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Highlights in this issue:

- **Designing Your Classroom as a Beginning Teacher**
- **Considerations on Artificial Intelligence in the Middle Grades Classroom**
- **Balancing High Expectations and Teacher Retention**
- **Strategies to Maximize Teaming Success in Middle Grades Schools**



Manuscripts

The NCMLE Journal, a double-blind, peer-reviewed journal, is an official publication of the North Carolina Association for Middle Level Education. It publishes a wide range of articles related to middle level practice, theory, commentary, and research. Its primary objective is to enrich the understanding of the developmental and educational needs of North Carolina's early adolescents.

Manuscripts should be written in a clear, non-technical style for an audience consisting largely of preservice teachers, in-service teachers, and administrators. Each article should not exceed 15 double-spaced pages, including in-text citations and an accurate list of references when appropriate (APA style). Authors should submit their article through the NCMLE Manuscript Submission Form with a separate title page that states the author(s), institutional affiliation, position within that institution, and a contact email address and telephone number. Deadline for submission to the Fall issue is May 15 and the deadline for the Spring issue is November 15.

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FROM THE EDITORS

Letter from the Editors

Welcome readers! We are excited to share the Fall 2026 edition of the NCMLE Journal with you.

The theme of this Fall issue is step-by-step, a reminder that the work of teaching, just like the school year itself, unfolds one day and one decision at a time. Our cover image, a stairway framed by falling autumn leaves, reflects both the back-to-school season and the steady forward progress that defines the beginning of a new academic year. Educators make countless decisions each day, often balancing competing demands, unexpected challenges, and opportunities to meet the unique needs of many students who grace their classroom doors. Rather than trying to anticipate every turn and future decision at once, the authors who contributed to this issue invite us to approach our forward progress with intention: taking the next step mindfully, learning meaningfully from the preceding step, and trusting the meaningful progress built over time.

This issue offers something for educators at every stage of their careers, including practical guidance for designing a classroom as a beginning teacher, a timely look at how artificial intelligence is showing up in middle grades classrooms, and relevant questions about what that means for teaching and learning. Additionally, authors featured in this issue address the ongoing challenge of balancing high expectations with teacher retention, and share strategies for building strong, effective teaming structures in middle grades schools.

Each of these unique pieces unite around a common thread: middle grades education works best when new teachers are set up well from the start, when schools stay thoughtful about the tools and pressures shaping the profession, and when educators have real structures including teams, expectations, and support to lean on. These structures must be stewarded with intention, and we hope this issue offers some useful footing for that work.

We are grateful to the authors who contributed their work and to the educators across North Carolina who continue to advocate for and support middle grades learners.



Dr. Joey Lord
Dr. Daniel Maxwell
Editors, NCMLE Journal

ORIGINAL PAPER

Middle Level Classrooms: An Integral Threshold to GenAI**Authors:** Karen S. Kopitsky, Tracy Rock**Abstract:**

Technology in schools is rapidly changing. Questions of the how, when, and why of using new technologies like generative artificial intelligence (GenAI) require careful consideration by teachers, especially middle-level educators. Integrating GenAI in powerful and transformative ways is essential to transition middle school students from AI awareness in elementary school to AI knowledge in high school. This article will explore the guidelines and support provided by the North Carolina Department of Public Instruction to assist teachers within the state.

Keywords: *generative artificial intelligence (GenAI), AI literacy, Middle Level Educators, AI Integration*

“Public education stands at the threshold of a new era defined by artificial intelligence (AI), demanding urgent action from educators and policymakers to prepare students for a future transformed by rapidly evolving AI technologies” (North Carolina Department of Public Instruction [NCDPI], 2024, p. 6).

Engaging with middle-level learners means recognizing the unique assets and perspectives they bring to the classroom (Bishop & Harrison, 2021). This same distinctive lens must be considered when discussing their engagement with Generative Artificial Intelligence (GenAI) (Association for Middle Level Education [AMLE], 2025). GenAI is identified as the most widespread application of AI currently impacting educational environments (Mack & Stockton, 2026). It is defined as a

transformative technology that generates various forms of content, including text, images, videos, and audio, by responding to human-engineered prompts (Wang et al., 2024). AMLE, in its position paper on artificial intelligence, offers guidance at three different levels within middle-level education: district, building, and the individual classroom. The focus of this article will be on how the individual teacher can consider whether, when, and how to employ GenAI in the middle level classroom.

The introduction and growth of GenAI require educators to contemplate how this tool can be used to enhance learning (Berson & Berson, 2023). Heafner and Maxwell (2025) suggest that GenAI be viewed as a collaborator and not a replacer of students’ own critical thinking. “This requires a re-envisioning of the assessment process to accommodate AI and a shift in focus to authentic and process-focused assessment” (Berson & Berson, 2023, p. 115). This shift to both authenticity and

process aligns with the emphasis Bishop and Harrison (2021) place on the role of asking authentic questions that are meaningful for middle-level learners. GenAI could be utilized by teachers to support instructional planning and curriculum development, centering students as they reconsider how they will assess student learning. However, before engaging with GenAI, there are several considerations that teachers must reflect on.

AI Considerations

When considering using AI tools, it is important that educators ensure they comply with any state, district, or school policies concerning GenAI use in the classroom. AI usage can implicate laws at the state and federal level (North Carolina Department of Public Instruction [NCDPI], 2024). “Most Large Language Models such as ChatGPT, Microsoft CoPilot, and Perplexity are currently prohibited for ages under 13 per their terms of service, but are allowed for ages 13 and over with varying parental/guardian permission requirements” (NCDPI, 2026, p. 17). Additionally, teachers must be aware of how the various GenAI tools will use the data that is entered into them. Many tools that are targeted to teachers have pages that explain their data and security policies (*see, for example*, Diffit, Magic School). NCDPI provides support to schools and districts as they contemplate parent permission and AI usage (*see* a sample permission document linked in the NCDPI AI Guidebook (NCDPI, 2026, p. 17).

It is possible that responses from GenAI could include bias (OpenAI, 2023). Bowen and Watson (2024) explain, “this same design feature that allows LLMs [Large Language Models] to provide new and different answers to the same prompt, also causes unpredictability and a lack of

reliability. AI is also generative of misinformation” (Bowen & Watson, 2024, p. 19). Amplification of bias that exists within the information the AI model has been trained on can occur (Stanford University IT, 2024). Both teachers and students must keep this possibility in mind.

