Excellence in Teaching Portfolio

Submitted for the Excellence in Teaching Award, Center for Teaching and Learning 2023

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Letter of Nomination

Mary Frances Early College of Education
Department of Mathematics, Science, and Science Education

December 15, 2022

The Center for Teaching and Learning, The University of Georgia
Excellence in Teaching Awards, 2023

Dear Selection Committee,

On behalf of the Department of Mathematics, Science, and Social Studies Education, it is our pleasure to nominate Ms. Anne Waswa for the Excellence in Teaching Award. She began her doctoral program in the fall of 2018 and immediately began working with prospective mathematics teachers. We have chosen to co-construct this letter of support for Ms. Waswa to highlight the breadth of support that she has provided to multiple faculty members, new doctoral students, prospective mathematics teachers, and our teaching partners in the field through her work in several courses (EMAT 3400, EMAT 3410, EMAT 4860/6860, EMAT 4900/4900L), and as an active member of our student community.

Ms. Waswa is an instructor who is reliable, has worked with a diverse population of students, always seeks to understand her students, and works to incorporate research-based instruction. She has acted in the capacity of teaching assistant, instructor of record, and supervisor at UGA, which has offered her a range of instructional experiences with respect to content, pedagogy, and student populations. Regardless of population or course, Ms. Waswa engages students in ways that foreground key mathematical ideas and pedagogies, while also centering students as doers of mathematics and authorities in the classroom. Students are incredibly comfortable in Ms. Waswa's classrooms, allowing them to engage and interact in authentic and open ways. We are most impressed with her approach to incorporating creativity in her student interactions and instructional design. Drawing on her research background, she goes to great lengths to incorporate key ideas of mathematical creativity so that students engage in substantive, novel, and generative ways no matter the lesson or focus.

Ms. Waswa's Contributions to the Elementary Teacher-Education Program
There is a strong need for the better preparation of elementary teachers in mathematics. For many of the occupations that will remain viable or emerge in this century, mathematics is a core area of content that is essential. In many technological fields, doors close when children decide "I am not good in mathematics" by the time they reach the sixth or seventh grade. Students with low levels of confidence and self-efficacy in mathematics are not likely to enroll in courses needed for engineering, computer science, or other high-demand fields. It is essential for all students to have positive experiences with mathematics in elementary grades with teachers who are confident and comfortable with that subject area. It is, therefore, essential that those going into the field of

elementary education be prepared to enact high-quality mathematics instruction. In this area, Ms. Waswa has had significant experience as both a teaching assistant and an instructor of record in the elementary teacher education program at UGA.

Ms. Waswa has been the *teaching assistant* for EMAT 3400 (Children's Mathematical Thinking) three times (once during the spring of 2019 and twice during the fall of 2019). This is the first of two required mathematics methods courses for prospective elementary teachers. The mathematical topics covered in this course include early and pre number as well as the addition, subtraction, multiplication, division of whole numbers, place value, and multi-digit computation. Not only did Ms. Waswa dig into the content of this course as a learner, working to make sense of the importance of leveraging children's mathematical reasoning during instruction, she dug into the material as a future mathematics teacher educator – a person seeking to understand *how* to support the development of future teachers (i.e., not just children). This required her to take on two different perspectives simultaneously as she engaged in the content of the course as well as the research that informed said content. During her time as a teaching assistant for this course, Ms. Waswa grew in her ability to notice the sometimes-subtle details of children's problem-solving strategies, details that provide insight into the nature of children's mathematical reasoning and that can be leveraged to inform teachers' pedagogical moves. She also grew in her ability to support the growth and development of preservice teachers' abilities (e.g., through questioning).

Additionally, EMAT 3400 contains a field component wherein each prospective teacher in the course is paired with a child at a local elementary school. The prospective teachers are then supported as they practice implementing the methods they learn in the course (e.g., skills of constructing and sequencing word problems as well as eliciting, making sense of, supporting, and extending children's mathematical thinking). Again, Ms. Waswa proved herself vital in supporting preservice teachers' abilities to productively interact with children, often sitting down with them and modeling how to interact with a child in ways that both honored and supported that child's mathematical reasoning (as opposed to *telling* the child what to do or how to think). These are the moves that keep children engaged in mathematics and help them learn to view themselves as capable, competent, and confident mathematicians.

Ms. Waswa has also been the *teaching assistant* for EMAT 3410 (Mathematics Teaching and Curriculum in Grades PreK-5) three times (Fall 2018, Spring 2019, and Spring 2021) and the *instructor of record* for the course three times (Fall 2020, Spring 2021, and Fall 2021). This is the second of two required mathematics methods courses for prospective elementary teachers. The mathematical topics covered in this course include rational number, geometry, measurement, data analysis, and algebra; the pedagogical topics covered include quantitative reasoning, assessment, differentiation, lesson planning and implementation, as well as unit design. Just as Ms. Waswa began to feel familiar with the course and got to a place where she felt confident in her ability to teach it, COVID happened. Logistically, what this meant for the course was that it needed to be redesigned so that it could be delivered in an online format. Ms. Waswa thoughtfully considered how to go about making use of online platforms like Zoom and Google Drive (e.g., Google Slides and Docs) to closely approximate what could be achieved in person. This meant developing and teaching a new, fully online, synchronous version of EMAT 3410 which included a complete restructuring and reorganization of course content as well as a reconceptualization of the five major course assignments, 10 homework assignments, numerous small- and whole-group discussions, class activities, interactional norms, and so much more. Ms. Waswa's ideas for how to adapt or change assignments, activities, and discussions were innovative and allowed for the continued, high-level engagement of the prospective elementary teachers. Student evaluations of the redesigned course included statements like, "Incredible instruction that was well-organized, direct, and challenging"

and “She did an amazing job of keeping the class moving at an appropriate pace, challenged us in ways that made us eager to participate and engage in the content, and was extra cognizant of our time and workload in how she structured both in and out of class work.”

