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Teaching Tips

Beyond Fire and Tacos: Using *Dragons Love Tacos* to Ignite Mathematical Thinking through Interdisciplinary Read-Alouds

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ABSTRACT

On a bright Tuesday morning, in a university math undergraduate course, the professor held up a beloved children's picture book, *Dragons Love Tacos* by Adam Rubin, and the room filled with smiles. "If you want to make math fun, put it in a taco!" shouted one teacher candidate, prompting laughter all around. While the line was humorous, it also hinted at something deeper: mathematics, when anchored in meaningful contexts, becomes more than just numbers on a page. This narrative follows a group of teacher candidates as they explore mathematics through the lens of children's literature. Using the playful yet insightful story of taco-loving dragons who cannot eat spicy salsa, the lesson evolved into a space where literacy, math, and interdisciplinary teaching came to life.

KEYWORDS

children's literature; math; teacher candidates; interdisciplinary read-aloud

An interdisciplinary approach intentionally integrates concepts and skills across content areas to foster deeper, more authentic learning experiences (Beane, 1997; Drake & Burns, 2004). By selecting texts that are humorous, relatable, and rich in social-emotional subtext, such as *Dragons Love Tacos*, educators can bridge literacy and mathematics in ways that connect students' cultural and personal experiences (Tomlinson & Imbeau, 2010). When paired with accessible, hands-on math tasks, this approach engages learners as capable thinkers, problem-solvers, and storytellers, making both subjects more meaningful and memorable (Vacca & Mraz, 2017). Such integration not only supports academic growth but also promotes collaboration, creativity, and the transfer of knowledge across disciplines (Fogarty, 2009). An interdisciplinary framework also challenges teacher candidates to rethink the traditional boundaries of subject instruction. Rather than treating mathematics and literacy as isolated domains, teacher candidates begin to recognize how each discipline can enrich and clarify the other. The process of weaving story and cultural touchpoints into mathematical tasks encourages them to design lessons that are not only academically rigorous but also personally relevant for students. This blending fosters a mindset where learning is viewed as holistic, dynamic, and responsive to real classroom communities, rather than segmented into discrete and disconnected parts.

Setting the Stage: Literacy as a Gateway to Mathematics

This article explores how the popular children's picture book *Dragons Love Tacos* by Adam Rubin (2012) can serve as a springboard for interdisciplinary instruction in teacher preparation programs. Anchored in culturally responsive pedagogy (Ladson-Billings, 1994) and grounded in student-centered practices (Tomlinson & Imbeau, 2010), this approach illustrates how teachers can blend literacy and mathematics instruction in meaningful and engaging ways. Through a case study of a

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2nd-grade integrated lesson designed in a teacher preparation program, we examined how mathematical concepts such as estimation, addition, subtraction, and data analysis emerge naturally through storytelling, an approach supported by research on narrative-based learning (Bruner, 1990), and how students respond to this type of experience. Drawing on reflective feedback from teacher candidates, the article offers instructional strategies and demonstrates how children's literature can nurture both conceptual understanding and classroom community (Chambers, 2011; Sipe, 2008).

Bridging mathematics and literacy through interdisciplinary instruction enables students to form deeper, more authentic connections across content areas (Beane, 1997; Drake & Burns, 2004), enhancing both engagement and conceptual understanding (National Council of Teachers of Mathematics [NCTM], 2014). Furthermore, children's literature offers powerful entry points for mathematical discussions that are rooted in storytelling, cultural experiences, and classroom dialogue (Van de Walle et al., 2019; Whitin & Whitin, 2004). As one teacher candidate reflected, "We had a book project in one class and used it to design a math lesson in another—that helped it all make sense." This integration underscores the power of interdisciplinary instruction to ground abstract ideas in concrete, culturally relevant contexts (Gay, 2018; Hammond, 2015). Such cross-course connections highlight why the read-aloud, long valued for literacy, can also serve as an anchor for interdisciplinary and culturally responsive mathematics instruction. here.

Inside the Read-Aloud: Stories that Count

As the story unfolded, in the college classroom, the teacher candidates were asked to think mathematically. "If one dragon eats 7 tacos and another eats 5, how many tacos did they eat in total?" the professor asked, pausing mid-story. Teacher candidates reached for paper taco manipulatives and drew number sentences. Math became visible and tactile. One teacher candidate noted that hands-on, tactile experiences are more memorable and impactful for students than computer-based tasks. Throughout the read-aloud, teachers can also seamlessly incorporate math talk by posing simple questions such as, "What happens if a dragon eats spicy salsa?" or "If three bowls of salsa were made and one spilled, how many remain?" These prompts encourage mental math and problem-solving while grounding mathematical thinking in the context of the story's plot.