NCDPI Guidelines

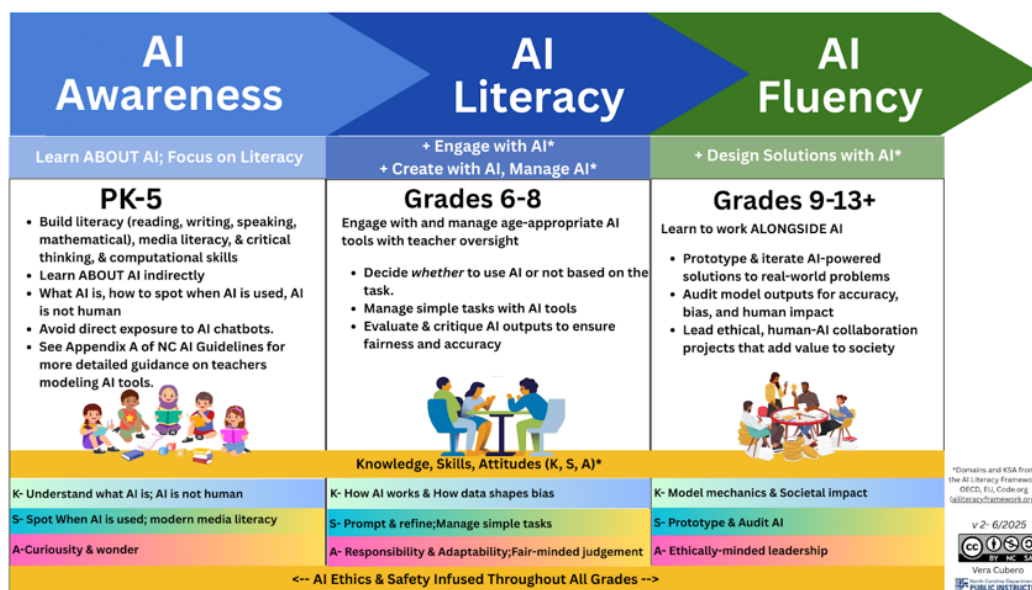
In North Carolina, NCDPI provides guidelines around GenAI use for both teachers and students through its guidebook - *North Carolina Generative AI Implementation Recommendations and Considerations for PK-13 Public Schools* (NCDPI, 2026). The guidebook is updated often to respond to technology updates and to include new guidelines to reflect the current state of technology. NCDPI (2024) suggests that personally identifiable student information is not put into any AI tools. Such information could be “...names, birthdays, voice clips, facial images, student work, or ID numbers...” (p. 35).

As middle-level educators, it is important to consider what AI knowledge and literacy skills students bring into the classroom. NCDPI (2024) recommends that elementary students learn about the existence of artificial intelligence, but do not engage in it. Therefore, it is especially important to consider how to help support sixth-grade students as they move from upper elementary into middle school classrooms. Figure 1 shows how students move from an awareness of the technology to a fluency in its use as they go from PK to 13+. For elementary students, interactions with AI should be teacher-led and teacher-facilitated. Students should not utilize or have contact with chatbots. Instead, as NCDPI (2024) explains, “the focus is on developing the literacy, curiosity, and critical thinking skills needed to understand how AI exists in the world

around them” (p. 24). Educators need to include discussions of the ethics implicated by using AI tools and how to engage in

responsible and ethical usage of the tools (Bowen & Watson, 2024).

Figure 1 *AI Literacy Timeline*



Note. From *NCDPI AI literacy timeline PK–13 and educators: v. 2.0* [Infographic], by NCDPI, 2026, *North Carolina Generative AI Implementation Recommendations and Considerations for PK-13 Public Schools*, p. 24 (ncdpi.gov). In the public domain.

In the sixth through eighth grade, NCDPI recommends that students begin engaging with GenAI, but with educator oversight and in ways that are developmentally appropriate. AMLE (2025), in their position paper, explains “at this level, GenAI should be introduced not only as a tool for efficiency or differentiation, but as a catalyst for critical thinking, creativity, and reflection building empathy, critical inquiry, and self-awareness” (para. 24). Where there is engagement, there should also be criticality.

AI Literacy

According to 15 U.S. Code § 9401(3), “the term ‘artificial intelligence’ means a machine-based system that can, for a given

set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments.” There is both a human and a machine component to AI. The United States Department of Labor released its AI Literacy Framework in February (Mack & Stockton, 2026). The Department of Labor definition for AI literacy is that it is “...a foundational set of competencies that enable individuals to use *and* evaluate AI technologies responsibly, with a primary focus on generative AI, which is increasingly central to the modern workplace” (*emphasis in the original*, p. I-1). NCDPI’s guidebook emphasizes that AI literacy is not just focused on knowledge of the technology but is also connected to civic literacy, as it should include

knowledge of cyber citizenship, internet security, ethics, and comprehension of the effects of AI on society (NCDPI, 2026). Students must be able to consider content created by AI and recognize incorrect information or bias within the output (Berson & Berson, 2023). The question then is: how do classroom teachers help their students engage with GenAI in such developmentally appropriate ways that build the necessary AI literacy?

Incorporating GenAI into the Middle Level Classroom

GenAI can be utilized as an efficient means of personalizing instruction for students within the middle level classroom (Dack et al., 2025). However, there are both strengths and limitations to the various tools available to teachers (*see* Dack et al., 2025 for an in-depth discussion of multiple tools that can be leveraged to support differentiation). It is important that the teacher, as the content expert, reviews the AI output. Whenever using GenAI tools, it is necessary for the teacher to review the responses for accuracy, hallucinations, bias, and whether suggested strategies or instructional practices are developmentally appropriate for their students. Additionally, prompt crafting can

impact the outcome provided by GenAI. GenAI's ability to provide accurate and meaningful results often depends on the effectiveness of these prompts and the instructions or questions provided by the user (Guan et al., 2025). To support teachers in using GenAI to increase student cognitive demand, not reduce it, and center human judgment and criticality within learning tasks, NCDPI has created a Google Gem that teachers can use (NCDPI, 2026). Google Gems allow for customization to increase task efficiency (Google, n.d.). NCDPI's Gem is called the Human Agency & Judgement Gem (NCDPI, 2026). NCDPI has created a link that provides direct access to the gem. To locate and try out the Human Agency & Judgement Gem, go to NCDPI's AI Guidebook at https://go.ncdpi.gov/AI_Guidelines (NCDPI, n.d.). In the "document tabs" to the left within the Google Document, click on Appendix F. The Human Agency & Judgement Gem provides support to teachers as they craft prompts and chat with the Human Agency & Judgement architect. On March 15, 2026, the authors prompted the NCDPI Human Agency & Judgement Gem to explain what it would like teachers to know. The Gem responded:

My goal is to ensure that as AI becomes a standard tool, your students don't lose their voice, their critical thinking, or their sense of agency. Instead of worrying about whether a student used AI to skip the work, we're going to design tasks where the AI is a collaborator—and the student is the **Chief Decision Maker** (emphasis in original; see Appendix for documentation of the authors' interactions with the NCDPI Human Agency & Judgement Gem).

During the same interaction, the Gem architect suggests beginning by providing specific information:

To get started, please provide the following details, or simply **upload an existing assignment** you'd like to "AI-proof" and enhance:

1. **Grade Level:**
2. **Subject Area:**
3. **Standard(s) to be Mastered:**
4. **Location (City, State):** (This helps me pull in local data, history, or community issues for alignment). (emphasis in original; see Appendix).