Ms. Waswa’s Contributions to the Secondary Teacher-Education Program

Ms. Waswa’s contributions to the teacher-education programs at UGA extend beyond the elementary level and into secondary where she has again been both a teaching assistant and an instructor of record. This semester (Fall 2022) in particular, she is the *instructor of record* for the cross-listed EMAT 4860/6860 (Connections in Secondary Mathematics II). This is particularly notable since the course was originally going to be taught by a faculty member. Ms. Waswa being placed in the role of instructor underscores our trust in her teaching sophistication. This particular course is required for all secondary pre-service teachers. The main mathematical topics include connections between multiplication and division, fractions, ratios and proportional relationships, logarithms, and probability. The course also includes current curriculum standards, examples of curriculum materials that are consistent with those standards, and attention to students’ thinking. Here, as before, Ms. Waswa has demonstrated her work ethic and diligence spending significant time making sense of the course content so that she can support prospective teachers’ engagement and development. She is attentive to the various interpretations of mathematical topics like fraction (e.g., part-whole interpretation vs. repeated-iteration-of-a-fractional-amount interpretation), when and how they are most useful, and thinks deeply about how to help future teachers learn the importance of such distinctions for students. Her ability to present clear and coherent presentation slides and facilitate classroom discourse is impressive. Because of this, student engagement in her class is high with engagement coming from all students not just a select few. Furthermore, Ms. Waswa thinks deeply about the feedback she provides to the students in her class, often seeking input from faculty about the nature and quality of her comments. She is particularly focused on providing feedback that supports prospective teachers’ abilities to nurture students’ mathematical thinking and sense making.

Prior to her instruction of EMAT 4860/6860, Ms. Waswa was the *teaching assistant* for EMAT 4900/4900L (Teaching Secondary School Mathematics III), the third mathematics methods course for pre-service secondary teachers. It includes planning lessons and units, facilitating discourse, and applying theories of learning and teaching. Students enrolled in the course explore how to create plans for student learning, use culturally appropriate pedagogies, negotiate classroom norms, use instructional technology appropriately, and apply their learning in an accompanying field experience. As usual, Ms. Waswa’s assistance in the course was highly valued and always welcomed by the instructor of the course and, again, she eagerly and routinely sought opportunities to learn and develop as a future mathematics teacher educator. Finally, Ms. Waswa was a *student-teaching supervisor* for the secondary mathematics education program wherein she provided helpful feedback on unit and lesson plans, conducted classroom observations that were both thoughtful and attentive, provided productive feedback about lesson implementation, and evaluated student teachers as they worked toward certification.

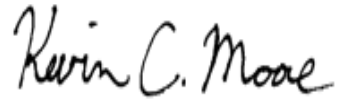
Before discussing Ms. Waswa’s other contributions to our educational community, we also note that Ms. Waswa has contributed to the secondary program through her research-based approach to instruction. Namely, through situating her research on mathematical creativity with pre-service secondary teachers, her findings and products are having a direct impact on our courses for future teachers. For instance, her findings on the role of mathematical creativity in the teaching and learning of quadratic functions is resulting in changes to the instructional materials for EMAT 4810/6810 (Connections in Secondary Mathematics I). Said simply, Ms. Waswa’s impact on our pre-service secondary teachers extends beyond those classrooms in which she has directly been involved with.

Ms. Waswa's Additional Contributions to the Education Community
In addition to her above talents, Ms.Waswa has taken on numerous leadership roles at UGA. She has been elected to several positions within UGA's academic community. This includes serving as the Mathematics Education Student Association (MESA) Treasurer. MESA is one of the longest established student national organizations in mathematics education and includes nearly all faculty, graduate students, and undergraduate students in mathematics education at UGA. Her service to the academic community also includes being a Founding Member and Electoral Officer of the African Graduate Students Forum at UGA. As one can imagine given UGA's setting in the foothold of the South, such a forum has become a critical part of the academic community, specifically in promoting and supporting African identity, research, and culture on campus. These roles held by Ms. Waswa, in addition to several others listed in her vita, identify that Ms. Waswa does not hesitate to seek out and contribute to important educational missions in our field. Furthermore, they highlight Ms. Waswa as a person who contributes to the betterment and promotion of those around her.