Extending the discussion, teacher candidates also experimented with different ways to scaffold questions for diverse learners. For instance, some suggested using sentence frames such as "___ plus ___ equals ___" to support students still developing language skills, while others recommended encouraging students to act out the problem using taco cards or by grouping themselves into "dragon teams." Teacher candidates quickly saw that the same story prompt could be adjusted for varying levels of readiness, simple addition for early learners, multi-step problems for more advanced students, or even open-ended questions like, "How many different ways could three dragons share 12 tacos?" This flexibility illustrates the broader pedagogical significance of story-based instruction: one narrative can sustain a wide range of mathematically rich discussions, differentiated to meet diverse learner needs and coherently linked to a shared text. In doing so, it exemplifies how interdisciplinary and culturally responsive practices can ground abstract concepts in meaningful and contextually relevant experiences.

After Reading: Bringing Data to the Table

Post–read-aloud activities extended mathematical learning by integrating graphing with real-world applications. As part of a class exercise, teacher candidates conducted a brief survey on preferred

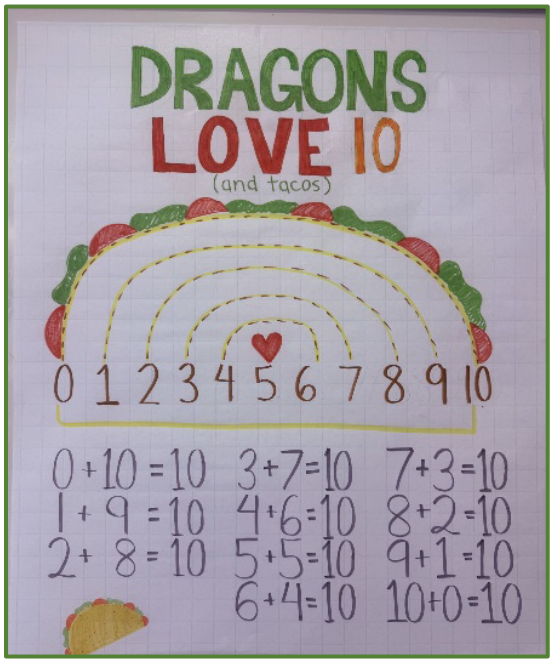
taco toppings such as cheese, lettuce, salsa, and beans, and recorded the results using tally marks. They then transformed this data into bar graphs and engaged in small-group discussions to interpret patterns and compare frequencies. This activity reinforced essential data analysis skills while fostering collaboration, purposeful mathematical discourse, and application of mathematics in authentic contexts, an approach that candidates noted they could readily implement in their future classrooms.

A subsequent task was framed as a real-world scenario: "If you are throwing a taco party for five dragons and each dragon eats six tacos, how many tacos do you need?" Teacher candidates approached the problem using a variety of strategies, including drawing visual models, skip counting, and composing equations, before sharing their reasoning with peers. One candidate reflected, "The problem felt real. It wasn't just a worksheet—it was our story." This type of authenticity, where mathematical reasoning emerges from familiar and engaging contexts, can transform mathematics from an abstract exercise into a meaningful, memorable learning experience for all students.

Tens and Tacos: Building Number Sense Playfully

Building number sense in early elementary classrooms often begins with understanding combinations of 10, an essential foundation for addition, subtraction, and place value. Inspired by the classroom read-aloud of Dragons Love Tacos, teacher candidates extended the learning with a vibrant, taco-themed math anchor chart titled "Dragons Love 10" (see Figure 1). In this anchor chart, the numbers 0 through 10 are arranged in an arc, representing a taco shell. Yellow lines link the pairs that make 10 (e.g., 3 and 7, 4 and 6), visually reinforcing the symmetry and logic of number bonds. Below the taco, each fact is written as a number sentence, bridging concrete and abstract representation.

Figure 1: "Dragons Love 10" Anchor Chart



Note. The taco-themed anchor chart provides a visual representation of all number combinations that equal ten, designed to support students' addition fact fluency.