Utilizing the suggested template above, a teacher can provide information from which the NCDPI Gem can create an AI-infused lesson. On March 17, 2026, the authors prompted the NCDPI Human Agency & Judgement Gem using this template. The resulting AI-generated lesson is reproduced in the Appendix. In exploring the Human Agency & Judgement Gem, the authors found that providing standards at the indicator level produced a more focused output. These resources should provide valuable insights to support exploration and use of the NCDPI Gem for effective integration of GenAI in middle school classrooms. An important note for teachers of sixth-grade students is remembering the AI Literacy timeline (NCDPI, 2026) and the need to help students transitioning to middle school build the skills necessary to engage directly with GenAI in a manner that is age-appropriate and with the oversight and support of their teacher. The suggested lesson activities would require developing technological and AI literacy skills and knowledge. AMLE provides a helpful protocol that teachers can use to reflect upon their classrooms, their students' needs, and the classroom routines and practices they can institute to help their students build their AI literacy skills (AMLE, 2025). Teacher agency is vital, as knowing your students

and the skills they bring into the classroom is imperative in the age of AI.

Specific to the social studies instruction that is used in the sample conversation with the NCDPI Judgement and Agency Google Gem found in the Appendix, Berson and Berson (2023) suggest multiple ways that AI tools could be leveraged in the social studies classroom to support scaffolding of primary sources, including: transcribing, condensing, or translating historical writings, or crafting captions for use with primary source images. They note that "social studies educators play a critical role in fostering critical analysis and interpretation of the information provided by AI enhancements, which is essential to ensure that the historical primary sources are presented accurately and in context" (p. 118). The appendix provides additional commentary to support teachers as they consider how to assist their students as they interact with GenAI in the middle school classroom.

Conclusion

The middle school years represent a pivotal threshold where students transition from basic AI awareness to active, responsible engagement. To navigate this transition effectively, educators should develop a vision for how GenAI can be used as a

collaborative tool that supports authentic, process-focused learning, rather than as a replacement for student thought. When educators consider using AI tools, the importance of ensuring compliance with any state, district, or school policies is emphasized. The authors recommend that educators regularly review their local policies and guidance, as these are being rapidly developed to address this emerging technology. This article provides important considerations from the *North Carolina Generative AI Implementation Recommendations and Considerations for PK-13 Public Schools* (NCDPI, 2026) guidebook for how individual teachers can determine when, how, and to what extent to employ GenAI in the middle-level classroom. It asserts that teachers should equip students with the skills to critically

evaluate outputs, recognize inherent biases, and understand the ethical implications of the technology. The successful integration of GenAI also depends on keeping human agency and judgment at the center of instruction. The Human Judgement & Agency Gem is a tool developed by NCDPI to support educators in moving beyond a focus on policing and start redesigning tasks so that while AI may generate options, simulations, or challenges to be solved, students retain the agency to evaluate, justify, and defend their decisions. With the guidance and tools highlighted in this article, it is possible to leverage the power of GenAI to engage our learners in active and deep learning experiences in our middle school classrooms.

References

- 15 USCS § 9401. Definitions.
[https://uscode.house.gov/view.xhtml?req=\(title:15%20section:9401%20edition:prelim\)](https://uscode.house.gov/view.xhtml?req=(title:15%20section:9401%20edition:prelim))
- Association for Middle Level Education. (2025, November 3). Artificial intelligence in middle level education: Guiding principles for developmentally responsive policies. <https://www.amle.org/artificial-intelligence-in-middle-level-education-guiding-principles-for-developmentally-responsive-policies/>
- Berson, I. R., & Berson, M. J. (2023). The democratization of AI and its transformative potential in social studies education. *Social Education* 87(2), 114–118.
- Bishop, P. A., & Harrison, L. M. (2021). *The successful middle school: This we believe*. Association for Middle Level Education.
- Bowen, J. A., & Watson, C. E. (2024). *Teaching with AI: A practical guide to a new era of human learning*. Johns Hopkins University Press.
- Dack, H., Maxwell, D. G., & Lane, P. (2025). Navigating uncharted waters: Using generative artificial intelligence for differentiation and individualization in middle schools. *NCMLE Journal* 36(1).
<https://img1.wsimg.com/blobby/go/98807515-6b53-4eca-b5b7-ed07800a75f9/Dack%20et%20al%202025%20NCMLE.pdf>
- Google. (n.d.). *Get started with Gems in Gemini Apps*.
<https://support.google.com/gemini/answer/15236321?hl=en>
- Guan, L., Zhang, Y., & Gu, M. (2025). Pre-service teachers' preparedness for AI-integrated education: An investigation from perceptions, capabilities, and teachers' identity changes. *Computers and Education, Artificial Intelligence*, 8, Article 100341.

- <https://doi.org/10.1016/j.caeai.2024.100341>
- Heafner, T. & Maxwell, D. (2025). CIVIC: Five Pillars for Using Artificial Intelligence in Social Studies Education. In R. Jake Cohen (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 2581-2589). Orlando, FL, USA: Association for the Advancement of Computing in Education (AACE). Retrieved November 16, 2025 from <https://www.learntechlib.org/primary/p/225841/>
- Mack, H., & Stockton, T. (2026, February 13). *Training and Employment Notice No 07-25*. Employment and Training Administration. U.S. Department of Labor. <https://www.dol.gov/sites/dolgov/files/ETA/advisories/TEN/2025/TEN%2007-25/TEN%2007-25%20%28complete%20document%29.pdf>
- North Carolina Department of Public Instruction (2026, February 2). North Carolina generative AI implementation recommendations and considerations for pk-13 public schools. Retrieved March 20, 2026 from <https://docs.google.com/document/d/1U-AwwwBg7glJ4ZDlcKVzARuFRPWwUWzqRN2rOgT9zlA/edit?tab=t.0>
- North Carolina Department of Public Instruction (n.d.). Human Agency & Judgement Gem. go.ncdpi.gov/Judgement-Agency-Architect-Gem
- OpenAI (2023, February 16). *How should AI systems behave, and who should decide?* <https://openai.com/index/how-should-ai-systems-behave>
- Stanford University IT. (2024, December 13). *AI demystified: Introduction to large language models*. <https://uit.stanford.edu/service/techtraining/ai-demystified/llm>
- Wang, K., Ruan, Q., Zhang, X., Fu, C., & Duan, B. (2024). Pre-service teachers' GenAI anxiety, technology self-efficacy, and TPACK: Their structural relations with behavioral intention to design GenAI-assisted teaching. *Behavioral Sciences*, 14(5), 373. <https://doi.org/10.3390/bs14050373>

Appendix

NCDPI Google Gem Creating a New Assignment Template

1. **Grade Level:** _____
2. **Subject Area:** _____
3. **Standard(s) to be Mastered:** _____
4. **Location (City, State):** _____

Example used with the NCDPI Human Agency and Judgement Google Gem

Note. The following example documents an interaction with the NCDPI Human Agency & Judgement Gem in Google Gemini on March 17, 2026. The authors supplied the grade level, subject area, standard, and location shown below. The Gem-generated response is reproduced as generated, followed by the authors' commentary.

