

# Journal of Mathematics Teacher Education in Texas

Online Journal of the Association of Mathematics Teacher Educators in Texas

**Mentor Teacher, University Faculty,  
and Preservice Teachers: Partners in  
Lesson Study**

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**Learning Together: Relocating  
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## President's Message Sarah Smitherman Pratt

The ocean ebbs and flows; so do our lives and our communities. Simultaneously, we mourn and celebrate. Recently, our mathematics education community lost two impactful scholars, Dr. Jerry Becker and Dr. James Heddens. We also welcome to our community new scholars with vitality and energy to inspire and invigorate our field. As I hooded several graduates during spring commencement, I could not help but smile with a renewed sense of excitement for what their perspectives bring to our field. These feelings of sorrow and joy both occur as we continue on, ebbing and flowing through life.



I have this hope: We will build a better world in our actions and in our words. I have this belief: We can make the world a better place for the future generations. I have this joy: We are better because of the diversity of thoughts and the engagement in conversations.

As we look to our summer and fall, I hope you will take some time to pause and reflect on how your communities are ebbing and flowing. Consider how you can bring your whole self, all of who you are, into the spaces where others benefit from your authenticity and perspective. Together, we can encourage one another toward being kind, being good, being the best versions of ourselves. And to quote

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the great Maya Angelou:



With this in mind, I invite you to engage in the different conversations being offered in this issue. We bring many voices forward and welcome you to think and consider these varying ideas. From the group discussing lesson study in partnership, to the learning together study, to the activity that connects art and mathematics, to the message from the editors, this issue abounds with points of intersection that offer rich and divergent perspectives. May you read them and see the beauty in it all.

I am looking forward to seeing you all in Corpus Christi in September. Important to note, the AMTE-TX Board announced that the AMTE-TX Annual Business Meeting is now being held on September 17 during our 2022 Fall Conference. Also, proposals are currently being accepted for the 2022 Fall Conference. All details and proposal information can be found on this [document](#).

Keep sharing what you are doing to make a difference. Feel free to call out @AmteTX and tweet your thoughts! Follow on [Facebook](#) and [Twitter](#) to view what your colleagues have to say. Let's find ways to continue spreading joy and hope. I look forward to connecting with you soon!



Aerial view of Texas A&M University – Corpus Christi. By Simiprof at English Wikipedia - Transferred from en.wikipedia to Commons., Public Domain, <https://commons.wikimedia.org/w/index.php?curid=33344747>

# A Message from the Editors

Dear JMTET Readers,

Because this is my last issue as Editor of the Journal of Mathematics Teacher Education in Texas, I had planned to use this opportunity to write extensively about the people who have supported me during my three-year term on the editorial team, and offer some thoughts about the future of the journal. For reasons I'll share in just a moment, that plan has been altered. But I would be remiss if I did not thank a few people: Ryann Shelton and Mark Montgomery, from whom I inherited a mathematics teacher education (MTE) journal with a lot of promise and a great cadre of reviewers and authors; Eloise Kuehnert, who was my Co-Editor for the first few months and helped me build a framework for the management of the journal; Yasemin Gunpinar, who served with me as Co-Editor for two years and was often the number one influence in keeping our editorial process sensible and on track; Michael Warren, who as Webmaster was always ready to get our content on the web at whatever unpredictable time we finished putting things together; and Jen Chauvot, who as Vice President for Publications was always there for me with good advice and served as a faithful liaison between our editorial team and the AMTE-TX community and leadership. I also want to thank all



of the Texas mathematics teacher educators (and their colleagues from across the country) who made my work enjoyable and meaningful by contributing great content, providing reviews that helped authors clarify their work, and simply reading and enjoying the journal.

I am excited about the future of JMTET because I am leaving it in the hands of a wonderfully capable new editorial team: Emma Bullock, who has been our Associate Editor for the last few months and will now succeed me as Editor; Matt Switzer, who has been our Copy Editor for several years and will now serve as Associate Editor; and Rebecca Dibbs, who will be our new Copy Editor. These three have taken a leading role in rethinking our editorial processes so that they are transparent, durable, and can seamlessly transfer from one team to the next. Our new Vice President for Publications, Winifred Mallam, has some great ideas for the future of the journal, and I know that she will be a terrific advisor for the editorial team.