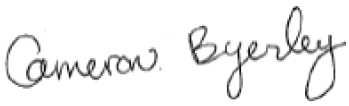
We would be remiss if we did not mention that in the face of significant adversity Ms. Waswa has demonstrated a drive to obtain the best academic preparation possible. Ms. Waswa is a first-generation student from a small Kenyan village. A university education is not an expectation or norm within that community, and yet here Ms. Waswa is graduating with a Ph.D. in Mathematics Education (while she continues to support her family living in the village). We find this important to mention in order to highlight that Ms. Waswa strives to better herself with a level of initiative that is unmatched by the vast majority of graduate students we have encountered at UGA. She continually approaches faculty about professional opportunities that are not required, but that will aid her in developing a robust and diverse educational background. In closing, Ms. Waswa is an incredibly motivated, intelligent, persistent, and hard-working student. She has been the ideal doctoral student, challenging and energizing intellectually while being reflective and quick to process and adapt to feedback. Ms. Waswa is a generative thinker who will impact countless students during her time as an educator. She is a strong collaborator and has been an asset to our teacher education programs at UGA.

With warm regards,

Jaime M. Diamond
Associate Professor
Graduate Coordinator



Kevin C. Moore
Professor



Cameron Byerley
Assistant Professor

Personal Statement

I am writing to apply for the Excellence in Teaching Award through the University of Georgia. I am a fifth-year doctoral candidate in mathematics education in the Department of Mathematics, Science, and Social Studies Education. Since 2018, I have had exceptional opportunities to work collaboratively with different instructors as their teaching assistant, to supervise student teachers, and to teach as an instructor of record. Through these experiences, I have continued to learn, practice, and commit to the intertwined nature of teaching and learning and to teaching as an art and science.

When teaching, I believe it is essential to start by creating a safe space both inside and outside the classroom where students feel that they matter and belong, where there is a community that cares about humanity, and where respect is paramount regardless of any differences that exist among the students. Creating such an environment lays the foundation and provides opportunity for me to be a teacher and a mentor to my students. Central to my teaching is Diversity, Equity, and Inclusion (DEI). I have continuously sought for opportunities to learn and incorporate DEI initiatives in the classroom. As a teaching assistant, I participated in the planning and implementation of the Cultural Awareness in Mathematics Unit Project (CAM-UP) headed by Dr. Dorothy Y. White at UGA. Often math classrooms include students from different racial, ethnic, economic, and cultural backgrounds, to mention a few. Through initiatives such as CAM-UP, we prepare elementary pre-service teachers to teach in culturally diverse classrooms by challenging them to reflect on their culture, and to think deeply about different cultures as well as the concepts of othering and belonging. Additionally, I strive to incorporate research-informed ideas in my teaching to support student learning. Among the major issues in mathematics education is the tendency to continue to support rote learning. To address this challenge, I am intentional about supporting my students' creativity in learning mathematics by, for example, using open-ended tasks, encouraging multiple student perspectives, and making connections among students' thinking. These equitable practices help to make mathematics accessible to all students and promote deeper conceptual understanding of mathematical concepts.

My contributions to teaching extend to the services that I render to my department and the university community at large. During the Spring 2022, Fall 2021, and Spring 2019 semesters, I presented on the "Kenyan Education System and Culture" for the course ETAP 2200 (*Education Around the World*), a course offered outside of my home department. This course provides a comparative and international education perspective for undergraduate students at UGA. In the Spring of 2020, I worked with a team of graduate students from Africa and founded the African Graduate Students Forum (AGSF) at UGA. I also served as an electoral officer of AGSF in the year 2021-2022. AGSF promotes awareness about African culture and identity, fosters social interactions, and aids a smooth transition for newly admitted students to the American environment. One year into its official registration, AGSF won the SOAR Outstanding New Student Organization of the Year and has continued to excel in partnership with the department of International Student Life and other student organizations at UGA.

These among my other contributions to the UGA community, such as those highlighted in my department's nomination letter, are a testament to my commitment to growth and excellence in teaching beyond the classroom. Thank you for your consideration of my application for the Excellence in Teaching Award.

Teaching Philosophy Statement

One of the fundamental philosophical questions of teaching is whether teaching can be considered to have occurred, if learning has not taken place. In this regard, teaching and learning are intertwined, bidirectional, and have a complex and reflective relationship. These ideas as well as my experiences both as a teacher and learner inform by beliefs as an educationist.

One analogy of teaching is gardening, whereby the teacher like a gardener nurtures learners in their natural environments by providing effective and efficient resources for optimal growth. Leaners' optimal growth involves the development of knowledge, skills, and attitudes necessary to thrive in diverse environments. I believe that as a teacher, it is my obligation to create a safe environment that meets the diverse needs of students. This is because students are important and are active constructors of knowledge with unlimited creativity. To harness this unlimited creativity, I use an active-learning approach by adopting instructional strategies that engage students and that help them relate content to desired learning outcomes. For example, I use group work to encourage students to share, think, reflect on, and critique their experiences. Group work promotes questioning, listening, and collaborative skills. I also encourage active participation and engagement in group projects through project-based learning. Project-based learning has potential to enhance students' creativity, promotes ownership of learning, and fosters development of diverse skill sets. Moreover, it provides opportunities for learners to personalize their projects by relating them to their real-life experiences. To facilitate project-based learning, I encourage the use of technology and manipulatives that provide my students with an opportunity to explore, see, and interact with mathematical concepts. Of note, is the importance of the gardener role of the teacher in promoting problem posing and problem solving for utility beyond the classroom, in dynamic environments with changing needs.