1. **Grade Level:** 6th grade
2. **Subject Area:** Social Studies
3. **Standard(s) to be Mastered:** 6.B.1 Understand ways in which culture influences civilizations.
4. **Location (City, State):** Charlotte, North Carolina

NCDPI Human Agency and
Judgement Gem Response

*Authors' commentary is in green in this
column

The Task: The "Charlotte-Global" Curatorial
Challenge

Since your 6th graders are in the transition zone for AI literacy, this task moves them from consumers of AI to critics. We will focus on the artistic expressions of the Kingdom of Benin (Africa) and the Maya Civilization (the Americas), while drawing a local connection to the mural culture right here in Charlotte (like those in NoDa or Uptown).

← Consider what skills your students will need to build in order to become AI critics

The "Judgment & Agency" Shift

Instead of asking students to "write a report" (which AI can do in seconds), we are asking them to audit an AI's ability to represent cultural values through art.

← This is a shift away from teachers assessing a product and instead to assessing students' thinking

Phase 1: Local Connection & Human Observation

- The Hook: Students examine images of Charlotte's local murals.
- The Prompt: "What values do these murals show about Charlotte today? (e.g., diversity, growth, nature)."
- Human Agency: Students must first define "value-based art" in their own words based on their own city before ever touching a screen.

← Teachers would have to gather these local examples in advance

← Consider what academic vocabulary students will need to understand and know prior to engaging in this activity

Phase 2: AI Generation & The "Cultural Audit"

- The AI Task: In small groups, students will use a prompt (provided by you or co-created) to ask an AI: "Describe how the bronze reliefs of the Kingdom of Benin and the limestone carvings of the Maya reflected the specific religious and political values of those civilizations."
- The Constraint: Students are told that AI often uses "generalized" language and might miss the nuance of *why* certain materials (like Bronze or Jade) were used.

← The teacher will have to determine what AI tools their school and district support and what, if any, permission or parent notification is required

← This knowledge about potential limitations of AI will need to be discussed with students prior to their engaging in Phase 2

← Consider what skills your students will need to build in order to become AI critics

Phase 3: The Redesign (Human Judgment)

- The Assignment: Students act as Museum Curators. They must "fact-check" the AI's description using their textbook or vetted primary sources.
- The Deliverable: A "Corrected Catalog Entry."
 - Red Pen/Green Pen: Students must take the AI text and physically mark it up.

← This assumes students either have prior knowledge or have engaged with the content in class before engaging in this critique of AI output. The teacher might need to modify the AI prompt depending upon how the content aligns with their local curriculum

- Green: Information that is historically accurate and reflects a true value.
 - Red: Information that is too vague or missing a key cultural detail.
- Agency Action: Students must add one "Human Insight" to the catalog entry that the AI missed—specifically connecting how a value from the ancient world (like ancestral honor) might look different or similar to a value they see in Charlotte's art.

Alignment & Durable Skills

- NC Standard 6.B.1.2: Directly addressed by analyzing the specific values (religion, power, lineage) reflected in African and American artifacts.
- NC AI Literacy (Grade 6): Students are learning that AI can hallucinate or oversimplify culture, requiring human oversight.
- Portrait of a Graduate: * Critical Thinking: Evaluating AI output for accuracy.
 - Global Awareness: Comparing ancient civilizations to their local community.

Teacher's Copy & Paste Section

Project Title: The Curatorial Audit: Ancient Values vs. AI Logic

Role: Lead Curator at the Charlotte Museum of History

The Goal: AI has drafted the descriptions for our new "Global Expressions" wing featuring Benin Bronzes and Maya Stele. Your job is to verify its work.

Step 1: The Prompt. Input this into the AI: "Explain the values represented in Benin Bronze plaques and Maya limestone carvings."

Step 2: The Audit. Compare the AI's response to our class readings. Did it mention the *Oba's* divine power in Benin? Did it explain the Maya connection to the underworld (*Xibalba*)?

Step 3: The Edit. Rewrite the description. You must include one 'Local Link'—how is the way these ancient people used art to show their values similar to how we use murals in Charlotte today?

Step 4: Reflection. Why was your human brain better at finding the 'meaning' in the art than the AI was?

Would you like me to create a specific rubric for this task that focuses on the "Human Judgment" aspect, or should we adjust the civilizations we are focusing on?

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ORIGINAL PAPER**Stronger Together: Maximizing Teaming in the Middle Grades**

Authors: Chris M. Cook, Shawn A. Faulkner

Abstract: Teaming has been an integral component of the middle school concept since its inception in the late 1960s. Whether interdisciplinary teams, professional learning communities, or grade level teams, teaming provides the organizational structure to address the unique needs of middle grades students and their schools. The purpose of this article is to introduce educators who may be unfamiliar with teaming to its purpose and benefits; the role of common planning time in fostering effective team use; the use of teaming to address school, teacher, and student needs; and keys to implementing teaming to maximize effectiveness. Sample schedules, meeting agendas, and potential topics and issues for team meetings are shared.

Keywords: *middle grades teaming, interdisciplinary team, professional learning communities*

Since the inception of the middle school model in the 1960s, teaming has served as the key organizational structure for meeting the needs of young adolescents. In fact, George and Alexander (2003) assert “the interdisciplinary team organization has been the most significant contribution of the middle school concept to the process of schooling” (p. 302). Though interdisciplinary teaming is the core structure in the middle grades (Bishop & Harrison, 2021), the ever-changing needs of schools have also led to the formation of other team organizations in middle grades, including grade-level teams and professional learning communities. All three of these team structures provide the organization to address the complex needs of students and the school community.

Simply defined, interdisciplinary teams are two or more teachers who “share the same group of students, the same part of the school building, the same schedule and planning time, and the responsibility for planning, teaching, and evaluating

curriculum and instruction” (George et al., 1998, pp. 248-249) in the core subjects of language arts, math, science, and social studies. Typically, team sizes range from two to five teachers, with four teacher teams being the norm. Professional learning communities (PLCs) consist of a group of educators who meet regularly to share their expertise and experiences on a specific topic (e.g., math, classroom management, teaching strategies) to improve their teaching and enhance student performance (DuFour, 2004). The size of PLCs varies, though a typical team size is from three to eight members. Finally, grade-level teams consist of all teachers from a specific grade level who meet to address school-wide and grade-level-specific issues. Grade-level teams function much like interdisciplinary teams and PLCs, but the issues being addressed require the input and expertise of all members of the grade level. When combined, these different team structures provide the foundation to meet students’ academic and developmental needs, foster

meaningful and engaging instruction, support school-wide initiatives, and support the professional development of teachers.

As more and more teachers enter the middle grades profession through alternative pathways, the need for professional development focused on the role of effective teaming in middle grades schools increases. The purpose of this article is to introduce educators who may be unfamiliar with teaming to its purpose and benefits; the role of common planning time in fostering effective team use; the use of teaming to address school, teacher, and student needs; and the implementation of teaming to maximize effectiveness.

