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# Supporting English Language Learners Inside the Mathematics Classroom: One Teacher's Unique Perspective Working with Students During Their First Years in America

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Supporting English Language Learners Inside the Mathematics Classroom:  
One Teacher's Unique Perspective Working with Students During Their First Years in America

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*A reflective essay submitted in fulfillment of the requirements for the degree of  
Master of Arts in Teaching, Learning and Teacher Education*

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### Abstract

Reflecting upon my personal experiences teaching mathematics to English Language Learners (ELL) in a public high school in Lincoln, Nebraska, this essay largely focuses on the time I spent as the only Accelerated Math teacher in my school building. From 2012 – 2017, I taught three different subjects at this high school: Advanced Algebra, Algebra, and Accelerated Math. This essay highlights why I chose to become a math and ELL teacher, as well as the challenges, issues, struggles, and successes I experienced during my time teaching. I focus on the challenges I faced teaching students who did not share my native language and discuss how I learned to assess their mathematical histories because of placement test inaccuracies. Recounting how I structured my class to prepare my students from drastically different backgrounds for a mainstream Algebra classroom, I utilize my own personal experiences and stories of students, outlining what they taught me, how I grew as a teacher due to their time in my classroom, and the memories I hold dear since leaving the field.

*Keywords:* personal narrative, mathematics pedagogies, English language learners (ELL), teaching, challenges, issues, struggles, successes

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### **Introduction**

I found my calling to become a teacher while I was still in high school. I tutored many fellow classmates in various subjects throughout high school and enjoyed sharing my knowledge with struggling students. During a meeting to discuss my future after high school, my guidance counselor suggested I look into a teaching career. My role as a tutor had given me a glimpse into what it would be like to be a teacher and I decided to explore the mathematics education field. I had always loved learning math, and it was one of the subjects that I frequently tutored.

The teachers that I had admired the most growing up were my math teachers. They were committed to me learning the material and not taking shortcuts. They had high expectations for me to focus in class, do my homework, study for tests, speak up, and come in after school if I needed more help. They were also gifted in their math knowledge and were able to explain the material in a way that I could understand but was still kept the material challenging. I had to push myself in their classrooms and I benefitted by learning how to become a disciplined learner, learning to love math, and appreciating how math made me a critical thinker.

### *Teacher Preparation*

At the University of Nebraska-Lincoln, I spent four years taking classes, majoring in mathematics, spending time in local classrooms, and earning my Bachelor's Degree. I was also able to obtain a Nebraska teaching license to teach 7-12 Mathematics in the state of Nebraska. After graduation, I essentially had everything I needed to become the math teacher I had been dreaming of and working to become – all I needed was the classroom. However, something did not feel right and I did not feel ready to take on the important role of *teacher* just yet. Largely, I

felt my practicum and student teaching experiences did not seem to be enough experience for me to feel ready to take on a classroom by myself. I had observed classes and cooperating teachers and even spent a semester as a student-teacher. This student-teaching experience was done in a small, private school. When I reflected on my time there and compared the student population to those of the local public high schools, I felt that the experience did not give me a chance to teach students of diverse racial, educational, socioeconomic, or religious backgrounds. I still wanted to be a math teacher and learned a lot about how to run a classroom, make assessments, plan lessons, explore discipline techniques, and build relationships. However, with a combination of a lack of experience inside a diverse classroom, a lack of confidence in myself, and a lack of preparedness to take on a teacher's responsibilities, led me to decide to go back to UNL and continue my role as *student*. I wanted more time to learn and practice teaching to a diverse population of students before I felt I could be the most effective teacher in a local public high school.

### *Endorsements*

On a whim, I signed up for a class about English Language Learners (ELL) and English as a Second Language (ESL). The class was titled: ESL: Teaching and Curriculum. It opened my eyes to a brand-new group of students I had not yet encountered. ELL students are typically from non-English backgrounds who are unable to effectively communicate in English. They typically require additional or specialized classes to learn English during their initial time in an academic setting. English language classes aim to aid them in learning how to read, write, speak and listen in English.

While I learned a little bit about ELL students in my undergraduate classes, I was not trained to teach them specifically and was not taught how to adapt my teaching to meet their

specific needs. This first class gave me great insight into who ELL students, gave me a few tools I could use to adjust my classroom and lessons, and showed me the value in meeting their language needs. Once I finished this class, I wanted to learn more about teaching ELL students. Additionally, the local school district had a growing ELL immigrant and refugee student population. Of the close to 42,000 students, about 3,000 were receiving ELL services (LPS, 2018, p. A6). Not all schools in the district offered ELL classes, but a large majority of them do. I knew it was very likely that ELL students would be in my classroom in some capacity and I wanted to learn more about how to meet their specific needs. That knowledge inspired me to sign up for more ELL classes, and eventually, get an ELL endorsement.

After taking the required courses to add the K-12 ELL endorsement to my teaching license, I had another student-teaching experience. I spent about a semester student-teaching in an ELL classroom at Tessellate Elementary School, a small school in Lincoln, Nebraska that serves a high proportion of ELL students. There I was able to work one-on-one with young students who were new to the US and learning English for the first time. I had about five students in my class and they spoke Spanish. I had taken three years of Spanish in high school, and although Spanish varies from culture to culture, my students and I were able to use common words and phrases to communicate salutations, the weather, and other basic topics. This also helped me form a bond with the students because we could teach each other words in different languages.

### *Student Teaching Experiences in English Language Learning*

In my graduate classes, my teachers had told us the benefit of encouraging students' native languages and this experience in the classroom made me appreciate this. While the end goal is to get students to become proficient in English, there is value in celebrating their spoken

languages and not forcing students to immediately abandon them because they now live somewhere new. To create linkage, I found it important to take words in their native Spanish and by using them during my lessons, it helped me and the students understand each other. For example, sometimes during a listening task, I would speak a sentence and they would have to write what they heard. If I said, “five plus one equal” or “the cat is brown”, I could easily repeat it in English, and then use my limited Spanish vocabulary to help if a student was still struggling. While my vocabulary was basic, I could try and remember certain words and phrases from the lessons and reference them at appropriate times.

Using more tools, I learned in my graduate classes, I was able to incorporate lots of pictures into lessons and to combine pictures and our vocabulary words to create a word wall that was visible in the classroom. I also gave students many different opportunities to practice speaking, reading, writing and listening in English so there was repetition and practice with the vocabulary. Since the class was small and I had a cooperating teacher in the room most of the time, I was able to take students in the hall and practice their English listening and speaking skills. I would include things like holding up pictures and having students say the word or listening to me say the word and then pointing to the written word and/or picture. I had students read sentences to me and gave them immediate feedback on their pronunciations.

In the end, I was able to spend more time leading a classroom, planning lessons, making assessments, and interacting with students with more diverse backgrounds. I was able to find ways to communicate with students with limited to no English and find ways to teach them in a more personal way. This student-teaching opportunity was very beneficial in giving me experience, confidence and more teaching knowledge - all the things I felt I was lacking from the last student-teaching experience I had two years prior in the math classroom.

*Transition to Teaching*

Between my six years spent as a student learning about teaching and two student-teaching experiences, I was finally ready to teach my own class. While I loved teaching my ELL students in elementary school, I wanted to work with students at the secondary level, especially math. I was not aware of all the different types of math classes offered in Lincoln Public Schools at the time, and thus did not think that teaching mathematics to only ELL student was an option. When I applied for a teaching position, I felt like I had to pick between my two endorsement areas - math *or* ELL. I was torn. When it came time to submit my application, I was able to say my first choice was to teach high school math, my second choice was to teach middle school math, and my third choice was to teach elementary ELL. I assumed that if I were to teach math then I would most likely have a few ELL students in my mainstream classroom, and I could use my new skills to serve them the best I could.

**Professional Experience**

Lucky enough to find my quintessential “dream job,” I was hired to teach mathematics at Abraham Lincoln High School for the 2012 – 2013 school year. I taught four sections of Advanced Algebra and Algebra, and was given the one section of Accelerated Math - a pre-Algebra course for ELL students only. After going back to school, all the studying, the preparing, student-teaching experiences, extra years as a pre-service teacher, it was exciting to be given the opportunity to utilize both my teaching endorsements. I did not have to choose between math or ELL – I could have both.