Dynamic environments like these necessitate the consideration of competing individual needs and demands of students. To meet these individual needs, I consider different learning paces and a range of understandings and experiences. I adopt and develop tasks that can be solved using different approaches and challenge my students to think of different ways of solving those tasks. My current work with pre-service teachers has helped me develop multiple approaches to teaching students at various levels. For example, I have learnt to differentiate instruction and assign projects with a given content focus, based on individual needs. I also encourage pre-service teachers to reflect on how their generated ideas can potentially address the varying needs of students that encourage a culture of self-reflection and in-depth understanding. In addition, my work with the Disability Resource Center at two different institutions provided me with experience of working with students having special needs. Classroom accommodation strategies I used include advance preparation and dispatch of materials, extra time allocation to tasks and use of non-discrimination policies. The non-discrimination polices are based on neutrality to race, gender, identity, origin, among other issues. Importantly, I perpetually maintain a classroom environment with a sense of respect to humanity.

To continue to develop as an educationist, I participate in peer teaching, workshops, webinars, and conferences to evolve my teaching. It is therefore my strong conviction that teaching is both an art and a science. To be a successful gardener one requires a combination of necessary tools, vital skillsets, a balanced mindset, and a culturally responsive approach. It is my goal to

continually prepare for the intertwined nature of teaching and learning and uphold an attitude and aptitude of a successful teacher.

Description of Courses Taught

Course: EMAT 4860: Connections in Secondary Mathematics II
Role: Instructor of Record
Semester Taught: Fall 2022
Course Description: This is a math content course required for all secondary pre-service teachers (PSTs). In this course PSTs explore secondary mathematics topics related to number and measurement with an explicit focus on reasoning that connects critical topics of secondary mathematics to one another and to problem situations.
Responsibilities: I designed the syllabus, content, activities, and assessment of students' learning (formative and summative). This class emphasizes PSTs' development of deeper conceptual understanding of mathematical concepts to enhance their mathematical knowledge for teaching. I organized and facilitated PSTs' working in groups using different kinds of manipulatives and exploring mathematical concepts using multiple perspectives. PSTs also discussed, shared, and presented their ideas to their classmates in class.

Course: EMAT 3410: Mathematics Teaching and Curriculum in Grades PreK-5
Role: Instructor of Record
Semesters Taught: Fall 2021, Spring 2021, Fall 2020
Course Description: This is a second method course required for all elementary pre-service teachers in mathematics education. The course integrates content and materials appropriate for preK through 5th grade mathematics curriculum with an analysis of mathematics teaching, including the use of technology.
Responsibilities: I designed the syllabus, content, activities, and assessment of PSTs' learning (formative and summative) in collaboration with Dr. Diamond, who was teaching a different section of the same course. I also prepared major assignments focusing on critique of lesson plans, designing a unit, task differentiation, and assessing student work along other pedagogical approaches to prepare elementary PSTs to take on a holistic approach to teaching mathematics. I also held regular office hours and maintained correspondence with my students through email.

Course: EMAT 3410: Mathematics Teaching and Curriculum in Grades PreK-5
Role: Graduate Teaching Assistant
Semesters Taught: Spring 2021, Spring 2019, Fall 2018
Course Description: See the description in the Instructor of Record section above.
Responsibilities: I maintained an attendance record for the class and attended weekly planning meetings with the instructors of record in preparation for the lessons. I also participated in designing and grading weekly assignments, major group projects and providing feedback on PSTs' work. On occasions when the instructor of record had an emergency, I stepped in and taught lessons that we had planned for that day.

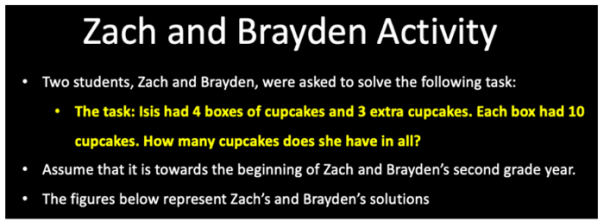
Course: EMAT 4900/4900L: Teaching Secondary School Mathematics III
Role: Graduate Teaching Assistant
Semester Taught: Spring 2020

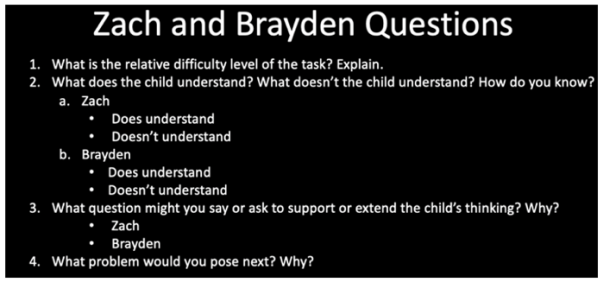
Course Description: This is a third method course for pre-service secondary teachers. It includes planning lessons and units, facilitating discourse, and applying theories of learning and teaching. PSTs explore how to create plans for student learning, use culturally appropriate pedagogies, negotiate classroom norms, use instructional technology appropriately, and apply their learning in an accompanying field experience.
Responsibilities: I met with the instructor of record to talk about the weekly plan depending on our schedule. I participated in classroom discussions, graded assignments, and provided feedback on PSTs' lesson plans and other assignments.