Why use teaming?

There are numerous benefits for both teachers and students to use teaming in middle grade schools. Whether exploring interdisciplinary teams or professional learning communities, the impact of using teaming in middle grade schools has been overwhelmingly positive. From improved student performance to a more positive culture for students and teachers, numerous studies highlight positive impacts on middle school communities. Flowers et al. (1999) reveal interdisciplinary teaming leads to improved work climates, increased communication with parents, higher levels of job satisfaction, and higher levels of student achievement. The work of Capraro et al. (2016) also highlights increased levels of student achievement through the use of PLCs, as well as greater student accountability and ownership. Hart et al. (1992) show that teachers on interdisciplinary teams demonstrate enhanced communication and greater feelings of autonomy, decision-making, and ownership. In addition, Wallace (2007) indicates students on interdisciplinary teams have higher levels of relationships and social

bonding with their peers, and George and Alexander (2003) contend interdisciplinary teaming leads to more active student engagement and fewer disciplinary issues. When used effectively, teaming can have a positive impact.

Keys to Effective Teaming

Establish Clear Purpose and Vision for Teams. Effectively implementing and using teaming requires a focused effort where all stakeholders have a clear purpose and vision for the role teams will play in the school. It is essential for all school stakeholders to understand that teaming is a critical component of the school and must be made a priority. Establishing a teaming committee that can outline what teaming structures will be used, how they will be used, and the expectations to be followed is instrumental for success. Aligning specific tasks to the appropriate team helps members use time effectively and capitalize on the expertise in the meeting. For example, if a curriculum issue arises that only impacts 7th grade math teachers, creating a professional learning community for those specific individuals allows them the time to meet and address the issue. Whereas, if the school is exploring grading scales and late work policies to ensure consistency across all grade levels, assigning these tasks to grade level teams is the most efficient.

Ensure Common Planning Time is Provided and Protected. Common planning time plays a pivotal role in making sure teams are able to successfully meet and do their work. Kellough and Kellough (2008) define common planning time as “a regularly scheduled time during the school day when teachers who teach the same students meet for joint planning, parent conferences, materials preparation, and student evaluation” (p. 394). Providing this

time is critical to allow teachers time to address the different issues and tasks of teaching and meeting students' needs. Furthermore, making sure this time is protected and not subsumed into other school tasks and needs is important.

Incorporating a school schedule (see Figure 1) that allows two separate planning periods during the day for teachers can help foster the school environment needed for teams to thrive.

Figure 1 *Sample School Schedule*

	8:00 – 8:25	8:30 – 9:25	9:30 – 10:25	10:30 – 12:00	12:05 – 1:00	1:05 – 2:00	2:05 – 3:00
6 th Grade	Advisory	Core	Core	Lunch (10:30 – 11:00) & Encore Individual Planning	Encore & Team Planning	Core	Core
7 th Grade	Advisory	Core	Core	Core & Lunch (11:00 – 11:30)	Core	Encore & Team Planning	Encore & Individual Planning
8 th Grade	Advisory	Encore & Team Planning	Encore & Individual Planning	Core & Lunch (11:30 – 12:00)	Core	Core	Core

One of those planning periods is individual planning, and the other is for team planning. Teachers should feel like their individual planning period is protected and available to them daily. Likewise, teachers should also know they have daily team planning responsibilities and must take an active role in fulfilling them each day.

Hold Each Other Accountable. Ensuring each member of the team contributes to the team's success is a critical element of effective team dynamics. Establishing team norms for interaction and assigning specific roles (e.g., chair, minute-keeper, time

manager) helps the team function smoothly and minimizes challenges and time off task. Some typical team norms include respecting each other's time and contributions, actively participating in meetings, valuing and respecting all voices, being on time, and fulfilling your obligations to the team. Taking time at the start of the year to create these norms as a team is an important step toward success. In addition, it may be necessary to revisit team norms on a consistent basis to ensure the team is functioning effectively and following the norms that were established. Also, selecting and rotating team roles consistently can be a

valuable way to share responsibility and foster leadership development among all team members.

Make Sure Each Meeting Has a Clear Agenda. Each team meeting must have a

clear agenda (see Figure 2). It is essential for the team chair to create and share the agenda with all team members before the meeting to help the team stay on task and accomplish team goals.

Figure 2 Sample Agenda
7th Grade Team – Wizards
May 8, 2026 – Agenda

1. Review Team Norms
2. Approve Minutes from Previous Meeting – May 6, 2026
3. Shout-outs and Celebrations – Good News from Team
4. Upcoming Schedule for State Testing – Impact to Daily Class Schedule
5. Student Issues and Needs
 - a. Academic
 - b. Behavioral
 - c. Parent Contacts Needed
6. Fun Friday Reward Plan (Ice Cream Social)
 - a. Items Needed
 - b. Parent Volunteers
 - c. Student List of Participants
 - d. Action Items – Who is Doing What?
7. Agenda Items for Next Meeting

In setting the agenda, consider the amount of time available and be realistic in what can be accomplished in a single meeting. The team chair should also seek input from the administration and other team members when setting the agenda. While the most pressing issues should be placed early on the agenda, it also takes a few minutes to recognize and celebrate the team's accomplishments. Meeting minutes should be kept and made available to all team members and submitted to administration monthly. Administrators should consistently review minutes to stay up to date on what teams are accomplishing and occasionally

attend team meetings to offer support and guidance as needed.

Potential Schedule

The effective use of teaming relies on the schedule that is implemented in the school. Generally, middle grade schools operate on a 6-period class schedule—students taking four core courses and two encore courses each day. When students attend their encore courses, this is typically planning time for teachers. Though it is often set up as one block of planning time for teachers, it is important to operate under the assumption that there are two planning periods built into

this time. For example, in Figure 1, seventh grade students have their two encore courses from 1:05 pm-3:00 pm each day. The first one runs from 1:05 pm-2:00 pm. This should be considered a teacher's first planning period and should focus on team planning responsibilities. The second encore class runs from 2:05 pm-3:00 pm. This should be considered the teacher's second planning period and should focus on individual planning responsibilities. Creating a schedule that fosters and protects this planning structure is paramount to success.

Implementing a schedule that allows for the different team structures to meet each week is also very important to consider. For example, if it is more pressing for teachers to discuss student and curriculum issues on a frequent basis through interdisciplinary teaming, then following a schedule that allows interdisciplinary teams to meet three times a week and grade level teams and professional learning communities meet once a week might be most effective (see Figure 3).

Figure 3 *Sample Weekly Teaming Schedule*

- Monday: Interdisciplinary Team
- Tuesday: Professional Learning Community
- Wednesday: Interdisciplinary Team
- Thursday: Grade Level Teams
- Friday: Interdisciplinary Team

While establishing this type of schedule is essential to success, it is not a “one size fits all” model. Not all schools are alike, and different logistical and scheduling challenges can impact the use of teaming. As such, it is essential that schools work to identify a schedule and format that works for them. If a daily teaming model is not possible, even starting small and providing a single day per week for teams to meet can be a valuable first step for addressing the needs of the school community.