My thoughts about the future of the journal have been displaced by the May 24 school shooting in Uvalde, Texas, which killed 19 elementary school children and two teachers - the 16th mass shooting in the U.S. since the Buffalo shooting just ten days earlier (according to the Gun Violence Archive), and the 27th school shooting in the U.S. in 2022 (according to NPR). I want to sidestep specific issues of school security and gun regulation, which are relevant but will be covered extensively by our local and national news media, and instead think out loud (in digital print) about civic courage in an age of division and the civic responsibilities of mathematics teacher educators. These thoughts are my own; I make no representation that they reflect the position of any organization. Because I have seen professional organizations run editorials that marginalize parts of their membership and know that a "these are my own opinions" disclaimer does not absolve me or AMTE-TX of responsibility, I will aim for modesty in my remarks and try to do no harm.  
(continued on page 14)

# Mentor Teacher, University Faculty, and Preservice Teachers: Partners in Lesson Study

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## Introduction

Lesson study is a process during which teachers prepare, deliver, and examine a particular lesson to improve that lesson. Lesson study is one opportunity for teachers to collaborate in lesson design and purposeful reflection (Lewis, 2002; National Council of Teachers of Mathematics, 2014). More specifically, it is a professional inquiry approach practiced by inservice and preservice teachers (PSTs), university faculty, and instructional leaders to impact educators' content knowledge, instructional strategies, and PK–12 student learning (Lewis et al., 2019). Further, lesson study can be used to improve mathematics teaching and learning (Fernandez & Yoshida, 2004; Takahashi, 2015) and can support reflective thinking in mathematics PSTs (Myers, 2013) while bridging the gap between university courses and fieldwork. As part of a larger study to determine the impact of lesson study on mathematics PSTs enrolled in a university teacher preparation program, three middle and two secondary teacher candidates engaged in a lesson study cycle as part of their clinical experiences. The research team observed the support one mentor teacher provided to the PSTs engaged in lesson study. We, the research team and mentor teacher, collaboratively wrote this article to describe the nature of that support.

## Description of the Lesson Study

The participating PSTs were placed in local schools Monday through Thursday for their clinical experiences and returned to the university on Fridays to participate in seminars led by university faculty. During seminar, three university faculty introduced the PSTs to a modified lesson study cycle by utilizing an adapted version of Lewis's (2002) Developing a Research Theme Protocol to develop their research theme and lesson design. The PSTs were aware of the full lesson study cycle, but due to time constraints would only experience the planning, observing, and reflecting stages and not the revising and reimplementing stages. After the research theme was developed, the PSTs selected an 8th-grade algebra class from one of the schools where the middle PSTs were assigned. Once the targeted class was identified, the five PSTs spent three additional seminars designing their research lesson. After the lesson was designed, one PST volunteered to teach the lesson while the other candidates volunteered to serve as observers. The PST who volunteered to teach was not the PST who was regularly assigned to the mentor teacher's classroom and volunteered to teach the lesson to gain experience in a new grade band. Observers of the lesson consisted of four PSTs, three university faculty, and one mentor teacher. Two of the university faculty observed on a video platform, while the others observed the lesson in person.

The following sections provide reflections from the mentor teacher about her role in the lesson study, suggestions for other classroom teachers who might welcome PSTs conducting lesson study into their classrooms, and reflections from the university faculty who supported this process. The researchers see the mentor teacher as not only a "knowledgeable other," an individual who has expertise related to the content and its teaching and who was not involved in the planning of the research lesson (Lewis et al., 2019), but also as a teacher educator supporting future teachers.

## Reflections from the Mentor Teacher

The role of the mentor teacher in the lesson study was to provide a class for the PSTs to implement the research lesson they designed and to serve as an observer. Due to the partnership between the university and the middle school, the mentor teacher for the targeted 8th-grade algebra class and one of the participating university faculty had an established relationship, which made it easy to discuss the lesson study process and implementation plans.

Before implementing the research lesson, the PSTs shared with the mentor teacher the developed research theme, for students to gain independent thinking skills and motivation to become effective problem solvers and more driven individuals, and their instructional plan to have students write quadratic equations in vertex form when given the vertex and one point based on a simulation of shooting a basketball. A university faculty verified that the mentor teacher knew what was planned and was comfortable with the research lesson. The mentor teacher indicated that her students typically engaged in inquiry-based lessons and mathematical discourse, similar to the approaches selected by the PSTs for the research lesson, and the mentor teacher was supportive of the lesson. The mentor teacher met with the PSTs the day before they were going to implement the research lesson to discuss each instructional step. She asked the PSTs guiding questions that prompted them to make some modifications to their lesson, and she explained that this helped them visualize the details without taking over the PSTs' lesson. Further, she described it as "exciting to see [the PSTs] implement those few minor changes in the lesson the next morning."