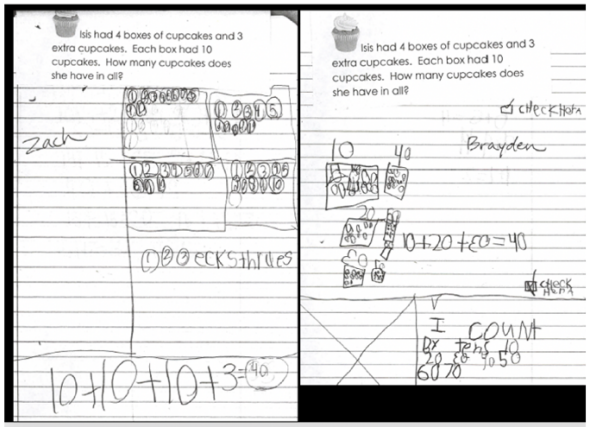
Course: EMAT 3400: Children's Mathematical Learning
Role: Graduate Teaching Assistant
Semesters Taught: Fall 2019 (two sections), Spring 2019
Course Description: This is a first method course required for all elementary pre-service teachers. It also consists of a field experience at an elementary school one day per week for eight weeks.
Responsibilities: I maintained an attendance record for the class and attended weekly planning meetings with the instructor of record in preparation for the lessons. I worked together with the instructors of record and PSTs to prepare materials (e.g., manipulatives, and activities) for use during their field experience. I accompanied the instructor of record and PSTs to local schools, observed our PSTs' work with students that they had been paired with and provided feedback on their implementations. I also participated in designing and grading weekly assignments, major group projects, and providing feedback on PSTs' work in collaboration with the instructors of record.

Sample Teaching Materials

Supporting Students' Quantitative Reasoning (EMAT 3410)
Understanding and supporting students' quantitative reasoning and representations (e.g., symbolic, visual, text, etc.) is important to foster their development of foundational mathematical concepts. This activity (see screenshots below) started by having elementary PSTs reflect and explain the relative difficulty of a task, (i.e., The Cupcake Problem) under given assumptions.

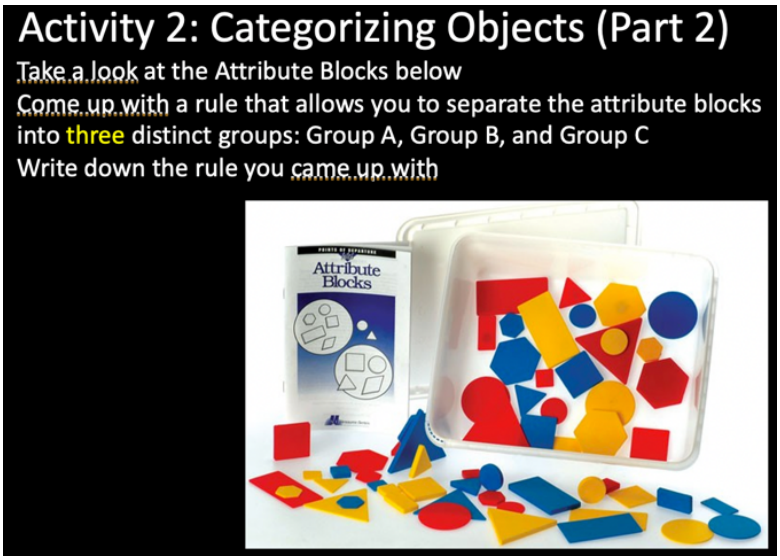






PSTs were asked to analyze two students' (Zach and Brayden) work, make evidence-based claims about the nature of students' understandings, and think about the kinds of questions that they might ask the students to further understand, support, or extend the students' thinking. It is important that PSTs get experiences of what they might encounter in the real classrooms. This activity is a hypothetical example geared towards giving PSTs such an experience. Additionally, mathematics teaching also entails extending student thinking to encourage the development of more sophisticated ways of thinking. By having PSTs reflect on questions to pose and why they would do so, this activity challenges PSTs to build curiosity in their students' thinking and meet their intellectual needs.

Fostering Creativity in Learning about Attributes of Shapes (EMAT 3410)



Creativity is among the most relevant skills in and out of school and such is mathematical creativity in learning mathematics. To the right is an activity in which elementary PSTs explored defining and non-defining attributes of geometrical shapes. The open-ended nature of this task provides an opportunity for multiple ways to come up with rules that allows PSTs to categorize the attribute blocks into three distinct groups. Using multiple approaches to develop the rule aligns with the flexibility aspect of creativity, in which students shift their thinking and consider other ways of making sense of concepts. For example, shifting their choices of strategies and why those strategies make sense.

