced us earlier in the semester. I had to remember names in order to write them on my sign-in sheet, after all. I want to make a point of learning and remembering my students' names when I'm in a classroom, and I plan to use either the picture method to put names with faces or ask my students to use name placards the first week of class.

Me as a Mentor, Tutor, and Future Educator

At the beginning of the semester, I hadn't had any experience in high school classrooms and was focused on keeping professional distance as I interacted with older students (and tried to seem older myself, since I'm only 19). By the end of the semester after observing how Ms. S interacted with her students, I was able to joke around with them and relax a little more.

I also felt a difference in my role as a tutor/mentor with some students. Sometimes I actually helped them learn the material and acted as more of a tutor, but other times Ms. S mainly wanted me to be moral support and mentor and encourage them to work by just sitting with them. I definitely felt more useful in the tutorial role, as I could tangibly see that I was helping answer their questions and finish quizzes and tests. When I served in less of a tutorial mode, I couldn't tell that I was doing much since it seemed like the student would be doing the same thing whether I was there or not. However, I'm not sure my perceived usefulness is the best measure of any sort of help I gave during my time at CCHS. Ms. S and Ms. M thanked me for my time and Ms. S asked me about tutoring in the future, which was encouraging to hear. The most encouraging thing I heard came from M – the second time I worked with him, he asked about my major. When he found out I want to teach, he told me he thinks students will like me, and that I won't be a "mean" teacher. I left the school on cloud nine that day.

One book we chose for our book club selection didn't seem to complement my experiences at CCHS, but I'm still very glad we read it. *The Line Becomes a River* put a face to border and immigration issues and made me more aware that some students worry about things that never crossed my mind when I was a student. As an educator, I will strive to be sensitive to students' diverse home lives and support them to the best of my ability.

Working with high schoolers of different demographics from the high school I attended was extremely helpful for me as a future educator. I felt like I was able to connect with them, at least on a fairly surface level, and I had a lot of fun during my time at CCHS. I hope that I'll never have to supervise online course work, since I'd much rather teach myself. If I do, though, I'll make sure to spend time getting to know each student as I walk around. Coming to the class in the middle of the year, I wasn't able to observe how Ms. S initially got to know her students without direct instruction, but she showed me that no matter the challenges, it is possible.

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