During the lesson study, taking the role of a silent observer was the "most difficult and most rewarding part of the whole experience" for the mentor teacher, which she shared in a debrief with the PSTs and the university faculty after the research lesson was completed. The mentor teacher acknowledged that it was challenging not to communicate with her students or participate in the questioning and class discussion, which is important in the lesson study process for observers; there was much she wanted to say and do while listening. She explained that the most rewarding part of this experience was "being able to listen to just one group of kids and really listen to their mathematical thinking from the beginning to the end of the lesson rather than listening to just pieces of their conversation." During the debrief, the mentor teacher had the opportunity to hear what each group of students was doing, thinking, and saying throughout the lesson. She shared, "I wished I had that many eyes and ears in my classroom every day."

After the lesson study, the mentor teacher explained that although she had 19 years of teaching experience, this was the first time she had the opportunity to work with a group of PSTs who were engaged in a modified lesson study cycle. She reflected that it was "such a fun experience," and she would have felt comfortable discussing any concerns if she had not been agreeable to the research lesson because of the relationship built with the university faculty. The mentor teacher also suggested that teachers who participate in a lesson study should meet with the PSTs at least twice before the day of the lesson in order to allow PSTs to be familiar with the technology available, the setup of the classroom, and ask any questions they may have earlier in the planning process. Upon reflection, the mentor teacher also highlighted the power of attending the debriefing session after the lesson to learn more about her students' thinking from the perspective of the other observers.

## Reflections from the University Faculty

Lesson study provides the opportunity to collaborate in three critical areas: planning, observing, and reflecting. The university faculty engaging in this lesson study highlighted the

opportunity for the PSTs to collaborate in depth with their peers on a particular lesson, an opportunity they do not often experience in their internship. As pointed out by the mentor teacher, the opportunity to observe a specific group of PK–12 students throughout a lesson is a rare gift, one that allows PSTs to gain great insight into students’ mathematical understanding. Similarly, this is a unique experience for university faculty, as they simultaneously observe the lesson with the PSTs, gaining insight about what the PSTs highlighted in their observations. The university faculty, like the mentor teacher and PSTs, highlighted the power of reflecting on PK–12 students’ responses throughout the research lesson and discussing what instructional changes could be made to enhance student understanding. This lesson study experience, particularly the partnership built among the mentor teacher, university faculty, and PSTs, provided a rich context for all participants to discuss potential instructional changes to improve student understanding—the essence of professional practice.

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## Upcoming Conferences

July 13–15, 2022	CAMT Conference	San Antonio, TX
September 16-17, 2022	AMTE-TX Conference	Corpus Christi, TX
September 26–28, 2022	NCSM Annual Conference	Anaheim, CA
Sep 28 – Oct 1, 2022	NCTM Annual Meeting	Los Angeles, CA
October 27-29, 2022	SSMA Annual Meeting	Missoula, MT
November 17–20, 2022	44 <sup>th</sup> PME-NA Conference	Nashville, TN
February 15-17, 2023	46 <sup>th</sup> SERA Annual Meeting	San Antonio, TX

Upcoming

# Learning Together: Relocating Mathematics Teacher Educators' Knowledge Sources

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## Introduction

Despite recognizing that there are multiple pathways for mathematics teacher educators (MTEs) to develop knowledge, previous studies frequently locate this development outside K–12 classrooms in university-based courses, workshops, research, and peer tutoring (Smith, 2003). Here I explore an alternative knowledge source that challenges this separation between K–12 classrooms and MTEs' work. I focus on a participatory collaboration that allowed an MTE and a teacher to co-learn and honor their complementary ways of knowing.

## Theoretical Framework

I draw on theorizations that challenge asymmetries in participants' epistemic authority—the perception that a person's claims are valid and trustworthy, and therefore, unquestioningly elevated to the category of knowledge (Zagzebski, 2015). In asymmetric interactions, some participants are knowledge generators and others are knowledge receivers. In educational contexts, teacher educators tend to hold epistemic authority over teachers (Kinser-Traut & Turner, 2020). Alternatively, the concept of co-learning in mathematics education acknowledges participants' unique contributions as complementary (Jaworski, 2003; Wagner, 1997). As Wagner (1997) stated, “By working together, each might learn something about the world of the other. Of equal importance, however, each may learn something more about his or her own world and its connections to institutions and schooling” (p. 16). Rather than limiting one way of knowing to a particular space (i.e., classrooms or universities), meaningful knowledge that is relevant to different participants emerges in the interaction among these ways of knowing.