Sample of Student Work

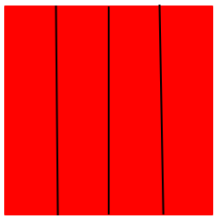
Supporting Geometrical Understanding by Promoting Flexible Thinking

Among the key topics introduced in the early stages of learning mathematics is geometry. I created the task below to support PSTs' flexible thinking and creativity in conceiving geometrical attributes. Flexible thinking exposes PSTs to new ways of thinking that they may not have considered before. It also prepares them to teach and make sense of different student ideas in their future classrooms. An important concept in task is using geometrical arguments to describe why the area covered by a square may can be equal to the area covered by a triangle regardless of the differences in the appearance of the shapes. This observation does not occur naturally to elementary school students. It is therefore imperative to support PSTs to make such connections and to prepare them for what they might encounter in the classrooms.

Task: Describe how you would divide the square on the right into four equal parts in at least three different ways.

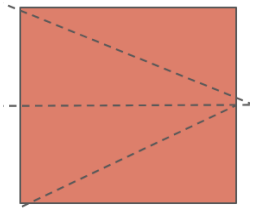
Sample Student Responses

- Way 1: The first way that I would partition this square into 4 equal parts would be by using 3 vertical lines. The first vertical line would separate the square into halves. The other 2 vertical lines would then separate each of the halves into half as well, causing the whole square to be divided into fourths. This leaves 4 equal partitions of the whole square.

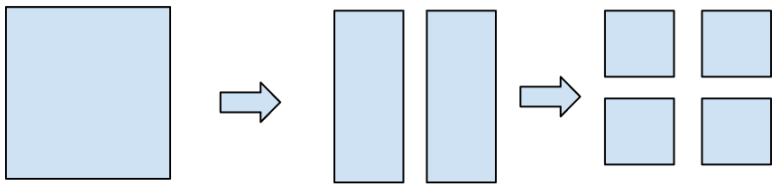


- Way 2: This square could be cut diagonally from the top left corner to the bottom right corner and from the top right corner to the bottom left corner. This would create 4 equal triangles.

- Way 3: The square can be split in half with a horizontal line in the middle. Then the 2 rectangles can be split diagonally to make triangles. Total there will be 4 triangles



- Way 4: I would fold the top half onto the bottom half first to split the square in half. Then, I would fold the top half onto the bottom half again. After unfolding the paper, I would have 4 equally sized rectangles.



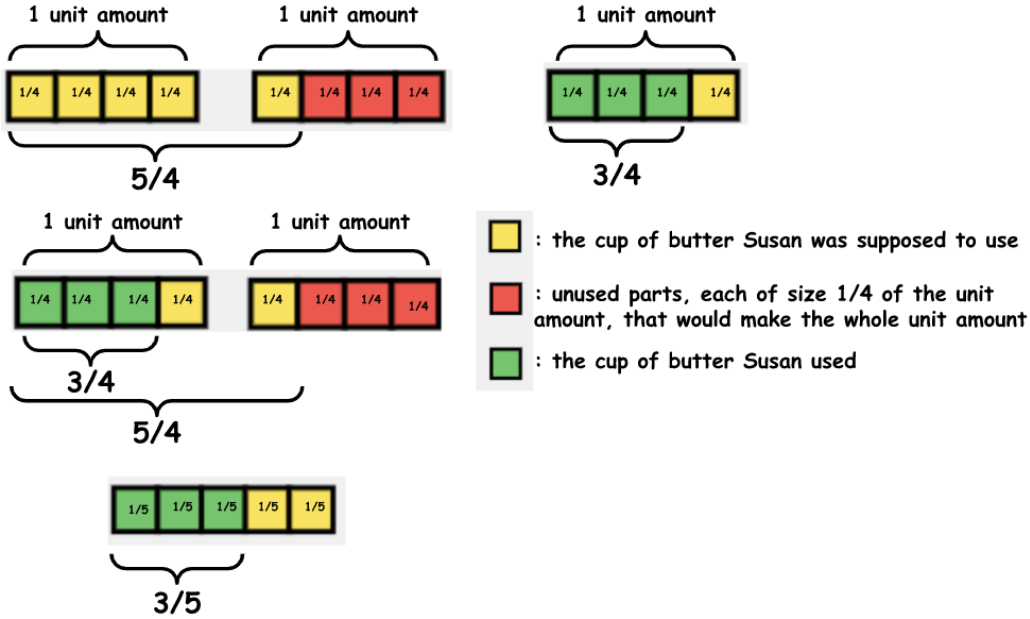
Promoting Fractional Understanding and Use of Virtual Manipulatives (EMAT 4860)
I present the solution to a homework problem from a content focused course that PSTs worked on. The important concepts that this task includes are consideration of what the unit is when describing fractions, attention to what a particular fraction is of (e.g., one fourth of a cup is different from one fourth of a gallon), and using mathematical drawings to solve fractional problems.

Task: Susan was supposed to use $\frac{5}{4}$ of a cup of butter in her recipe, but she only used $\frac{3}{4}$ of a cup of butter.

a) What fraction of butter that she should have used did Susan actually use? Make a math drawing to help you solve this problem and explain your solution. Use our definition of fraction in your explanation and attend to the unit amount that each fraction is *of*.
b) Describe the different unit amounts that occur in part (a). Discuss how one amount can be described with two different fractions depending on what the unit amount is taken to be.