While I felt as prepared as I could be to take on my own classroom, in reality I had my fair share of struggles and challenges. However, I truly value both the successes and triumphs that made my time as a teacher memorable and fulfilling.

*What is Accelerated Math?*

To provide context, Accelerated Math is a type of pre-Algebra course assigned to students who enter the public-school system from another country and are not ready for the mainstream Algebra classroom. These new students, regardless of the educational background, are commonly referred to as ELL students. When ELL students registered and signed up for classes at the district's Welcome Center, they often took a placement test to determine the best math and ELL classes for their skill level. Because these students often did not come with the proper transcripts and documents from previous schools, it was a beneficial part of the registration process. The district sent the completed placement tests to the local schools in which the student would eventually attend and let the schools determine all scoring and placements. The mathematics department head would review the math placement test and select the best math class for that student. He or she would then share that information with the counselors to place the students in a math class that fit the academic abilities exhibited on each exam. Counselors would then build these students' class schedules based on the math class they tested into at that time. The class options were Accelerated Math, Algebra Block (two consecutive periods of Algebra), Algebra, and Advanced Algebra. Typically, if a student was taking the placement test, the choice of math classes came down to three options: Algebra Block, Algebra, or Accelerated Math.

The Accelerated Math was created because several ELL students were coming to LPS from other countries did not have the math background needed to enter Algebra, regardless of

their English knowledge. In my second year teaching the class, I had a meeting with one of the original Accelerated Math curriculum specialists, Jolene Brown. Mrs. Brown told me that the main goal was to get the students out of Accelerated Math, as quickly as possible, and into Algebra. Because it was considered a “pre-Algebra” or a “math support” course, it did not count towards the mathematics credit all students needed for graduation. In order to graduate, students in the district need 30 mathematics credits. The most traditional route that the majority of students take to get those credits is to take Algebra, Geometry, and Advanced Algebra. Since students only received elective credits for the class, it created the need to get each student prepped and ready to go to Algebra Block/Algebra and beyond. Many students were able to go to Algebra after one or two semesters of Accelerated Math. The students with the big gaps in schooling, low math skills, and poor language skills were put into Algebra Block where they had more support. This class met for two consecutive periods and made each lesson twice as long as a regular Algebra class. Due to this, Algebra Block was also worth twice as many math credits as Algebra. It was a great option for ELL students who were needing more time to develop the math and English skills necessary to pass Algebra. It also helped give them more math credits to meet the graduation requirements, and somewhat make up for the lack of math credits not received from being in Accelerated Math.

*Who was in Accelerated Math?*

My classroom was a true “melting pot” in terms of students’ languages, ages, races, religions, educational backgrounds, and cultures. They came from all over the world, with the majority coming from developing countries. There were anywhere from three to ten different languages spoken by the students in the classroom, and very few of them knew English well enough to communicate with me without confusion. Students’ ages ranged from 14 to 21 years

of old and most of them stayed in school until they aged out at 21 years old. Each student had a different educational experience – some had gone to high school in their home country, some only completed middle school, and others only went to school for a few years when they were children. Students most commonly had limited schooling, or gaps in the education, because of wars in their home country, lack of teachers, and leaving school to stay at home to take care of the family. Most knew the basics of adding, subtracting, multiplying and dividing, but some could only do the arithmetic with a calculator. Some had used Algebra before, like solving equations and graphing on a coordinate plane, and others had no knowledge even negative numbers. I never knew what each student's mathematical background might be, and their placement tests did not always tell me what they were capable of doing. No matter what their math skills ended up being, I was typically one of their first math teachers in the US and always did my best to welcome them with open arms. I made it my job and mission to figure out what math they knew before coming to me and doing my best to prepare them to be able to enter the mainstream Algebra classroom after me.

### **Classroom Challenges to Overcome**

#### *Going it Alone*

I was the only Accelerated Math teacher in my building. At the start of my teaching career, there was only one other high school in the district that offered Accelerated Math. Eventually, that number grew to three high schools and three Accelerated Math teachers. I had the opportunity to collaborate and lesson plan with the coworkers at my school in a professional learning community (PLC) for the other subjects I had, but I did not have that opportunity with Accelerated Math. Due to being at different schools, the other Accelerated Math teachers and I did not interact and having a PLC with them was not feasible due to travel and time constraints.

Additionally, the former Accelerated Math teacher at Abraham Lincoln High School moved to another state the summer before I arrived. This left me without an opportunity to plan lessons with a current or former Accelerated Math teacher, observe a co-worker teach the same class, or just talk through struggles and successes that come up with this class in particular. Being a first-year teacher, I felt like I was in an isolated position where I had no other choice but to work alone with a class I had never encountered in my own schooling.

### *Learning with and from Colleagues*

I started the first semester off with very few students and doing it on my own was not a challenge at the beginning. Within the first semester, several new ELL students entered our school and were placed in my class doubling the size to around 20 students. Feeling a bit overwhelmed, I reached out to my supervisors asking for help. A math coach, Sarah Michaels, was paired up with me to co-teach the class. Mrs. Michaels let me take the lead in planning and delivering the lessons, but I finally had someone to bounce around ideas with for Accelerated Math and plan what we should do in the class. Additionally, Mrs. Michaels had been in the district for several years and reached out to her former colleagues for suggestions and materials. She was able to borrow a binder from another Accelerated Math teacher who allowed us to copy all the worksheets inside. While it was not everything I would need for an entire year, it was a great reference. Mrs. Michaels eventually moved to a different school and I ended up spending the next four years without another co-teacher in Accelerated Math. I learned from my first year to ask for help, that I do not have to do it alone, and how valuable it is to have support from another teacher. As I built confidence, I was able to reach out to my colleagues and not feel isolated. In the process, I was able to develop friendly relationships with my colleagues and found we had common interests in helping our students. While they did not have the experience

teaching Accelerated Math, they too had ELL students in class and former Accelerated Math students. I asked them for advice, borrowed similar materials, and still observed them teach their own classes. I found that I was only as isolated as I wanted to be.

As I began to meet other teachers in my building, I started to talk to the ELL teachers. I realized that we were all teaching the same students, even though the subject matter was different. Soon after forming a relationship with other ELL teachers, we began discussing the students that we shared and the material we taught. One ELL teacher emailed and asked what vocabulary words were in my units. She then took it upon herself to incorporate that vocabulary in her classroom too. One semester, when I was doing a geometric shapes unit, students came to my class with excitement to tell me that they had practiced saying and spelling our vocabulary words in ELL class that day. This made me appreciate my coworker's efforts to align our curriculum units to benefit our students. It also showed the students that their teachers worked together. Additionally, we would share stories and information about students in hopes of finding similar experiences or learning something new. We found out that some students never talked in one class, but often spoke in the other. Other times we found that we were both experiencing the same problems, or successes, with a student. For example, Pedro, was becoming disruptive in both our classes. He would refuse to work, would talk over the teacher in his native language, answer phone calls in the middle of class, and would not redirect when asked to follow classroom expectations. We had both sent him to the office for being disruptive and disobedient. Together, his ELL teacher and I brought his administration into the conversation to develop a plan to help him be more successful. With the help of a district interpreter, a productive meeting took place with Pedro and an administrator about classroom expectations. It turns out that Pedro had not been in school for a couple years, did not know

anyone else at school, was trying to make friends, and had a job that often called him during school hours. We had a conversation about his struggles in our classrooms, talked about solutions to make friends, discussed when it would be appropriate to talk on the phone, and showed Pedro that we were all working together to make his time at school productive, successful, and educational. He finished out the rest of the school year without further issues.