## The Research Study

This article is part of a larger study on inequitable student participation. Following a participatory research methodology, a third-grade teacher and I collaborated for three years to transform the classroom culture toward including multiple ways of participating. First, we explored children's perspectives on their own participation in mathematics class. Building on this exploration, we co-planned responsive lessons and teaching strategies that enhanced children's participation (for a detailed description, see Martínez Hinstroza, 2022).

## Participants

The teacher was a U.S.-born Latina who was in her third year of teaching at the beginning of the study. She valued inquiry-based mathematics teaching and collaboration with more experienced teachers who could offer guidance. I, a Latino immigrant, was the researcher and MTE. Far from approaching this study as a bearer of knowledge, I had dual roles as a researcher, documenting the transformation of the classroom culture, and as an MTE learning how to support the teacher in provoking this transformation. My regular visits to the classroom, co-planning and co-teaching mathematics lessons, contributed to this dual role.

## Data Sources

I focus on data from two stages of the collaboration: the initiation stage where the teacher and I began to establish the focus of our collaboration, and the lesson co-planning stage where the teacher prepared to transform her practice. I drew on analytic field notes that documented the teacher's requests for me to indicate courses of action for her teaching, and my ways of responding. I also drew on transcripts of two one-hour interviews, one during the initiation stage and one at the end of the lesson co-planning stage, where we discussed student participation.

## Data Analysis

I identified instances of knowledge requests in the data. I analyzed who requested knowledge, who offered insights, and whose insights were taken up. Through repeated reading, I looked for emerging patterns, characterizing mechanisms that the teacher and I used in response to a request for knowledge.

## Findings

During our collaboration, shared epistemic authority emerged that supported co-learning. Not surprisingly, while initially the teacher tended to ask me what to do, over time I learned how to support her in gradually taking the role of author of ideas about her teaching. The following example illustrates initial explicit requests for knowledge that I readily provided:

Teacher: What would be the best number talk to begin this unit [on adding three-digit numbers]?

MTE: I'd be curious to see what the children already know. Let me think of something and I can send it to you before class to see what you think.

Eventually, three strategies emerged that helped me help the teacher tap into her own expertise: centering the teacher's knowledge about her students, bringing her teaching repertoire to awareness, and connecting students' unexpected mathematical ideas with this repertoire. The following interaction illustrates these strategies (all names are pseudonyms):

Teacher: So, I've been thinking about what we could do so that the [teaching unit on volume] doesn't get boring and about memorization.

MTE: Carl has been talking about perimeter, with his ideas about circles [not having a perimeter]. Maybe there's something there.

Teacher: Maybe I can give them the boxes and ask them to see if boxes have perimeter, if that's something that exists.

MTE: Like what you did with the 3D shapes and asking them to compare those?

Teacher: Yes, like asking them to think about whether we can use the perimeter of the boxes to compare which box is bigger... We could talk about why it made sense to stretch the 2D shapes... And see what to do with the 3D shapes.

In this interaction, rather than asking me for predetermined best teaching practices, the

teacher shared a teaching conundrum with which we grappled together. Instead of telling her what to do, I centered the teacher's knowledge of students by bringing up children's mathematical ideas the teacher had elicited. I brought to awareness a strategy from her teacher repertoire, eliciting comparisons of three-dimensional shapes, connecting it to unexpected ideas about circles not having perimeter and stretching a shape to find its perimeter. Finally, toward the end of the lesson co-planning stage, bids and requests for knowledge were less frequently directed to each other:

Teacher: There has to be a way to talk about symmetry but like a broader meaning. Connecting symmetry with this idea of immigration, and equations, and then geometry.

MTE: Mmm. Like showing examples of symmetry in all these things and see what words or what gestures they use?

Teacher: I wonder if it'd make more sense to give them a definition of symmetry, because we know Juan will read it from the book before class! We could start there and then show the examples. Now I'm curious, maybe we can split the class in two and try both things.

This interaction illustrates how the increasing sophistication of questions that came up made us recognize that neither one of us alone would have a readily available answer. Responses to these questions frequently involved impromptu plans to examine conjectures.

### **Discussion and Implications**

This study showed a non-authoritarian way for teachers and MTEs to co-learn. Rather than coming from university-based settings, the strategies to help the teacher tap into her own expertise were located in the classroom-based collaboration. An implication of this study is that it is possible for MTEs to further their knowledge in ways that are responsive to specific contexts and that value teachers' knowledge. More research will be necessary to continue characterizing co-learning that disrupts hierarchical views of epistemic authority, enhancing the relevance of MTE's work for teachers.