Sample Student Response and Mathematical Drawing

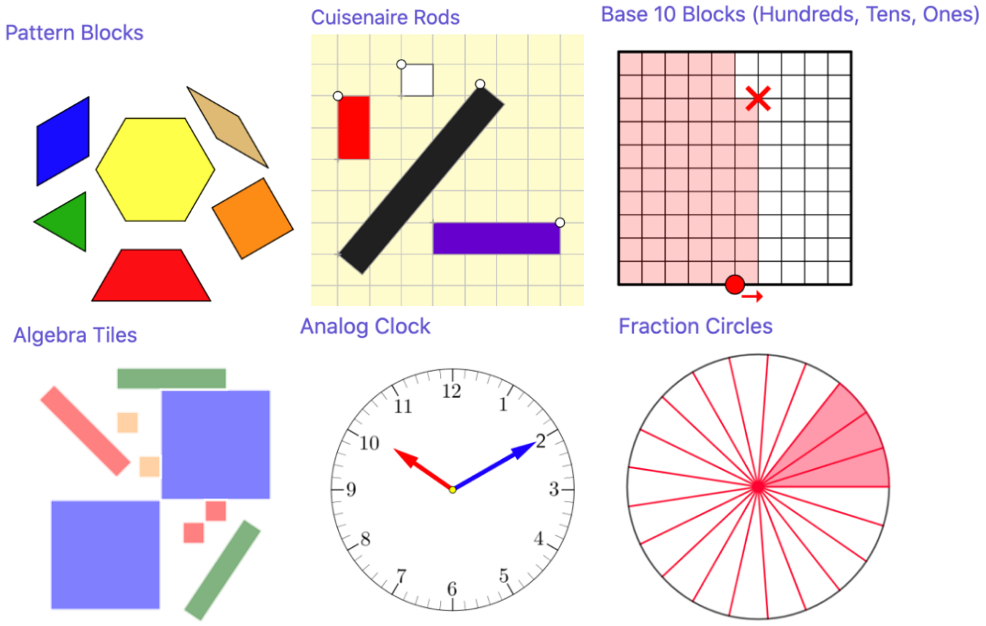
Susan actually used $\frac{3}{5}$ of the butter that she should have used which is shown below in my math drawing. I was able to find this solution because I first examined the $\frac{5}{4}$ of the cup of butter Susan was supposed to use in her recipe. I realized that because there was an amount in 5 parts, each of size $\frac{1}{4}$ of the unit amount, that there would be more than one whole unit amount represented. Second, I examined the $\frac{3}{4}$ of the cup of butter Susan used. I realized that because there was an amount in 3 parts, each of size $\frac{1}{4}$ of the unit amount, that there would be less than one whole unit amount represented. Next, I noticed that in both fractions, $\frac{5}{4}$ and $\frac{3}{4}$, there was a common denominator which meant 4 parts, each of size $\frac{1}{4}$ of the unit amount, would make the whole unit amount. Thus, I decided to look at both fractions in the same situation. I examined $\frac{3}{4}$ of the unit of $\frac{5}{4}$ of two whole units. When looking at the $\frac{3}{4}$ of the cup of butter Susan used as well as the $\frac{5}{4}$ of the cup of butter Susan was supposed to use, I was able to see that Susan used 3 parts out of 5 that she should have used. Therefore, I realized that Susan actually used $\frac{3}{5}$ of the amount of butter that she should have used, meaning she used the amount in 3 parts, each of size $\frac{1}{5}$ of the unit amount.



Explanation of Innovative Teaching Projects and Roles

Use of Virtual Mathematics Manipulatives

An important element to supporting student learning of mathematics, more so in the PreK-5 level is the use of manipulatives. One of the changes that resulted from effects of CVOVID-19 was a shift to online instruction. One implication of this switch was that PSTs no longer had access to physical manipulatives for hands-on activities during lessons. As an alternative, I sought and provided links to virtual manipulatives in order to not only maintain learning while interacting with manipulatives, but also expose PSTs to available online resources that they can use in their future mathematics classrooms. This was also a way to continue with the integration and use of technology to support student learning of mathematics. Sample virtual materials are shown below.



The Learning by Reflecting Project

As an educator who views student as active constructors of knowledge one approach that I use to support student learning is by using reflective activities. Reflection does not only encourage knowledge acquisition but also the reorganization of the knowledge that one has. In addition to addition of new

Final Reflection Video

The goal of this assignment is for you to reflect upon your mathematics experiences and how this course has influenced the way you view yourself as a future mathematics teacher. Your reflection must reference at least five readings, activities, and/or discussions from class and answer the following questions:

1. How have you grown/developed during the semester (e.g., your mathematical understanding and confidence)?
2. How has your vision of mathematics teaching changed as a result of this course? What do you think contributed to that change (e.g., a specific reading, activity, or discussion (if so, which one?), something else)?
3. How will you honor students' various ways of reasoning in your future classroom?
4. What are some practices that will be usual in your classroom?
5. How do you plan to implement those practices?

Your reflection must be submitted as a 3-5 minute video. Final reflections are due on or before Friday, December 11th at 11:59pm.

skills and concepts, the reorganization of knowledge is part and parcel of learning This reorganization of knowledge is critical to learning (Carpenter & Lehrer, 1999). While teaching a math methods course for elementary PSTs, my mentor and I chose to give students a final project centered on their reflection of what they had learned throughout the semester (see questions in the figure to the right above). The uniqueness of this project is that it encourages students to take a holistic approach in thinking about what they have learned throughout the semester and how their generated knowledge will be useful in the future.