Potential Topics to Address in Teaming

Teaming provides the foundation to address numerous topics and school-related business on a daily basis. Topics typically addressed in teaming include student behavior, curriculum and instructional decisions, student performance and data analysis, parent conferences and communication, school policies, and planning of special events and projects. Using one of the three different team approaches—interdisciplinary teams, grade level teams, and professional learning communities-- should provide the format for success. While some topics relate to all three teaming structures, Figure 4 highlights which team structure most closely relates (See Figure 4).

Figure 4 *Topics and Activities for Teams*

For example, issues of parent conferences and communication would primarily take place through interdisciplinary teams. Whereas examining issues of student performance could occur in all three teaming structures: Interdisciplinary teams, professional learning communities, or grade-level teams, to see trends and patterns that are occurring in individual students, in specific content areas, or across grade levels. Professional learning communities might not be as effective with this task because participants might not be on the same interdisciplinary team and serve the same students. Data analysis might be done by interdisciplinary teams, grade level teams, or professional learning communities. Ultimately, it is up to the school and teams to decide what will work best for them.

Challenges to Teaming

While teaming is an integral component of effective middle grade schools, multiple challenges can interfere with success. The greatest challenge to teaming is typically ensuring a daily schedule that provides a routine structure and consistent use of planning to address the needs of the different types of team organizations. Inefficient use of time during team meetings and team dynamic conflicts can also create issues. With only a limited amount of time available each day, it becomes critical to manage this time effectively and ensure it is used to address relevant issues. Spending too much time socializing and focusing on issues that are not pressing or relevant diverts attention from issues that matter. Furthermore, it is essential that team members learn to collaborate, compromise, and respect one another. Personality conflicts and team dysfunction can easily

impact team dynamics and lead to inefficiency and uncomfortable working environments. Knowing that teaming is an integral component of middle grades teaching and that there is a personal responsibility to work with others, respect opinions and ideas, and compromise is important for teachers to understand.

Closing Thoughts

The power and potential of teaming lies in what educators can accomplish together that they cannot accomplish individually. As individuals, we all bring different talents and skills to the table. When we combine these talents with the gifts of others, the potential is unlimited. Working together to support students and colleagues; sharing individual talents and knowledge to solve problems and dream of possibilities; listening, brainstorming, and reflecting to grow and learn from experiences; offering wisdom and motivation when things are challenging—these are what make teaming special and provide a solid foundation to foster meaningful educational opportunities for all young adolescents, and in the end, allow us to do great things!

References

- Bishop, P. A., & Harrison, L. M. (2021). *The successful middle school: This we believe*. Association for Middle Level Education.
- Capraro, R. M., Capraro, M. M., Scheurich, J. J., Jones, M., Morgan, J., Huggins, K. S., Corlu, M. S., Younes, R., & Han, S. (2016). Impact of sustained professional development in STEM on outcome measures in a diverse urban district. *The Journal of Educational Research*, 109(2), 181–196.
<https://doi.org/10.1080/00220671.2014.936997>
- DuFour, R. (2004). What is a professional learning community? *Educational Leadership*, 61(8), 6-11.
<https://www.ascd.org/el/articles/what-is-a-professional-learning-community>
- Flowers, N., Mertens, S. B., & Mulhall, P. F. (1999). The impact of teaming: Five research-based outcomes. *Middle School Journal*, 31(2), 57-60.
<https://doi.org/10.1080/00940771.1999.11494619>
- George, P. S., & Alexander, W. M. (2003). *The exemplary middle school* (3rd ed.). Thomson-Wadsworth.
- George, P. S., Lawrence, G., & Bushnell, D. (1998). *Handbook for middle school teaching* (2nd ed.). Longman Publishing.
- Hart, L. E., Pate, P. E., Mizelle, N. B., & Reeves, J. L. (1992). Interdisciplinary team development in the middle school: A study of the Delta Project. *Research in Middle Level Education*, 16(1), 79-98.
<https://doi.org/10.1080/10825541.1992.11670002>
- Kellough, R. D., & Kellough, N. G. (2008). *Teaching young adolescents: Methods and resources for middle grades teaching* (5th ed.). Pearson Merrill Prentice Hall.
- Wallace, J. J (2007). Effects of interdisciplinary teaching team configuration upon the social bonding of middle school students. *Research in Middle Level Education Online*, 30(5), 1-18.
<https://doi.org/10.1080/19404476.2007.11462038>

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ORIGINAL PAPER

Culture and Candor: How Oakbrook Middle School Leaders Balance High Expectations and Teacher Retention**Authors:** Sean M. Keiper, Bentli Lewis

Abstract: Amid widespread teacher shortages and rising turnover in middle schools, school leaders are increasingly challenged to implement effective strategies for retaining high-performing educators in the classrooms (García & Weiss, 2019; T. D. Nguyen et al., 2024). At times, principals are tempted to believe that lowering expectations is the solution, believing that if things are “easier,” the outcomes will be better. This article demonstrates that school leaders can leverage high expectations to enhance teacher efficacy, morale, and retention, which in turn will positively impact student outcomes. Drawing on leadership practices at Oakbrook Middle School, this article reframes high expectations not as added pressure, but as a consistent, supportive approach to fostering teacher growth and long-term commitment to the school community. Emphasis is placed on how each practice positively influences a teacher’s sense of belonging and investment. Implications for educational practitioners highlight practices that leadership teams can use to strengthen both instructional practice and organizational stability at the middle school level.

Introduction

Middle schools across the United States continue to face challenges recruiting and retaining effective teachers, negatively impacting student achievement and overall school performance (Ronfeldt et al., 2013; Shell et al., 2023). Several factors contribute to teacher attrition, including unclear expectations, limited communication, inadequate feedback, excessive workload, and diminished trust between teachers and school leaders (Dias-Lacy & Guirguis, 2017; Miles & Knipe, 2018; D. Nguyen et al., 2024; Shell et al., 2023). In response, improving teacher retention has become a priority for federal, state, and local education leaders seeking to strengthen the teacher workforce and improve student outcomes (Hurd et al., 2023; U.S. Government Accountability Office, 2022).

However, retention efforts require more than isolated initiatives; true improvement depends on leadership practices that create supportive professional environments and address the organizational conditions that influence educators’ decisions to stay (Rheume et al., 2021).

Supportive school leadership is frequently highlighted as a critical factor in teacher retention (Lochmiller et al., 2024; Tran et al., 2023). Teachers are more likely to remain in schools when leaders foster a strong sense of belonging through a shared vision characterized by encouragement, recognition, clear expectations, opportunities for teacher voice, and trusting relationships (Sanzo et al., 2011; Lochmiller et al., 2024; D. Nguyen et al., 2024; Rheume et al., 2021; Shell et al., 2023). In addition to cultivating a positive school culture, effective leaders strengthen teacher

commitment by prioritizing professional growth through meaningful feedback, instructional support, and manageable working conditions (Muir, 2020; D. Nguyen et al., 2024). Collectively, these leadership practices align with broader policy recommendations emphasizing the importance of both supportive environments and professional development in addressing teacher turnover (U.S. Government Accountability Office, 2022).