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## Mondrian Rectangles: A Rich Review Activity

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Combining mathematics learning with visual art activities can have several benefits for students. For instance, students report less math anxiety when art-infused math activities are used in the classroom (Sharp & Tiegs, 2018). Such activities, when integrated across the elementary and middle school curriculum, can help motivate interest in mathematics learning for all students, particularly in the areas of geometry and measurement (Marshall, 2019). Art-infused mathematics activities may also be a way for elementary teachers to introduce more student-centered lessons in their practice (Schoevers et al., 2020).

We chose to put these principles into action by using an art-infused review project in a mathematics for pre-service elementary teachers course. This activity used two of the mathematical teaching practices set out by the NCTM's (2014) Principles to Actions and the ideas presented in Dreher (2021) in that the activity involves pre-service teacher reasoning and problem solving as well as designing multiple mathematical representations are used to analyze the art after it is created.

Our activity was based on the work of Piet Mondrian. Piet Mondrian (1872-1944) was a Dutch painter that was known for his abstract paintings. Mondrian is best known for his abstract work with rectangles (Figure 1). These paintings are made by forming a grid of rectangles on the canvas, outlined with a heavy black border. There are randomly colored rectangles throughout the grid, generally in primary colors (Henkels, 1988). The majority of the rectangles are approximate golden rectangles.

### Call for Manuscripts

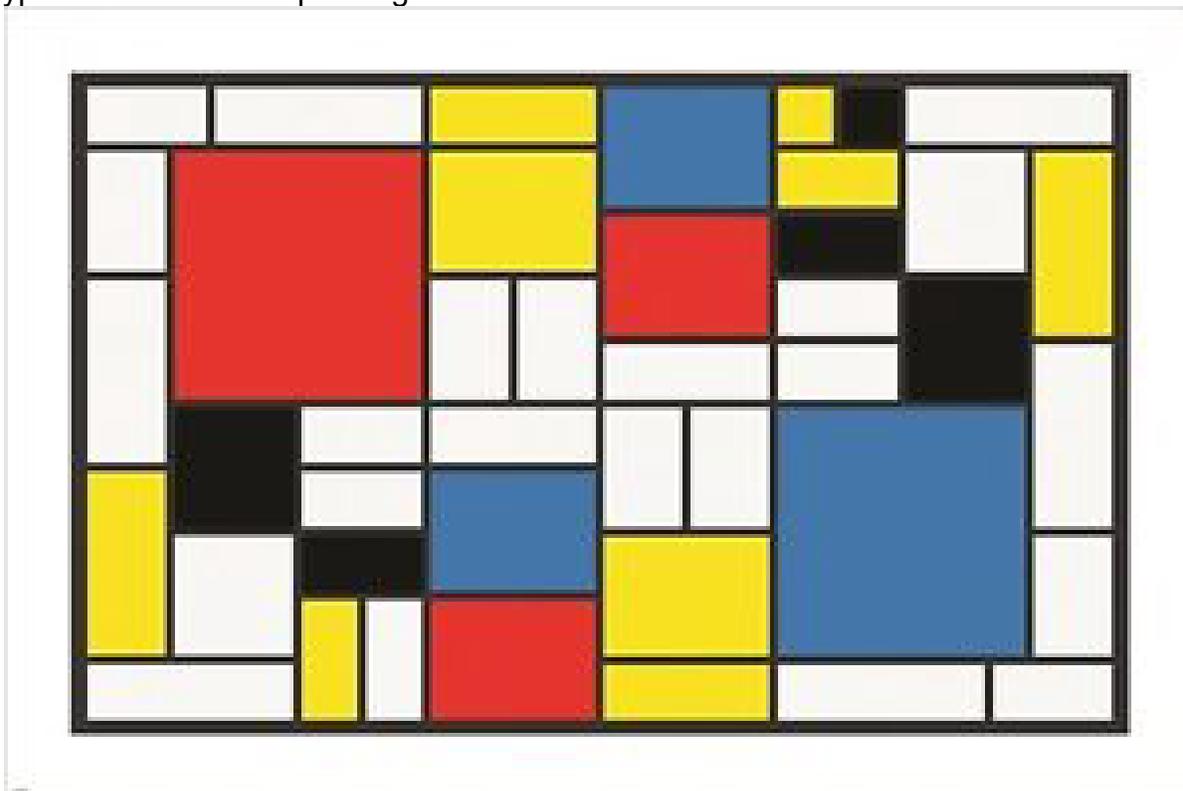


How do you incorporate **mathematical processes and practices** into content and methods courses for preservice teachers, and professional development for inservice teachers? Examples include reasoning and justification, generalization, using representations, and modeling. Of particular interest are courses and programs that help teachers develop pedagogical knowledge of mathematical processes and practices.