Professional Activities Related to Teaching at UGA

Presentations and Invited Talks

- Spring 2022, Fall 2021, Spring 2019
  - Presented on the "Kenyan Education System and Culture" for the course ETAP 2200 (Education Around the World). ETAP 2200 is offered to provide a comparative and international education or global education perspective for undergraduate students at UGA.
- Fall 2018 Panelist in a discussion for a seminar course FYOS 1001 at UGA that focused on Finding Success in a Globalized Workplace.

Departmental and University Community Service

- Summer 2022 Volunteer in the Mandela Washington Young African Leaders Initiative (YALI) program at UGA.
- 2021-2022 Electoral Officer, African Graduate Students Forum at UGA.
- 2020-2021 Treasurer, Mathematics Education Student Association at UGA.
- 2020-2021 Associate Editor, The Mathematics Educator, Volume 29, UGA.
- 2019-2020 Treasurer, Mathematics Education Student Association at UGA.
- Spring 2020 Founder Member, African Graduate Students Forum at UGA.
- Summer 2019 Volunteer in the Mandela Washington Young African Leaders Initiative (YALI) program at UGA.

CTL National Speaker Series and Workshops

- Spring 2022: Relationship-Rich Education: How Human Connections Contribute to Student Success
- Spring 2022: Stepping Away from the Spotlight: Becoming a Student-Centered Instructor
- Spring 2021: CTL GradTeach Workshop: Teaching Philosophy Statements

Awards and Honors

- Spring 2022 Outstanding Teaching Assistant Award
- Spring 2022 James W. Wilson Endowment for Mathematics Education Award

Teaching-Related Professional Development and Training Experiences

Professional Development

- Summer 2021 and Spring 2020
    - Session Leader and Facilitator in professional development on generalizations in mathematics classrooms with middle and secondary practicing teachers from local schools. This was through the Generalizations Across Multiple Mathematical Areas- Classroom and Teaching (GAMMA-CAT) project.

Student Teacher Supervision

- Spring 2019 Took the student teacher supervision seminar (EMAT 8990).
- Fall 2019 Supervised secondary mathematics student teachers in a local school.

Professional Educational Membership and Attended Conferences

- National Council of Teachers of Mathematics (NCTM)
- The North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA Conference, 2022).
- International Group for Mathematical Creativity and Giftedness (CMG Conference, 2022).
- Research on Undergraduate Mathematics Education (RUME Conference, 2022 and 2020).
- Research Council on Mathematics Learning (RCML Conference, 2020)
- Association of Mathematics Teacher Education (AMTE Conference, 2017)

Evaluation of Teaching

Select Qualitative Feedback from Course Evaluations

"I thought this class went very well especially since it was fully online. I really enjoyed learning math and I appreciate having a professor that understands students learn differently, we experience math differently, and taught us how we can adapt to our students when we are teachers. My professor was a great example of how teachers should treat their students and their learning."

"I loved how this class relied heavily on group work and allowed us to build community while learning together."

"Anne did a great job instructing this class given the online format. While it was difficult to learn online at times, she was always open and available to answer questions and clear up confusion!"

"Thank you, Anne, for being so flexible with us and for being so helpful! I feel like I got to know you even though it was through a screen!"

"I think my professor did a great job and was very understanding during this time. She provided us with extra assistance and time if we needed it and organized this class well. I never felt overwhelmed with assignments. It was the perfect amount!"

Qualitative Peer Evaluation from a Teaching Assistant

"Anne is an excellent instructor and role model for our future teachers. She established a good rapport with her students and was concerned about their well-fare during difficult times from COVID. She consistently checked in on her students and provided support when needed. I really enjoyed that she started each class with an inspirational quote from leaders and educators around the world to motivate and inspire her students. Anne's calm, friendly, and engaging style helped her students participate class activities with ease. She did an outstanding job of engaging students in her well-organized class with the questions and activities that made her students to think deeper about the subject matter. The format of her instruction was very helpful to the students. She regularly provided opportunities for students to work in groups and made sure to show up in groups offering help if needed and/or extending the work for groups who finish early. I was very impressed with her ability to prepare and organize the materials (e.g., slides, handouts, worksheets, etc.) precisely and clearly in advance on eLC and Google Classroom. Anne was able to accomplish all of these with great initiative and with a positive attitude despite COVID restrictions and challenges".

Select Quantitative Feedback from Course Evaluations

Prompt	**EMAT 3410**
The course was effectively organized	4.80
Assignments and activities were clearly related to course goals.	4.70
The instructor was knowledgeable and well-prepared.	4.80
Assignments and activities were useful for helping me learn.	4.50
New skills and/or concepts were presented in ways I could understand.	4.50
The instructor was open to students' questions and comments.	4.90
The instructor provided useful feedback on student work.	4.90
Course work was evaluated according to clear expectations.	4.90
This course challenged me to think and learn.	5.00

Reference

Carpenter, T. P., & Lehrer, R. (1999). Teaching and learning mathematics with understanding. *Mathematics classrooms that promote understanding*, 19-32.