These types of conversations were important for us to get to know our students better and start to see patterns in students' behavior and learning. Some ELL students need more support than just learning the English language. Many times, learning English was difficult for a student because he or she had an undocumented learning disability. These ELL students ended up requiring special education classes and accommodations, but their teachers had to identify them first. Since each teacher might only see one or two areas of weakness in a student, the conversation between several teachers helped us see common areas of concern. Linh had been in my class for two semesters and had done well with the math material. However, her speaking skills did not seem to improve by the end of the second semester. I had a hard time understanding her words and she struggled to repeat words correctly. She spoke almost in a slurred way that I thought was a speaking accent associated with the Vietnamese language. After speaking to her ELL teacher, we both had similar concerns about her speaking skills not progressing after almost eight months of school - it was almost as if she sounded the same from the first day she joined our school. We were able to reach out to our Special Education (SPED) coordinator. The SPED coordinator was able to test Linh and they were able to detect a learning disability. Luckily, Linh was able to get speech therapy with a speech-language pathologist and that might not have happened had her ELL teachers and I shared our concerns. She went on to continue her high school education and received SPED services to support her.

A student, Neylan, did not progress mathematically to move out of Accelerated Math after three semesters. She also did not move up in her ELL levels either. Neylan's ELL teacher and I often spoke to about her struggles. One day Neylan would answer everything correctly and then be completely lost the next day. Again, we got the SPED coordinator involved and she was given a special SAT plan, designed by the Student Assistance Team, to allow her certain accommodations in her classes like getting extended time and having someone read aloud the material. She ended up going to Algebra Block after four semesters of Accelerated Math and I spoke to her Algebra teacher about her struggles comprehending and retaining the material. During her the first semester in Algebra Block, Neylan was struggling and her teacher and I went back to the SPED coordinator to see if she could be reevaluated for special education accommodations. I was used as a reference to share my observations about Neylan to help diagnose potential learning disabilities. In the end, Neylan was given special education services, a written IEP plan, was moved out of the mainstream Algebra class, and put into a SPED Math class. It took just over two years to get her learning disability diagnosed, but with all of her teachers advocating for her, she was finally taking classes to meet her learning needs.

In both of these cases of Linh and Neylan, it took time and communication between teachers to get these students additional support. I learned that the process of determining if an ELL student needs special education services can be tricky to notice and diagnose. It also left me wondering, why does my school and/or district not have a placement test to determine if ELL students need special education services? Are they able to assess it at the Welcome Center? Will it ever change? Can it change? I do not know if I'll ever get an answer to those questions, but I know that none of the successes could have happened had I stayed silent and disengaged with my coworkers. While I started my first year thinking that I was isolated, it only took time

and effort for me to realize that was not the case. I was still the only Accelerated Math teacher, but I was working in a school full of competent teachers. Whether it was collaborating with my co-teacher, talking to other math teachers, or reaching out to ELL teachers, I did not have to feel disconnected. At the end of the day, all the teachers I interacted with wanted the same thing as me - to teach our students effectively and help them become successful, productive students.

### *Lack of Curriculum*

In terms of curriculum, the district had a suggested curriculum guide for what the teacher should be teaching each of the four quarters throughout the school year. When I met with Mrs. Brown, one of the creators, she mentioned that the idea of Accelerated Math was the review the basics of math (like number line, order of operations, fractions and decimals) and then slowly move into more Algebra-based material (like integers, solving equations and graphing) by the third and fourth quarter. While curriculum was ordered logically, the topics were broad and not specific. Also, the district did not provide any resources, textbooks or tests, so I was completely in charge of coming up with *everything* me and my students would need throughout the school year. In contrast, both my Advanced Algebra and Algebra classes had textbooks for students, a teacher's textbook, online resources, student workbooks, and district-made tests. It was clear and obvious exactly what I needed to teach and assess in those classes. Having all that in all my classes except Accelerated Math left me frustrated and feeling that I had no clear path to teach my students. I also felt a lot of pressure of come up with a year's worth of material on my own and make sure it was enough to bring my students to a proficient enough level to have success in Algebra.

When Mrs. Michaels joined my classroom as a co-teacher my first year and was able to make a copy of another Accelerated Math teacher's binder, I was given the chance to see how



another teacher was making it work. I often used her worksheets and looked at her materials to get ideas for my own class. This also encouraged me to think outside the box and create new ways to practice the curriculum with limited resources. I was able to find several websites that generated math problems that matched the curriculum. I could then print a worksheet from that website, or use the examples in my own way. I would often use these online resources to get examples related to our unit. I would write the examples on big pieces of paper, tape them on the walls, and then have students to walk around the room to solve the examples (either on paper or the whiteboard). I would also give out small whiteboards to students and have them work out problems from their seats. Since I provided each of my students with a spiral notebook and folder, I also modeled how to take notes in a notebook and saved paper by not printing worksheets for the whole class on a daily basis. Additionally, since my computer could be mirrored on the overhead, I could easily project problems and have the students answer them in their notebooks.

Another curricular challenge was the fact that it never took into consideration that students would enter the school district and my classroom at any point during the entire school year. Students who started in January never got to learn the important mathematical basics covered in August through December, but still needed that information to enter Algebra. In my meeting with Mrs. Brown, she told me that I needed to get students into Algebra as soon as possible. This meant that at the end of each semester, I should be sending all who were “ready” to enter the mainstream Algebra class. Considering the curriculum guide did not cover Algebra until almost the fourth quarter, there was no way for me to know who was “ready” until then. Some students had never heard of or worked with negative numbers, fractions, decimals, nor could they do basic arithmetic without a calculator. Depending on when they arrived in my

class, they may miss an entire unit that they desperately needed. Some students had already taken Algebra but did not have transcripts to prove it, English to communicate it to me, nor had they demonstrated their ability on the placement test. Depending on when these types of students entered my class, it could be weeks before the curriculum led me to see their Algebra skills.

After teaching the class for about two years based on the district's curriculum timeline, I did not feel the students were academically prepared for Algebra if I continued to wait until third and fourth quarter to solve equations and work with integers (positive and negative numbers). While the math basics covered in the first and second quarter were important, the fact that the original timeline did not practice specific Algebra skills soon enough kept students in my class longer than was necessary.

During my first year with my co-teacher, Mrs. Michaels, I had a student named Rebin. He tested into Accelerated Math and knew some of the curriculum I was teaching at the beginning of the year. He had some English and communicated that he already knew the material. He had two siblings in the class at the same time who did not. Rebin struggled to sit still in my class and was somewhat disruptive. After some time, my co-teacher and I decided to see how much math he knew and see if he should have been placed in Algebra. Mrs. Michaels took Rebin aside to assess his math knowledge while I continued to teach the rest of the class. While Rebin had not taken Algebra before, he picked on it very quickly. The two of them were able to work one-on-one and Rebin tested out of Algebra by the end of that school year and moved into Geometry. I couldn't help but feel sorry for Rebin for not being pushed to meet his math potential, and that my class wasn't challenging enough for him. His disruptive behavior was really a cry to be challenged. Luckily, Mrs. Michaels was there to help assist this process

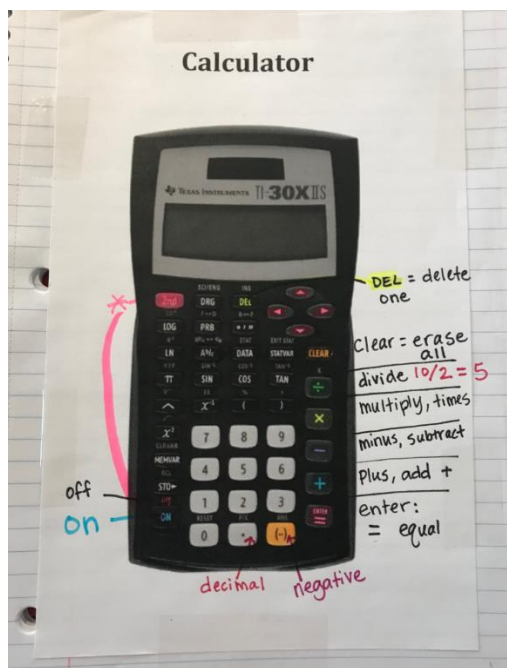
for Rebin. She stayed in the classroom and taught Rebin Algebra concepts while I simultaneously taught the rest of the class the Accelerated Math curriculum. Had she not done this, it would have taken months for me to teach Rebin Algebra concepts. On top of this, it was clear that Rebin had a talent for mathematics. After my second year of teaching, I ran into him again and found out he had been teaching himself Advanced Algebra and Trigonometry outside of school while he was in the mainstream Geometry classroom. By the time he graduated, he had been moved to differentiated math classes (a honors level) and had taken all the math classes available, including AP Statistics and AP Diff Calculus. It made me reflect and wonder if there were more students that I had that were just like him - capable but not challenged. Was my curriculum holding them back? What would Rebin's life have been like if Mrs. Michael's had not been there to nurture and support his math ability?