We want to hear about your work! Submit a 4-page double-spaced manuscript to the *Journal of Mathematics Teacher Education in Texas*.

Submission guidelines available at <https://amte-tx.com/online-journal-2/>.

Figure 1  
Typical Piet Mondrian painting



Thus, the pre-service teachers created an art project based on the principles of Piet Mondrian paintings. After creating a rectangular grid, pre-service teachers used three colors and a die to create a randomized coloring of their grid. Each pair wrote questions to analyze their art project based on the TEKS in one of the K-5 grade bands, then presented their questions and analysis to the class. The purpose of this investigation was to determine to what extent this activity was meaningful for pre-service teachers.

Our pre-service mathematics teachers were all undergraduates enrolled in a Mathematics for Elementary Educators course. This course is the first of a two-course sequence of courses for prospective elementary educators. The first course focuses on arithmetic, measurement, and probability. The second course focuses on geometry and algebraic reasoning. In our course, the second of the sequence, there were 12 pre-service teachers with the following self-described demographics: 5 white, 2 Hispanic, and 5 African-American pre-service teachers; 7 of middle SES and 5 pre-service teachers of low SES; 8 traditional and 4 non-traditional pre-service teachers. The pre-service teachers followed the directions given in Figure 2 to create their art projects given in Figure 3.

## Call for Submissions for *JMTET*

We welcome manuscripts on all topics relevant to mathematics teacher educators in Texas.

Submit articles and letters by **August 15, 2022**. Visit the AMTE-TX website for submission guidelines.

**Questions? Interested in becoming a reviewer?**  
Contact the *JMTET* Editorial Team: [jmtet.amtetx@gmail.com](mailto:jmtet.amtetx@gmail.com)