Building on this evidence, leaders at Oakbrook Middle School have implemented strategies that have led to significant improvements in teacher satisfaction and retention. The purpose of this article is to highlight four leadership practices used at Oakbrook Middle School that can serve as a model for strengthening teacher retention through a shared vision of high expectations:

1. Building a Culture of Shared Identity and Collective Ownership
2. Using Data as a Tool for Action Rather Than Compliance
3. Prioritizing Relationships and Staff Investment as a Leadership Strategy
4. Establishing High Expectations Through Consistency, Clarity, and Support

Oakbrook Middle School Outcomes

Oakbrook Middle School, located in the Lowcountry of South Carolina, serves almost 900 students. The school has experienced significant improvements in student learning growth and teacher satisfaction since 2023. In that year, 92% of teachers reported being satisfied with the learning environment, teachers' perceptions of working conditions averaged 6.58, and their perceptions of instructional focus averaged 6.73 on the South Carolina School Report Card (South Carolina Department of Education, 2023). Teachers' perceptions of working conditions and instructional focus

are rated on a 10-point scale, ranging from 1 (low) to 10 (high). By 2025, these measures showed substantial improvement: 100% of teachers reported satisfaction with the learning environment, perceptions of working conditions rose to 8.87, more than a full point above the state average, and perceptions of instructional focus increased to 8.49 (South Carolina Department of Education, 2025). Retention numbers have also increased significantly over the same period, further indicating that improvements in climate, expectations, and instructional coherence have contributed to stronger teacher commitment and stability. The following four evidence-based practices have been central to strengthening school culture and retaining a team of highly effective educators.

Practice #1: Building a Culture of Shared Identity and Collective Ownership

At Oakbrook Middle School, the leadership team intentionally treats culture as part of the instructional program, rather than a separate initiative. Through consistent recognition systems, schoolwide traditions, and visible leadership, students and staff are continuously reminded that they are part of something bigger than themselves. Acting on this belief, since 2023, Oakbrook has integrated Jostens Renaissance programming to strengthen the school community and enhance belonging at the school. Jostens Renaissance is a school culture initiative developed by Jostens, an organization that partners with schools to promote student and staff engagement through structured recognition and positive reinforcement systems.

Additionally, unique initiatives are planned to celebrate themed weeks, recognize students and staff, and provide opportunities for shared experiences across the school community. Purposeful events

such as Kindness Week and International Night are examples of this effort. Events like International Night bring students, families, and teachers together to celebrate the school's diverse cultures, strengthening relationships and helping students feel valued and connected to the broader Oakbrook community. Community-centric strategies can take many forms; yet, when chosen and implemented effectively, they play a significant role in shaping the organization's identity (Lochmiller et al., 2024).

As a result of these efforts, Oakbrook Middle School's intentional focus on belonging and shared ownership has strengthened relationships and fostered a more connected educational community where teachers feel a sense of ownership. A shared identity and sense of belonging are foundational to teacher retention (Lochmiller et al., 2024; Shell et al., 2023; Tran et al., 2023). At Oakbrook, culture is not viewed as an accessory to school success but as an essential condition for building a sustainable school community.

Practice #2: Using Data as a Tool for Action Rather Than Compliance

The importance of culture also shapes how academic data is interpreted and applied at Oakbrook. Data conversations focus on actionable insights, student growth, and meaningful support. Rather than simply reviewing scores, they emphasize responsive strategies that help students succeed. The leadership team works closely with teachers to use Northwest Evaluation Association's Measures of Academic Progress (NWEA MAP), South Carolina College- and Career-Ready Assessments (SC Ready), classroom observations and walkthroughs, and behavior data to identify needs, target interventions, and adjust instruction in real time. Effective action planning with data

requires great effort from teachers. Yet, this effort transforms the teacher's role from compliance to ownership, fostering collective efficacy throughout the school building.

Furthermore, interpreting and responding to student data is a collaborative team effort. Action-oriented and data-driven collaboration drives the work of professional learning communities at Oakbrook Middle School. Teachers and staff engage in instructional decision-making together, informed by meaningful analysis of student data. Data systems reflect a culture of high expectations and action at Oakbrook; action rooted in student growth. By inviting teachers in and making data discussions collaborative, practical, and action-oriented, teachers are more invested through instructional decision-making (Sanzo et al., 2011; Rheume et al., 2021). This investment cultivates shared ownership and unity where teachers feel both connected and committed to staying in the classroom (D. Nguyen et al., 2024).

Practice #3: Prioritizing Relationships and Staff Investment as a Leadership Strategy

The alignment of high expectations and teacher support is further grounded in authentic relationships among faculty, staff, and school leaders. The leadership team emphasizes staff morale and relationship-building as key drivers of school improvement. Teachers are treated as professionals and are consistently recognized, empowered to lead, and supported through clear, transparent communication and intentional expressions of appreciation. When teachers are genuinely respected, they are more likely to stay in their positions (Tran et al., 2023). Ongoing appreciation is sustained through personalized gestures such as handwritten

notes, public shout-outs, and small acts of encouragement, along with celebrations that highlight individuals who go above and beyond.

These acknowledgments are complemented by monthly recognitions that honor staff members' contributions, character, and impact. Together, these ongoing and meaningful expressions of gratitude support a shared commitment to high expectations while ensuring that every staff member feels valued and a part of the team throughout the year. Rather than confining recognition to a single appreciation week, Oakbrook's consistent and intentional approach fosters trust and contributes to a positive climate where both adults and students feel truly valued, ultimately improving teacher retention.

Practice #4: Establishing High Expectations Through Consistency, Clarity, and Support

The fourth leadership priority at Oakbrook is to establish systems and clear expectations across the school while ensuring that both staff and students receive the support they need to meet those expectations successfully. At the heart of this goal is a commitment to ensure that expectations are transparent, which supports teacher retention (Sanzo et al., 2011; Shell et al., 2023). Team standards are not merely written in a handbook that collects dust at the bottom of teachers' cabinets. Rather, the expectations of leaders, teachers, and staff at Oakbrook are clearly and proactively communicated through differentiated channels during the school year, including faculty meetings, staff communications, and informal conversations. More importantly, they are modeled daily by the building administrative team and consistently upheld by staff. Clear expectations create the foundation for addressing opportunities for improvement as

growth moments, strengthened by shared trust and strong relationships. These practices have fostered stability across academics, behavior, and daily operations, strengthening a culture of collective accountability and professional trust at Oakbrook.

A unified commitment to high expectations requires sustained investment in teacher support. At Oakbrook, strong outcomes are not the result of high expectations alone; rather, it is the combination of raised standards and a positive culture that makes the difference. High expectations and teacher support should not be competing priorities in middle school settings. In fact, teachers are most supported when expectations are clear and consistently applied, leading to stronger teacher retention (Shell et al., 2023). This emphasis on both support and accountability has strengthened staff trust and contributed to stronger overall school performance at Oakbrook. Together, these four practices create the conditions that support teachers to remain committed, reinforcing what students need most at school: their teachers.