My gut feeling about the curriculum not being focused enough on Algebra, as well as and Rebin's story, ignited my desire to better prepare my students by redesigning the curriculum. I wanted to make changes after my first year, but felt it to was too ambitious to take on at the time. My second year gave me a chance to try the curriculum one more time before making major adjustments. I wanted my students to experience Algebra right away by solving equations, being exposed to negative numbers, and graphing well before the end of the school year. If my goal was to truly get students into Algebra as quickly as possible, then students needed to showcase these skills early on so I could see their potential, just like Rebin was able to do with Mrs. Michaels. Since I was also teaching a couple mainstream Algebra classes, I knew solving equations (with integer answers) would be covered in the first unit. After talking the head of the math department, and getting his approval, I started the process of making the class my own.

*Making a New Plan*

As I started my third year of teaching, I made it very clear to the ELL students in Accelerated Math that we would be practicing Algebra, just like the mainstream classes. I explained that my goal was to send as many of them as possible to Algebra the following semester - they needed to show me what they could learn and work hard to get there. This was all in hopes of giving my ELL students more Algebra-focused practice problems, motivating them to work hard to move into Algebra, and giving me the opportunity to assess their potential Algebra skills right away. Students still practiced the basics throughout the year, like basic arithmetic, the order of operations, and by trying problems without a calculator. When students struggled with the calculators, I would stop and show them how to use it. I eventually contacted Texas Instruments, a popular calculator manufacture, and convinced them to donate several large posters of the calculators we used in our classroom. After laminating these posters, I could write on them, model how to use them in front of the room, and easily point to a button for the whole class to copy and see from across the room. I would also print an image of the calculators and students taped it into their notebooks. As a class, we could make notes about what each button meant and students could turn to this page if they need anything. Teaching about the calculator was an important lesson because the majority of the students had not used the ones in the classroom. There were several other buttons on the calculator and I needed to make it clear which buttons we would be using the most. When I did not pre-teach how to use the calculator in previous semesters, several students would struggle to use it. Taking half a class period for students to get familiar with the calculator led to better student calculations later. These posters and printed pictures were helpful tools for the ELL students to learn and remember important buttons on the calculator. Research suggests that “words are only fully learned when they are

available for active use” (Corson, 1997, p. 699). By allowing my students daily interactions with the calculators, coupled with interactive displays, it helped them learn to use the calculator as an effective tool and gain academic vocabulary that the whole class could use.



**Figure 1.** This is a printed image of the calculator students used in Accelerated Math, with my own notations. Students taped this in their notebooks, wrote down information about common buttons, and used highlighters to match the teacher copy.

One of the great thing to happen through the early introduction of Algebra and solving equations is that it led me to discover very quickly who had practiced Algebra before. I could show a problem, model how to do it, and then ask if students had seen it before. With a quick show of hands, I could easily get an idea of my students’ math background. On one occasion, a student, Aayan, was able to communicate to me that he had not only learned this but had much high math skills. On paper, he wrote out an advanced math problem, with exponents, and solved it. I was determined to get him into an appropriate and high math class. I reached out to his

counselor and together we looked into why he had been placed in my class. He did not come with transcripts and had not answered any questions on the math placement test at the district's Welcome Center. With nothing else to go off of besides his ELL label, he was placed into my Accelerated Math class. Aayan was able to get an online copy of his old textbook, which was a mix of Advanced Algebra and Pre-Calculus. Because of Algebra-driven curriculum, and Aayan speaking up, he was able to be quickly moved to a higher math class. This made me feel validated and believe that I was working in the best interest of these students. This did not only happen this once. It happened so many times throughout the school year. Because students could come at any time during the school year, I would often get new students added to my class. Within a day or two of a new student's arrival, I could teach my regular lesson and find out if that student should stay or be reevaluated to enter the Algebra classroom. The students moved into Algebra typically had excellent knowledge of basic Algebra skills (solving equations), could work with negative numbers, did not rely on their calculators, and could easily solve a multi-step Algebra problem with a little bit of pre-teaching beforehand.

Not every new student with an Algebra background ended up moving out of Accelerated Math. The main reason for this was late arrival in the semester. If more than half of the semester had gone by, it was not beneficial to put an ELL student into a mainstream Algebra when so much of the curriculum had been covered. Since they were new to the US and needing ELL support, my co-workers and I felt it was best to give these students time in my class to finish out the semester refining their Algebra skills and learning more English. One semester, I had three sisters added to my class with about two months left of school. I knew that two of them had taken Algebra before, but the oldest sister struggled a lot. The two sisters were able to move into Algebra the next semester and the oldest sister stayed in Accelerated Math. Another

student, Peros, entered my class towards the end of the year. He was able to communicate very well in English. He not only could tell me he knew Algebra, he also performed well in class too. I was also able to have an honest conversation about why he was in my class after he described it as “math for children”. It was too late for him to enter the mainstream math class, but he could stay and practice the basics until he was moved at semester. He ended up being a valuable resource to me in helping other students try problems and translating for me in Arabic and Kurdish. His transcripts eventually came to our school and he ended up having well over the 30 mathematics credits he needed for graduation. We later joked in the hallways a year or two later that he must have been placed in my class to “help me teach”. While he was able to joke about the situation, it was still frustrating to me that he fell through the cracks and was placed in the lowest math class all because he was labeled ELL. In the end, it was another example, like Rebin and Aayan, of how the placement test does not tell the whole story about a student and can hold him or her back from being in the right class, regardless of when he or she might arrive.

### *Flaws in the Placement Test*

Regardless of how much reading, writing, or arithmetic each student had in his or her previous school, or how long he or she actually attended school, all types of ELL students were added to my class based on how well they completed the math portion of the placement test. The placement test was administered at the district Welcome Center. Students had to write in English, write in their native language, and answer 15 mathematics questions. Based on how proficient a student was on certain questions, the head of the math department could decide the best math placement. However, of these 15, only the last 8 questions were Algebra concepts covered by the Algebra curriculum. If a student did well on the first seven questions, it was

suggested he or she could go to Algebra. In my opinion as an Algebra teacher, these seven questions were not sufficient to say if a student should be placed in Algebra.

I was not the only one who shared this opinion. Several of my fellow Algebra co-workers agreed that the test had many flaws and supported my decision to reevaluated students when they came to school. For example, the first question asked students to place numbers on a number line, which included decimal, radical, fraction and negative decimal numbers. Since many countries do not use decimals as Americans use it in our numbering system, and use a comma instead, which can be very confusing to an ELL student. The next six problems involved adding a fraction, multiplying and dividing with negative numbers, and evaluating with an exponent. While each tested a different skill, the skill level was high and many students left them unanswered. When I would work with students in class with similar questions, that slightly less challenging, students often knew the answers. When it came to the Algebra based questions, the first solving questions was a one-step solving problem, but with a decimal ( $x + 3.7 = 12$ ). Again, decimals are not used the same way universally, and this problem was often skipped as well.

While I believe these are good types of questions to test a student's skill level, I always felt that only 15 challenging questions could not possibly test a student's last decade or more of schooling. I also felt that the placement test really only catered to ELL students who had been through middle school and/or some high school that might have received lessons on radicals and rational numbers. Also, there was not enough variety in terms of skill level. For example, it would have been nice to include several solving equations problems with increasing difficulty. Even if the student could only solve a basic one-step or two-step equation, he or she could have easily displayed prior knowledge. This would have then given that student the opportunity to



enter Algebra first instead of Accelerated Math. However, even adding more problems did not guarantee that students would answer more questions. It was students like Aayan and Peros, and several others that were too advanced for Accelerated Math, that I always thought about. I felt that the test did not give students the best chance to show what they knew, that professionals did not have a chance to see all their math skills before choosing their math class, and that they were placed in the lowest math class because they didn't perform well on a placement test. I found out from a counselor that most of the time, students did not know they were about to take the placement test when they arrived at the Welcome Center to sign up for classes. They also did not always know that their performance on the test would determine what classes they would be placed into. Since I often had the chance to view my new students' placement tests before they arrived on their first day, I could see what questioned they tried and which ones they left blank. Many time, students did not answer any of the questions and were still placed in the lowest sections, Accelerated Math, before they could show what they knew. I often wondered what went wrong when these students took the placement test. Every semester I taught this class, at least three to five students were incorrectly placed in Accelerated Math. How could this problem keep happening? Was it a language barrier? Had they really forgotten what they had learned? Did it have to do with their time spent out of the classroom? Were they just too overwhelmed? How could it be that taking the placement test did not showcase all of their math skills? Why does this keep happening? How can we fix this? What are the best questions to ask on the placement test?