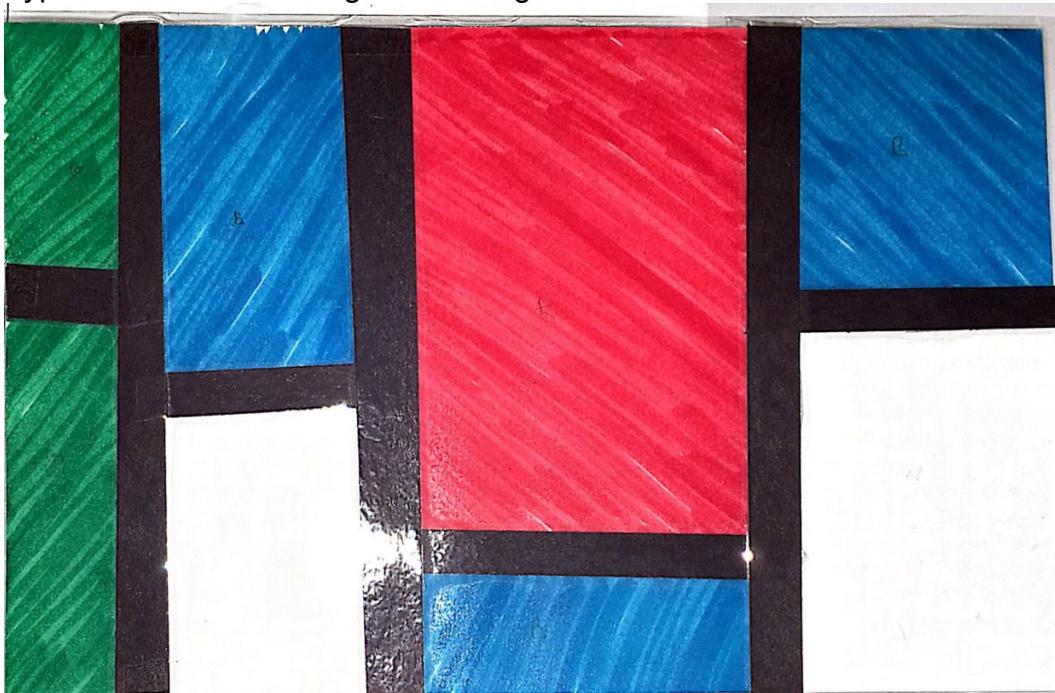
Figure 2

Pre-service teacher's Mondrian directions

1. Draw as many horizontal lines as you want. For best results, lines should not be equally spaced, but every line should be a Fibonacci number of (inches/cm) away from all other lines
2. Draw as many vertical lines as you want, creating rectangles. These lines do not need to go all the way from edge to edge, but any line vertically should have a Fibonacci distance away from any other line
3. Get a die
4. For each face of the die you have, assign a color. You need 4 different colors: Color 1, Color 2, Color 3, and Blank
5. Roll your die and determine the colors for each of the rectangles on your painting
6. Color all of the rectangles with the appropriate colors
7. Use the black strips to frame the borders of the rectangles and the paper

Figure 3

Typical Mondrian rectangle finished grid



We asked pre-service teachers to write at least 20 questions relating to examining the rectangle. Pre-service teachers were generally able to write questions for algebraic thinking, data, and measurement for the grade level to which they were assigned. Here are some typical questions written by the pre-service teachers:

- (4th grade)  $\frac{1}{5}$  of Lupe's shapes are squares. If Ja'Bria has two times as many squares and the same number of shapes, what fraction of Ja'Bria's shapes are squares?
- (Kindergarten) How many shapes do you and your partner have altogether?
- (1st grade) Make a bar chart that shows the number of squares and rectangles your table has in their drawings.

We also asked the pre-service elementary teachers to write a reflection on how this project related to what they learned this semester and how projects similar to this could be helpful in their future career as elementary educators. All of the pre-service teachers wrote that they learned how the material we taught throughout the semester tied together more than they had realized, as Holly explained in her reflection:

During this class, it felt like we were doing really different things every test. Arithmetic, fractions, measurement, and geometry all seemed very different from each other. During this project, I started to see how I could tie these objectives together for my students.

Other pre-service teachers found the question writing to be the most valuable part of the project, as Kevious did:

One of the things I learned this semester is that it is not easy to write good story problems. I liked that I got to practice writing questions on the rectangle project. I also liked that each group did a different grade. That way I have a set of questions that could work in my portfolio, no matter what grade I'm teaching.

Overall, 11/12 of our pre-service teachers wrote that an art-infused activity would be useful in their classroom practice, and would be a way to try to incorporate inquiry-based learning. Since many prospective teachers hold very traditional views of teaching (Lee et al., 2021), we found this activity to be a good entry level activity for designing student-led investigations early in their teacher preparation program.

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## Editor's Message Continued:

On May 25, the following image of gubernatorial candidate Beto O'Rourke confronting Texas state officials at a press conference in Uvalde made the rounds on social media:



I saw some people talking about this image breathlessly, as if this might be a watershed moment in our shared struggle, which I believe most people sincerely care about, to eradicate gun violence in schools. I'm skeptical about that. There are intentional structural features of our system of self-government that make it difficult for us to respond swiftly and effectively to big, long-term problems. These structural features become roadblocks when our polity is as loudly and painfully divided as it is now. What Beto did was, in a sense, theater - he had no realistic expectation that it would result in any concrete action or change.

But I also saw Beto's disruption of the meeting as a small gesture of civic courage borne of a sincere concern about the violence that continues to target vulnerable people in our country. It was a way of saying that the old discourse, in which we grieve, pray for the victims and their families, mumble about mental health or the deterioration of American culture, and ultimately make no systemic changes, has done nothing to mitigate it, and that we need to try something new. Reasonable people can (and do) take issue with the timing of Beto's confrontation, his choice to attack current Texas public officials, the connection to his gubernatorial campaign, or with Beto as a politician and public figure. But I appreciate the small courage it took to step up in a moment when many people were paying attention and suggest something new. In math class, when we encounter a hard problem, we want our students to feel empowered to suggest a possible approach, and we don't want them to worry that they will be belittled or marginalized if the idea doesn't work out. I think we should want citizens to feel the same agency and courage around issues of public interest.

I want to emphasize that I consider Beto's confrontation to be a \*small\* gesture of courage. He knew it would cost him little: it required no follow-through (he currently holds no public office), and he is a White heterosexual man with the means to provide for his own safety. For a contemporary example of great courage, I might offer Stacey Abrams, who has organized voters in the state of Georgia to elect public officials who can take real action on some of the systemic obstacles. She has put in sustained work in a state where many people would rather push Black voters to the margins (and took concrete steps to do so). I might offer Kai Shappley, an 11-year-old transgender girl from Texas, who has advocated for the rights of transgender children in a state that is actively considering policy that would remove them from their homes and families.