The activity exemplifies responsive teaching by embedding familiar, culturally relevant imagery, such as tacos, into core mathematics instruction and pairing it with joyful classroom routines. As students build fluency with number combinations, they simultaneously engage in storytelling, collaboration, and visual problem-solving, hallmarks of an engaging and student-centered mathematics classroom. Activities such as "Dragons Love 10" illustrate how mathematics can be joyful, conceptually rich, and rooted in a sense of community within the playful context of a taco. As one teacher candidate observed, "Students will get excited to find their taco match. It can turn a basic math fact into a game—and they will remember the combinations better because of the story."

Integrating Mathematics and Literacy: GSE-Aligned Activities Inspired by *Dragons Love Tacos*

To support the integration of mathematics and literacy through *Dragons Love Tacos*, Table 1 presents a range of classroom activities aligned with key elementary mathematics concepts and the Georgia Standards of Excellence (GSE). Each activity illustrates how the book can function as a catalyst for engaging, standards-based instruction across domains such as addition, subtraction, graphing, measurement, and early multiplication. Collectively, these examples demonstrate how mathematical thinking can be anchored in storytelling, transforming abstract concepts into meaningful, joyful learning experiences.

Table 1: Example of Math Activities Using the Book "Dragons Love Tacos"

Activity Title	Description	Math Focus	GA Math Standard (GSE)	Sample Math Problem
Taco Tally & Graph	Students survey classmates on taco toppings and create bar graphs	Data collection & graphing	MGSE1.MD.4: Organize, represent, and interpret data	How many students prefer cheese? Which topping is most popular?
Dragons Love 10	Use an anchor chart or taco cards to find number pairs that make 10	Number bonds & addition	MGSE1.OA.6: Add and subtract within 20	If one dragon eats 4 tacos, how many more does it need to eat 10?
Taco Party Planning	Plan a party for dragons with tacos and toppings	Multiplication & repeated addition	MGSE2.OA.4: Use repeated addition to model equal groups	If each dragon eats 5 tacos and there are 4 dragons, how many tacos are needed?
Salsa Spill Subtraction	Story problem about spilled salsa bowls	Subtraction within 20	MGSE1.OA.1: Represent and solve problems involving subtraction	If there were 6 bowls of salsa and 2 spilled, how many are left?
Taco Sorting	Categorize taco toppings or dragon types by attributes	Sorting, classifying, and patterns	MGSE2.G.1: Recognize and draw shapes with given attributes	Sort tacos by number of ingredients. What pattern do you notice?
Build-a-Taco Word Problems	Students create and solve taco-themed word problems	Addition, subtraction, multiplication	MGSE2.OA.1: Solve word problems using drawings and equations	Maria made 3 tacos with beef and 2 with beans. How many tacos did she make?

Dragon Delivery Distance	Dragons deliver tacos; measure and compare distances	Measurement & comparison	MGSE2.MD.1 & MGSE2.MD.4: Measure and compare lengths	Dragon A flew 12 feet, and Dragon B flew 15 feet. Who flew farther and by how much?

Note. MGSE2 refers to the Mathematics Georgia Standards of Excellence, Grade 2.

Planning with Purpose: Creative Lesson Design from Teacher Candidates

Designing a math lesson that integrates literature requires teacher candidates to think beyond conventional models. One candidate shared, "I used to think math had to look a certain way—charts, numbers, timed drills. Now I realize it can be a story, a conversation, even a taco party." Teacher candidates also described how integrating literacy into their math instruction made the standards more approachable. Several teacher candidates embraced the interdisciplinary nature of the task as a strength. "I learned that I don't have to choose between being creative and meeting the standards," one reflected. "I can do both—and my students learn more when I do." This mindset shift, viewing standards as the foundation rather than the limit, enabled teacher candidates to craft lessons that were engaging, rigorous, and joyful. As one summed it up: "Creativity is not about doing whatever you want—it's about making the learning meaningful." As teacher candidates worked through the planning and designing of the lesson, they demonstrated creative flexibility in both format and content. These reflections illustrate a deepening understanding of culturally responsive pedagogy not as a checklist of strategies, but as a sustained mindset. Children's books like *Dragons Love Tacos* serve as both mirrors and windows (Tschida et al., 2014). Mirrors that reflect students' familiar cultural experiences, such as taco night, and windows that invite them to explore new ways of thinking, reasoning, and engaging with mathematics.