In the cases of Aayan and Peros, they each had taken math classes far more advanced than Algebra but still tested into Accelerated Math. Their stories challenged me as a teacher to make it a priority to figure this out a student's math background. Knowing how long a student

had been in school before coming to the US gave me a sense of how long he or she might stay in my class. Those with Algebra knowledge and longer periods of time in school were typically moved into Algebra sooner than students with limited Algebra skills and fewer years spent in school. Another reason it was important for me to quickly get to know each student was because the math placement test did not always do what it was intended to do - place a student in the most appropriate math class. Changing my curriculum gave me earlier assess my students' math skills. By not catching the students that clearly should not have been placed in my class, it often made my job of assessing them in their first two weeks very important. Since the placement test often did not produce intended results, or place students in the best math class, I was not able to trust it (no matter how many questions were on it). I conducted my own placement test in class by sitting with the new students in a one-on-one setting and working through Algebra examples. I watched their reactions, gauged their understanding of math concepts, informally assessed how well they adjusted to the material, and gave them opportunities to model the material. I used all these interactions to approximate of their math skill and determine their best math placement level. This interaction was more beneficial than any placement test.

Based on the time of the school year, I would try and get these students switched over to Algebra if the department head, Algebra teacher, and myself agreed a student could catch up. However, it typically happened that these students came too late in the semester for them to be able to enter the Algebra classroom. This was not their fault as many ELL students often move or immigrate when the opportunity becomes available and it does not always line up nicely with the academic calendar. When this happened, these students stayed in my class, sharpened their Algebra skills, and were able to practice building their language skills too. I found that the best approach to this situation was to be open and honest about why they were in my class. I would

explain that I knew the plan was for them to enter Algebra at the end of the semester, but they needed to show me they did, in fact, know the material. They had the chance to review the material, sharpen their skills, and practice their English. Two girls, Lilan and Jadee, came the same week of school, were not related, but became friends very quickly because they both spoke Arabic. Both had taken Algebra before and were placed in my class until they could be moved to Algebra. The two girls were model students in working hard, completing homework, acing their tests and quizzes, and often asked me to give them the most challenging problem I could think of after our lesson. They had a desire to learn and always wanted to know more. During this semester, I had close to 30 students, with about a third of them needing to go to Algebra the next semester. Because I trusted these two girls, I would often call on them to help tutor fellow classmates and stand in front of the class to share things in Arabic. With a large class, I was grateful they were willing to help me and share their knowledge with their peers in their native language. I remember Lilan and Jadee coming back to see me after they moved into Algebra. They were so happy to tell me they were doing well, loved math, were volunteering to work problems, answering questions in class, and missed being in my class. These girls are a great example of how to make the wrong class placement work for everyone involved, without sacrificing content and skill. While they were not given math credits for graduation, they were able to use time in my class to adapt to the school, build on their math skills, learn English, and build a level of self-efficacy going into Algebra the next semester. Going into Algebra right away would not have given them this opportunity.

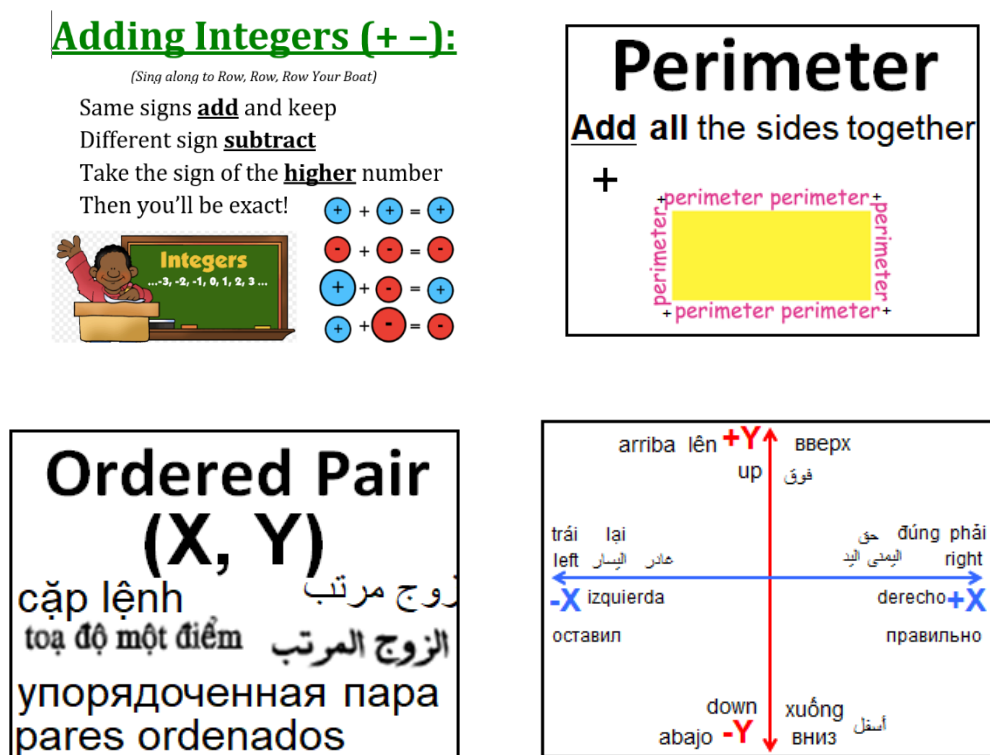
### *Communicating With and Without English*

The majority of my ELL students in Accelerated Math spoke Spanish, Arabic, and Kurdish. There were other languages spoken too, Vietnamese, French, Turkish, Farsi, and

Russian. Because I had taken Spanish classes in high school and had Spanish speakers during student-teaching for my ELL endorsement, I was able to use basic words and phrases to communicate with my Spanish speaking students. I knew no Arabic or Kurdish words or phrases and these students made up the majority of the classroom. I spoke to the students in English, but would often get on my computer and use Google Translate to allow the students to hear something in their native language. As more time went on, I started to remember certain Arabic and Kurdish words

Visuals were an important tool I used in my classroom. I would draw pictures or search for images on my computer to illustrate something. As often as I could, I would include pictures on worksheets and during the lesson. In my graduate studies, I learned how important visuals were in helping students to make sense of what they were learning. I used a Word Wall of important math words and images for our units. A Word Wall is a location in a classroom where important words and pictures can be displayed for students to see and interact with during class time. The district provided a few Word Wall images for Algebra and a coworker had been using them for years also. I was able to borrow several of their images and incorporate them into my Accelerated Math classroom. I also had the ability to change or add the images to better suit the Word Wall for the Accelerated Math curriculum. Sometimes, the Word Wall included English and other languages. When introducing a new concept or word, I made sure to talk about the new image and show where I would be placing it on the wall. During lessons, I would often walk over to the Word Wall and point to words I was saying or referencing. If the vocabulary was part of their quizzes or exams, I would take the images down and return them after the assessment. Other than that, the Word Wall stayed up all year and acted as nonverbal resources students could use as they learned the math and English vocabulary. As Harmon, et. al. (2009)

notes, simply having a word wall “does not teach vocabulary. However, as we have seen, this literacy tool holds potential for enhancing vocabulary learning with older learners when used in conjunction with effective instructional practices” (pp. 406).



**Figure 2.** The following are four examples of the types of images and vocabulary displayed on the Word Wall for various units in the Accelerated Math curriculum.