It takes great courage to step up and engage in sustained advocacy when you know you could be punished for doing so.

So why talk about an example of small courage? I think our culture sometimes mythologizes people like Abrams - the writers of Star Trek: Discovery made her the president of United Earth! - in a way that gives us permission to rely entirely on the great courage of a few people to make our country better. This doesn't work, because we govern by (roughly) majority consensus, which means that if we want to make a change, we need a lot of people to care about that change enough to endorse it. But I don't think we need great courage from a lot of people. Small courage helps - the courage to speak up during a school board meeting, to encourage a friend to vote, to stick up for a student who is being marginalized in school. I think that when the great courage of a few joins with the small courage of many, we can protect the people we love and build the critical mass of voter interest needed for real and sustainable change.

Which brings me to the role of MTEs in Texas. In the last year, public officials in our state have taken action to regulate the ideas that students are permitted to explore in Texas classrooms. Our teachers are now forbidden by House Bill 3979 from teaching that the more than two centuries of slavery in America represent anything more than a "deviation" from our founding principles, or that people today might experience advantages or disadvantages in economic or civic life based on their race. Schools are forbidden from requiring teachers to teach about any "widely debated and currently controversial issue of public policy or social affairs," and some administrators actively discourage teachers from doing so. Teachers in several states (a quick Google search turns up at least four) have been fired or suspended for refusing to take down Pride flags, which serve the sole purpose of declaring an intention to create a safe and welcoming learning space for LGBT children.

It would be easy for us math people to sit this one out. After all, it is easy to teach data and statistics in elementary school as a subject about making bar graphs and not about how people in certain ZIP codes are denied access to affordable and healthy food; it is easy to teach algebra as a subject about isolating variables in equations and not about how we can use simple mathematical models to reveal sustained and concerning patterns of climate change; it is easy to teach geometry as a subject about properties of diagonals in quadrilaterals and not about how easy it is to gerrymander a 59% electoral majority into a veto-proof 76% legislative majority. We have state standards and state assessments that make it easy, and perhaps even appealing, to teach the subject of mathematics as if it is not really about anything at all; or if it is, it is about nothing more serious than a class's favorite ice cream flavor or the amount of money (easily verifiable by any number of online calculators) you'll have in an interest-generating account after ten years. We can respond to institutional failure and institutional bullying of teachers by disengaging from institutions altogether. I believe this is what some of our institutions would prefer.

I am hoping we can push against this cynicism and continue to work together to help our teachers create safe, dynamic learning environments where every student is welcome, every student feels empowered to suggest solutions to hard problems, and every student discovers that mathematics is a tool for "[reading and writing the world](#)" (to borrow from Eric Gutstein). This will require a lot of acts of small courage from us, because our state officials [will soon move](#) to restrict what we MTEs talk about in our classrooms as

## MEMBERSHIP

Membership in AMTE-TX is now open! Typically, members join or renew memberships at CAMT or at the AMTE-TX Fall Conference. Encourage your colleagues to join!

You can easily join or renew your membership at <https://amte-tx.com/join-or-renew/>  
For any membership questions, please contact our Membership Coordinator, Ryann Shelton at [Ryann\\_Shelton@baylor.edu](mailto:Ryann_Shelton@baylor.edu).

well. We will need to think carefully about how to help teachers comply with the law – as I often tell my graduate students, “you can’t change the world by getting fired.” But we also need to think about how to advocate effectively for better laws that honor the professionalism of teachers. We need to think about the small things we can help our teachers do to affirm students and their brilliance and curiosity even when the world outside the school building feels hostile to them. Most of all, I think we need to restore our friends’ and neighbors’ excitement about the project of providing a quality public education for every child in America, and heighten awareness of the many innovative ways our teachers bring that vision to life every day. I believe we can do this – a body politic that is willing to equip every teacher with a sidearm ought to be willing to equip them with the professional autonomy and authority to educate inquisitive and conscientious people who will protect the future of our democracy.

I hope to keep learning, too. I don’t know everything – after all, I too am a White heterosexual man with the means to protect myself from the dangers that threaten so many people in our state. I want to hear what you are doing to equip teachers to provide the education our kids need now. And I want to read about it in *JMTET*!

I wish you all a wonderful summer, and courage and inspiration as you continue to do this important work.

Cody Patterson  
Editor, *JMTET*

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