Lessons for Practice: A Narrative Framework for Integration

The classroom experience revealed five guiding principles for weaving math meaningfully into story-rich learning: (1) choose literature with natural mathematical hooks, such as *Dragons Love Tacos*, where numbers and comparisons emerge organically; (2) embed math talk into shared reading to prompt reasoning and verbal explanation (Hammond, 2015); (3) use manipulatives like paper tacos or counters to make abstract concepts tangible (Sowell, 1989); (4) connect math tasks to real-world or imaginative contexts to boost motivation and relevance (Ladson-Billings, 1994); and (5) engage in intentional reflection to ensure instruction remains inclusive, student-centered, and responsive to both academic and social-emotional growth (Zeichner & Liston, 2013).

These five principles provide a flexible framework that teacher candidates can carry into their own practice. For example, when selecting literature with mathematical hooks, teacher candidates recognized the value of choosing texts students already enjoy, whether about tacos, animals, or familiar routines, to make math feel approachable from the start. Embedding math talk into read-alouds was also identified as a powerful move, especially when teacher candidates practiced using open-ended prompts such as, "What do you notice? What do you wonder?" to spark multiple solution strategies rather than a single correct answer.

The use of manipulatives such as taco cards or counters showed how easily abstract ideas could be transformed into playful and concrete tasks. One teacher candidate reflected that "passing out tacos" during the lesson can keep students' hands and minds equally engaged, a reminder that movement and play are not distractions but powerful vehicles for learning. Real-world and imaginative contexts, such as hosting a taco party for dragons, helped teacher candidates see how

math could connect to students' lived experiences while still meeting curriculum standards. Finally, intentional reflection emerged as a practice that made the biggest difference for teacher candidates' growth. In this way, the five principles served not only as a framework for planning but also as a mindset for sustaining joyful, responsive, and meaningful mathematics instruction across content areas. here.

Conclusion: Children's Literature as a Catalyst for Mathematical Understanding

The *Dragons Love Tacos*, read aloud, showed how children's literature can transform math from abstract numbers into meaningful, memorable experiences. By embedding mathematical concepts in a playful, culturally familiar narrative, teacher candidates designed lessons that were rigorous, creative, and student-centered. This approach reframed standards as a springboard for innovation, blending literacy and math to build both conceptual understanding and classroom community. In the end, tacos and dragons became more than a whimsical tale; they served as a catalyst for joyful, connected learning, advancing student literacy and mathematical understanding through purposeful and interdisciplinary integration.

Equally important, this lesson design demonstrated the potential for replication across multiple texts, grade levels, and contexts. Teacher candidates recognized that once they learned the process, they could select a story with natural math connections, embed purposeful math talk, extend learning through hands-on tasks, and apply the same framework to other children's literature. For example, *Counting Crocodiles* by Judy Sierra (1997) lends itself to lessons on number sense and repeated addition, *Too Many Tamales* by Gary Soto (1992) can be used to explore estimation, subtraction, and culturally responsive connections around family traditions, and *The Doorbell Rang* by Pat Hutchins (1986) naturally introduces division and sharing concepts through a familiar context of cookies and friends. Each of these texts, like *Dragons Love Tacos*, provides opportunities for authentic math talk, hands-on exploration, and interdisciplinary teaching that bridges literacy and mathematics in ways students find meaningful, authentic, and memorable.

Story-based mathematics instruction can be strengthened through three interconnected strategies: (1) embedding purposeful questioning by pausing at key moments in the narrative to pose mathematically rich prompts that stimulate reasoning and discussion (Hammond, 2015). For example, during *Dragons Love Tacos*, a teacher might pause when dragons are piling up tacos and ask, "If one dragon eats seven tacos and other eats five, how many tacos do they eat together?" (2) facilitating representational modeling by encouraging the use of manipulatives, drawings, or embodied actions to connect abstract concepts with tangible representations (Sowell, 1989). For example, having students distribute paper taco cards among dragon cutouts to model sharing twelve tacos among three dragons; and (3) designing authentic extensions that situate mathematics in culturally relevant and real-world contexts, such as surveys, data displays, or scenario-based problem solving (Ladson-Billings, 1994; Gay, 2018). For instance, after the read-aloud, students might conduct a taco-topping survey and graph the class's preferences. Together, these strategies illustrate how children's literature can transform mathematics into a dynamic, interdisciplinary, and culturally responsive learning experience.

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