In addition to keeping important words visible on the walls, I made the student keep an “Important Math Word” packet that acted like a dictionary for Accelerated Math. I could make my own copy and model how to fill it out by writing the English word, stating the definition, and drawing or writing an example. Students were encouraged to pull out their packet to look up a word. This would happen if they were reading directions, answer problems, or at any time they needed help. Because I would also use Google Translate, I would encourage the students to

write the important word in the native language too. I would often have students come up write it on my copy of the packet. Since I kept my copy at a close distance, I could show my copy on the overhead. Instead of walking to the Word Wall, I could point to the vocabulary word and give the students a visual reminder of the word.

Mrs. Fendrick

Important Math Words ...

Word	Definition
<b>Fraction</b>	part of a whole (ex) $\frac{1}{4}$
<b>Numerator</b>	the number on top of a fraction • # of parts you have. (ex) $\frac{3}{5}$
<b>Denominator</b>	the number on bottom of a fraction • how many parts the whole is divided into (ex) $\frac{3}{5}$
<b>Proper Fraction</b>	numerator is smaller than the denominator (ex) $\frac{1}{4}$ ← smaller
<b>Improper Fraction</b>	numerator is bigger than the denominator (ex) $\frac{5}{3}$ ← bigger
<b>Mixed Number</b>	whole number and a proper fraction (ex) $1\frac{3}{4}$ proper fraction
<b>Convert</b>	Change turn into (ex) convert from improper to mixed $\frac{7}{2} = 3\frac{1}{2}$
<b>Reduce</b>	reducing to make the fraction have smaller numbers (ex) $\frac{5}{10} = \frac{1}{2}$
<b>Greatest Common Factor (GCF)</b>	GCF the biggest factor two numbers share 18: 1, 2, 3, 6, 9, 18 24: 1, 2, 3, 4, 6, 8, 12, 24 ↓ reduce $\frac{18}{24} \div 6 = \frac{3}{4}$
<b>Like fractions</b>	fractions with the same denominator (ex) $\frac{3}{4}$ and $\frac{10}{4}$
<b>Unlike fractions</b>	fractions with different denominators (ex) $\frac{5}{2}$ and $\frac{2}{3}$
<b>Least Common Multiple (LCM)</b>	LCM the smallest multiple two numbers share (ex) 2: 2, 4, 6, 8, 10, 12, 14, 16, 18 5: 5, 10, 15, 20, 25, 30, 35

**Figure 3.** This is a copy of an “Important Math Words” packet that I used for a unit on fractions and decimals. It was printed on a bright colored paper to be easily found in a folder.

### Celebrating Languages

I never shied away from students’ native languages. It was important to me that their native languages should be celebrated, used, and shared in my classroom. Using their native languages to reference an English word was an important first step in their language acquisition process. Research suggests that using student’s’ native languages is a justified tool to use in the classroom. It should not be used to the same extent as the target language, but can play an important role in language acquisition, comprehension, and can help reduce insecurities.

Teachers can use it to better understand student's education histories and determine what students have learned in the native language (Pan & Pan, 2011, pp. 93-94). That is the reason I looked up non-English words in Google Translate, put them on Word Wall images, and encouraged students to write them on their own paper as references. When we learned new words, we always practiced saying things in English first. Then we took turns hearing and/or saying what the word was in everyone else's language. When working with a student one-on-one, I would always speak English and try to use the Spanish or Arabic equivalent, if I knew the word, to make sure we were on the same page. The longer each student was in my class, the less I would use their native language to aid them. Most of the time, the students did not need me to speak their native language for long, because, like me, they were able to pick on the same words in English quickly. I enjoyed learning more Spanish words and struggled to remember and pronounce the Arabic and Kurdish. It was humbling to switch roles with the students. They had a wealth of knowledge about their languages and they had something to teach me.

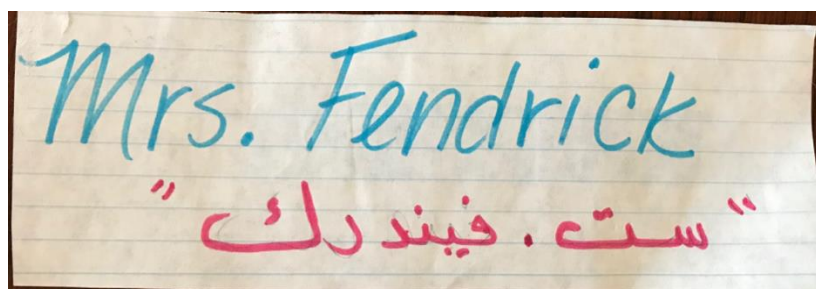
When I left the classroom after five years, I could carry on a math conversation with students that spoke Spanish and Arabic. The main words and phrases I learned in these two languages were: hello, goodbye, add, subtract, multiply, divide, negative, positive, equals, greater/less than, yes, no, good job, please, thank you, and hurry up. I did not learn all the Arabic numbers, but students would teach them to me. I picked up better on the Kurdish numbers too. For several years, there was a running joke with my students that I loved selecting math problems that resulted in an answer equaling five. This is because my favorite word was "pênc", which is "five" in Kurdish. It sounds like someone is saying "pinch" in English. When students would work independently or in a group, I can recall several instances in which students

would excitedly tell me, “pênc”! During those semesters, every student knew what “pênc” meant, no matter what their native language.

Also, it gave me a chance to bond with the students since I showed a desire and commitment to communicating with them. Learning just a few basic words in my students’ languages and using them to interact with students me helped me begin conversations. If I had a new student, my goal was to use my new vocabulary to allow for a smoother transition into Accelerated Math and offer a safe place by hearing familiar words as I welcomed them to my class and talked them through a math problem. I could assess how much they already knew and they could see a teacher who was making a genuine effort to communicate. My salutations were often spoken in multiple languages every day. When a new student would arrive, I would say “hello” in their native language and the class would say it together with me. When I would work with a student, I loved to tell them “good job” in their native language. Most times it made them smile, whether it was pride in their work or hearing me speak their language, and I kept doing it. If I saw students in the hallway who might arrive after the bell, I could yell “hurry up” in their native language with a smile. Pretty soon the students were wanting to teach me more phrases and even taught each other new words. If we were going to use small, personally whiteboards that day, I would have students write classmates’ names in their native language. This had two purposes: the first was to allow them a chance to draw and color so they were not doing it during the practice. The second was to give the students a chance to bond with each other. They practiced writing and saying each other’s names too. It was very common for non-Arab students to want to get their name written in Arabic. I also loved watching my students sound out and write my name, “Mrs. Fendrick”, in Arabic and then conferencing with each other that they had written it correctly. I also loved giving them a chance to show me their own names



written in their native alphabet. It was always a good opportunity to celebrate our different cultures and share a bit of ourselves with one another.



**Figure 4.** This is a copy of a sign a student and I made my first-year teaching. I wrote my name and my student wrote it in Arabic. The goal was to help current and future Arab student be able to pronounce my name correctly. I had it on display throughout all my years teaching and would often point to it when introducing myself to new students.

### **Welcoming and Helping Students in a Constantly Growing Classroom**

In the five years at Abraham Lincoln High School, I taught only one section of Accelerated Math each semester. I had as little as four students enrolled in the class to just over 30 students in one single classroom. I had often asked my supervisors to plan ahead and add a second section of the class for the next school year, but due to there being a current low enrollment, I was only ever given the one section. How many sections a class had was determined in April or May of the previous school year - all before my future ELL students had entered America and registered for school. As the school year continued, my Accelerated Math classroom would continue to grow with more ELL students. At this point in the year, there was typically not another teacher or classroom for our school to have another section of Accelerated Math. Counselors would continue to add students to my room until it was considered full around 30 students. Counselors would wait to add my Accelerated Math class to a new student's

schedule if the class size reached capacity. Most of the time my class size did not max out, but it did at least three different times. New students that arrived after my class was maxed out were not given a math class. This typically happened when there were so few days left of school that the waiting period was short. Counselors were excellent in letting me know if and when I would be getting new students and what languages they spoke. They played an important role in sharing the first information I knew about a new student. Since the majority of my students were added at various times in the school year, I never knew how many total students I would end up with and often learned about their arrival a few days beforehand. It was enough time to plan where the student might sit, gather a notebook and folder for him or her, and get my current students warning that our class would have a new student. Typically, siblings would test into my class and I would get two or three family members on the same day. It was also not uncommon for me to get upwards of seven new students in the middle of the semester, sometimes all of the students arriving within a few short days of each other.

When a new student arrived in the middle of the semester, one of my first goals was to learn how to correctly pronounce each student's name and memorize which languages they spoke. Knowing what languages students spoke was important for me to try and communicate with them using the vocabulary I had learned in Spanish and Arabic. After that, my main focus was getting the students acquainted with my classroom, meet the other students, get them up to speed on what we had been learning that unit, and trying to figure out what math they already knew. I also felt it was important to try not to Americanize their names if I had a hard time with the pronunciation. It was my opinion that their name also tied them to their identity and culture. I wanted to respect them in this way since they had resettled in a new country and respect who they were as individuals. One year, I found out that a group of three siblings had their

identification entered into the system incorrectly. One of the sisters was labeled male, the brother's first and last name were switched, and the other sister's name was misspelled. With a quick email, I was able to alter their counselor about the issues and get the new students on a path to have their school identifications corrected. Another time, my student, Aayan, shared with me that the last name he went by was not his true last name. The current one was actually the city he used to live in before coming to the US. Due to a mix up when filling out paperwork to immigrate to the US, his last name was changed and it was too late for his family to do anything about it. I may not have caught every issue or spoke each name perfectly each time, but I respected my students enough to try.

Another goal I had was to try and pair the new student with someone who spoke the same language as him or her and was also having success with the curriculum. I often allowed all my students sit by others who spoke the same language as them. Because my room had a series of tables with four chairs and not individual desks, it was a great setup to have student interactions. This allowed students to work together, see everyone's paper, and speak their common languages. The downside to this was that students could copy and I did not fully understand what they were saying in their native languages. I went over expectations for staying on task and on topic and watched their body language to determine when I needed to step in and get students back on track.

Because new students came throughout the year, I had to find a way to keep teaching the curriculum for the current students and bring the new ones up to speed. I often did this by planning review days. Since counselors communicated about a new student arrival date, I could plan a couple review days. This gave my current students time to practice their skills and give me time to work one-on-one with the new student to assess their math background. If a student

did not have a lot of Algebra skills, I would sit that him or her close to me and sit him or her by a stronger peer that was willing to help tutor in their shared language. It did not always work this way if a new student had a different spoken language, but it worked in most cases. It was common that ELL students wanted to teach each other in my class. It was not common for students to refused helping if I asked them. Most of the time, my biggest challenge was to ask students to stop helping during assessments. During tests or quizzes, I learned to pre-teach expectations for not talking, rearranged students to spread out students that spoke the same language, and put up folders to cover each student's paper. I also enforced a "no talking" policy to keep students from talking and possibly sharing answers in their native language. I placed signs on the board to remind students of expectations to visually remind them to stay quiet during assessments. They could still raise their hand and ask me for help, but it was important for them to not cheat so I could assess their knowledge. Since I would do reviews with the whole class when newcomers arrived, these assessments gave me a better picture of what my new and old students could do on their own. After any test or quiz, the information then led me to plan and pace the next few weeks to meet the growing needs of the students.



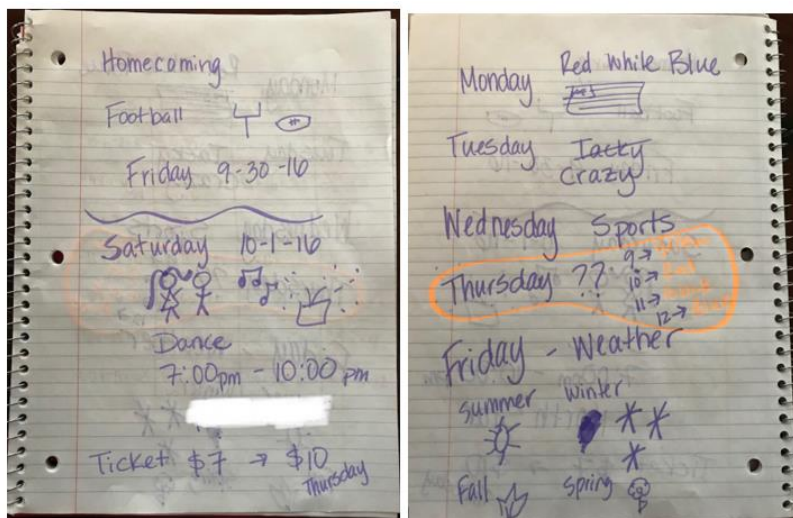
**Figure 5.** These are examples of the types of written and visual signs I placed on my whiteboards during assessments. I needed to keep students from talking and sharing answers with each other and wanted to make sure expectations were able to be conveyed through recognizable images.

Welcoming students on their first day was an important part of making them feel like a part of the class. I had a notecard with phrases to help students with these introductions. It said, “Hi my name is \_\_\_\_\_. I am from \_\_\_\_\_. I speak \_\_\_\_\_. I am \_\_\_\_\_ years old. Nice to meet you”. Then everyone would listen as the new students did the same. This gave the new students an opportunity to see and hear everyone else’s English speaking abilities. Most importantly, it let the new students know what languages everyone spoke and who they might be able to communicate with in a shared language. Students were a little hesitant that did not have any background in English, but my current student and I would always help the new student sound out words during their turn. This process served to welcome student, who shared the same languages, and showed that everyone would be practicing and learning English together. As the semester progressed and my classroom roster grew larger, I moved students around and had a more fixed seating chart that was not always grouped by language. I wanted them to rely on English to communicate and begin working with students with whom they did not share a language. I also wanted them to build friendships with each other since they shared a lot of the same ELL classes. It made me happy and proud to see my students talk socially in English and come to my class together talking with the new friends they made in Accelerated Math. I used their acquaintances to my advantage by asking the class if they knew why a student was not in class after the starting bell. I could quickly get feedback from my students if a student was not at school that day, still in the previous class, or might just be in the bathroom. Being able to openly talk to each other about things like school schedules and student’s attendance created a sense of a community in the class and that we were looking out for each other.

### **Student Life Outside of the Classroom**

While the majority of the time we spent in my classroom revolved around math, it was also important for me to make sure my ELL students understood what was going on in and around the school building. I spent time showing the students where the bathrooms were located and how to get to the main part of the school to exit. When a group of new students continued to get lost on their way to my classroom, I took the entire class on a walk around the school to help them find the best route to my classroom. I wanted to make sure these students felt safe and that they could turn to me to get help and ask important information.

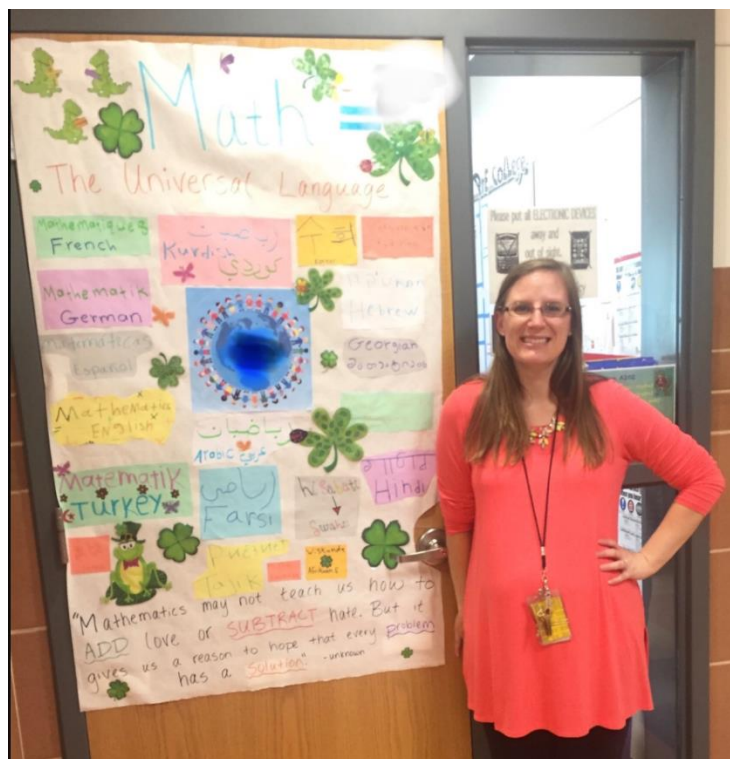
As it happens in the American school system, there were several announcements on the intercom, Student Council hosted events, spirit weeks, visitors to the classroom, school dances, free food pantries, parent-teacher conferences, school plays and musical events, and much more. Being new to the US school system, it was often confusing to these my ELL students because they did not speak the language well enough to understand and/or had not experienced anything like it before. I felt that it was important to help them learn about the unique culture inside an American high school and navigate within it. Using the help of Google Translator and students who could translate for me in the class, I would make sure to go over certain events that happened at the school. I explained about school dances, how to buy tickets, what the school will be dressing up as for spirit week and explained what to wear.



**Figure 6.** This is a picture taken of my Accelerated Math notebook. I had been explaining to the students about the upcoming Homecoming football game, the Homecoming dance, and what outfits they would wear to match the theme each day.

I also took every opportunity to sign my Accelerated Math class up for events that took place during our class period with me. I took the students to events like band concerts, theatre performances, attended guest speakers, went to watch the school's male "beauty pageant", and cheered with them at pep rallies and various spirit events. We also helped Student Council raise money for various fundraisers and supported groups by donating money. I even helped a student sign up for a Color Run after a guest speaker visited our classroom. One of my proudest moments is when my class participated in a school wide "Door Decorating" Contest that Student Council hosted. The idea was to decorate your classroom door to show your "school pride". Since we were a math class with students from all over the world, we decided to make our theme be "Math = The Universal Language". Students worked together to spell "mathematics" in all the languages they spoke. It was so wonderful to see my students come together as a class and participate in a schoolwide project. While we did not win the contest, our door was on display to

anyone who walked by the classroom and it was eventually displayed in the cafeteria area. The Accelerated Math students were so proud to see their work on display and would come to call every day to tell me it was still hanging. Even my former Accelerated Math students stopped by to tell me they had seen and liked our poster. Finding activities like this was a fun way to involve students in activities happening within the school community.



**Figure 7.** This is a personal picture an Accelerated Math student took of me outside my classroom. It shows the finished door we decorated when the students participated in the schoolwide Door Decorating contest.

### Memories After Leaving the Classroom

Due to personal and financial reasons, I ended up leaving my teaching career to stay home with my family. While it was the best decision for my family, it was personally hard to leave and walk away from the classroom. I had grown as a teacher, loved teaching the material,

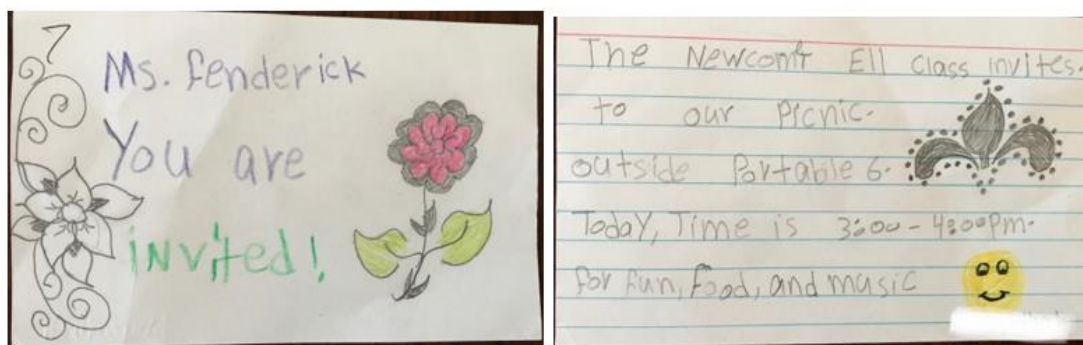


and had made so many connections with students. Knowing that I would not be at school to see my former students in the hallway and hear about their lives after my class was a hard fact to cope with. Most everything I did as a teacher revolved around my students and my personal growth to be their best teacher. Who would I be now if I wasn't in the classroom teaching?

Reflecting on the time that I was in the classroom, with its many struggles, I feel that I ended with many successes. When I was feeling alone and without a curriculum, I overcame those challenges by reaching out to my co-workers. This opened the door to have open conversations about our shared students, led me to make adjustments in my class, and helped students get extra help and special education accommodations. This also forced me to think outside of the box and not rely on one curriculum structure to tell me what was best for my students. Making changes to the curriculum to Algebra-based material helped combat the fact that students were put in my class from the results of an unreliable placement test. I also learned to not judge a student based on one assessment and always leave room for flexibility and new student additions. When my class size would continue to grow larger, it opened the door for me to have an honest conversation about capping my class size at 30 students and not adding students if it was too close to the end of the semester. I could not say what an ideal class size might be, but counselors, the math department head, and I all worked together to decide who would be added to my class.

Teaching more than just math helped form the relationships with my students that I hold so dear. It was making my classroom feel like a community and that we were all safe to be who we were. In our class, we did more than just math. Even if it was as simple as showing students how to properly use a calculator or big as participating in a schoolwide contest, I found ways to do non-math activities with them. To grow the community, I learned words from their native

languages and found out more about their personal lives too. We would openly talk about each other's holidays and customs as they occurred throughout the year. I found out that my Kurdish students held similar beliefs to Christianity, my religion, and that they wore red bracelets on their wrist to show everyone they were Yazidi. I had a chance to explain to my students why our school took breaks from classes, what US holidays might be celebrated, and when they should stay at home during those times. Some students would bring in homemade treats and delicacies to celebrate their holidays. Others brought me chocolates on Valentine's Day and wore green on St. Patrick's Day. When an ELL class had a party to celebrate everyone's cultures and holidays, they invited me to join in their celebration. I was invested in them, and they included me in their certain parts of their lives.



**Figure 8.** This is a handmade invitation to a party that the ELL teachers held for the ELL students after school. My students invited me to be part of their celebration.

Because their language skills were still developing, showing pictures of things, like our families, helped students share personal stories about what our lives were like before moving to Lincoln, Nebraska. I shared stories about my time in high school and how I had forgotten Spanish because I did not practice it - all to encourage students to never stop learning English. They shared stories of their old school and what was similar or different to American schools.

Some students even had pictures of their old homes and schools. I would show them images of my family and they loved making guesses about the sex of my baby when I was pregnant. They also sent me cards and gifts when I had the baby. By talking about our families, I found out that some of my students were engaged to people in their home country. Once a student, Rose, moved back to Europe to be married to someone she had been engaged to all school year. Rose left our Accelerated Math class, but we were still able to talk to her sister in class about how Rose she doing. One year, a student, Waleeya, shared that she was married and had a child the same age as me. Waleeya's husband was disabled and would go home every night to cook, clean, take care of the baby, and still had her homework completed every day. Because she was young enough to still be in school for two years, she worked so hard to learn the material so she could take care of her family in a new country. Her story was inspiring and showed the other students that she did not have to sacrifice her education to take care of her family.

I found out that some students had a gift for art, the talent for singing, who was athletic, and held jobs outside of school. Several times students asked me to help them find a job close to school and asked me to be a reference on their job application. I also would run into my students at their jobs and loved seeing them working hard for their paychecks. It also gave them a chance to meet my family. Other times, forming relationships happened through engaging students in conversations about their weekends. I found out who had gone shopping, who played sports, where students had worked, and what else they did to relax. I cheered for them as they made school sports team, like soccer and track, and was often invited to the upcoming games and events.

At the end of the day, the memories are endless. Reflecting on my time as a teacher, I have come to realize that teaching is so much more than just delivering a lesson and assessing

student knowledge. One of the most important things is making an impact on students' lives and building relationships with them in and out of the classroom. This was evident to me because of my personal feelings when I left my job. My students were a part of my life and I had to grieve the loss of interacting with them on a daily basis. Until I am back in the classroom again, I can find comfort in the fact I have memories of my students and trust that I did my best for them as their teacher. I can also look forward to the day that I'll teach again and have a new group of students to teach, make personal connections, and grow as their teacher.

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