A Systems Approach

The four practices outlined in this article are not implemented in isolation; rather, they are designed to work together as an intentional, interconnected system that strengthens daily practice. Oakbrook's systems-based approach to school leadership prioritizes proactive design and alignment, ensuring that expectations and support work together to produce consistent outcomes rather than reacting to challenges as they arise. In this way, the school culture, instructional data use, relationship building, and communication of high expectations reinforce one another to sustain improvement over time.

The transformation of Oakbrook Middle School has been extraordinary, with the school's report card rating rising from "Average" to "Excellent" in 3 years, a 12-point differentiation. This growth reflects more than short-term gains; it demonstrates the power of a clear, systemwide approach to supporting teachers and students through high expectations. These results underscore the importance of intentionally building systems grounded in collective ownership and transparency. Within Oakbrook, these four strategies have contributed to increased teacher satisfaction and stronger teacher retention.

Conclusion

At Oakbrook Middle School, expectations are not used as a mechanism for pressure, but as a form of instructional and organizational support that enables teachers to focus their energy on the meaningful work they do each and every day. For school leaders, this calls for a reexamination of what "support" truly means, moving beyond lowering the bar or adding initiatives, and instead providing clear priorities, consistent practices, and trust in professional judgment. At Oakbrook, four interconnected leadership practices have made the difference: shared identity, collaborative use of data, strong relationships, and clear expectations.

In the long term, it is this clarity and coherence that forms the foundation of sustainable teaching and a stable, committed faculty. Together, anchored in relationships and a collective commitment to excellence, these practices strengthen the teaching profession and raise the bar for teacher retention in middle schools. In today's educational landscape, where turnover and vacancies have become routine in middle schools, leaders face a decision about how to respond. The Oakbrook Middle School model illustrates that holding high

expectations with a unified culture of support leads to higher teacher satisfaction and retention.

Implications for Future Research

Based on this practitioner-focused article, future research should continue to explore how principal practices contribute to teacher retention over time, particularly through longitudinal studies that capture the evolving needs of teachers and schools. Additional attention should be given to how school leader preparation programs develop principals' capacity to create supportive, collaborative environments that encourage teachers to stay. Future studies should also further consider the unique contexts in which schools operate to identify leadership practices that are responsive to the needs of diverse teachers and communities.

References

- Dias-Lacy, S. L., & Guirguis, R. V. (2017). *Challenges for new teachers and ways of coping with them. Journal of Education and Learning*, 6(3), 265–272.
<https://doi.org/10.5539/jel.v6n3p265>
- García, E., & Weiss, E. (2019). *The teacher shortage is real, large and growing, and worse than we thought: The first report in "The Perfect Storm in the Teacher Labor Market" series*. Economic Policy Institute.
<https://files.eric.ed.gov/fulltext/ED598211>
- Hurd, E., Brinegar, K. M., & Harrison, L. M. (2023). Renewing the commitment for specialized middle grades teacher preparation and licensure. *Middle School Journal*, 54(2), 2–4.
<https://doi.org/10.1080/00940771.2022.2162773>

- Lochmiller, C. R., Perrone, F., & Finley, C. (2024). Understanding school leadership's influence on teacher retention in high-poverty settings: An exploratory study in the U.S. *Education Sciences*, 14(5), 545. <https://doi.org/10.3390/educsci14050545>
- Miles, R., & Knipe, S. (2018). "I sorta felt like I was out in the middle of the ocean": Novice teachers' transition to the classroom. *Australian Journal of Teacher Education*, 43(6), 105–121. <https://doi.org/10.14221/ajte.2018v43n6.7>
- Muir, M. (2020). *Leveraging shared leadership teams for better learning initiatives*. Association for Middle Level Education. <https://www.amle.org/leveraging-shared-leadership-teams-for-better-learning-initiatives/>
- Nguyen, T. D., Lam, C. B., & Bruno, P. (2024). What do we know about the extent of teacher shortages nationwide? A systematic examination of reports of US teacher shortages. *AERA Open*, 10(1), 1-18. <https://doi.org/10.1177/23328584241276512>
- Nguyen, D., See, B. H., Brown, C., & Kokotsaki, D. (2024). Leadership for teacher retention: Exploring the evidence base on why and how to support teacher autonomy, development, and voice. *Oxford Review of Education*, 51(1). <https://doi.org/10.1080/03054985.2024.2432635>
- Rheame, J., Brandon, J., Donlevy, J. K., & Gereluk, D. (2021). An analysis of responsive middle level school leadership practices: Revisiting the developmentally responsive middle level leadership model. *RMLE Online*, 44(9), 1–16. <https://doi.org/10.1080/19404476.2021.1987103>
- Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, 50(1), 4-36. <https://doi.org/10.3102/0002831212463813>
- Sanzo K.L., Sherman W. H., Clayton J. (2011). Leadership practices of successful middle school principals. *Journal of Educational Administration*, 49(1), 31–45. <https://doi.org/10.1108/09578231111102045>
- Shell, D. L., Hurt, C. S., & White, H. (2023). Principal characteristics' effect on teacher retention: A systematic review. *Educational Research and Reviews*, 18(6), 104–113. <https://doi.org/10.5897/ERR2023.4318>
- South Carolina Department of Education. (2023). *School report card overview*. <https://screportcards.com/overview/?q=eT0yMDIzJnQ9TSZzaWQ9MTgwMjAxOA>
- South Carolina Department of Education. (2025). *School report card overview*. <https://screportcards.com/overview/?q=eT0yMDI1JnQ9TSZzaWQ9MTgwMjAxOA>
- Tran, H., Cunningham, K., Yelverton, V., Osworth, D., & Hardie, S. (2023). How can school leaders retain teachers? The relative importance of different administrative supports for teacher retention in different types of schools. *NASSP Bulletin*, 107(3), 185-217. <https://doi.org/10.1177/01926365231198858>

U.S. Government Accountability Office.
(2022, October 27). *K–12 education:
Education should assess its efforts to
address teacher shortages*.
[https://www.gao.gov/assets/gao-23-
105180.pdf](https://www.gao.gov/assets/gao-23-105180.pdf)

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ORIGINAL PAPER

Moving Beyond Compliance: How Reflection Helped Teachers Rethink Engagement

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Abstract: Student engagement is often interpreted through visible behaviors such as participation, task completion, and compliance; however, these behaviors do not necessarily indicate meaningful cognitive or emotional investment. This classroom-based study examined how three middle school teachers used an Activity Engagement Tool and a structured reflection cycle to better understand and respond to student engagement. Over three months, the teachers documented observable behaviors among approximately 150 students, analyzed patterns across a continuum of engagement, and used their findings to guide instructional changes. The process helped teachers distinguish surface-level participation from authentic engagement and recognize disengagement as a possible indicator of unmet academic, relational, or emotional needs. Supported by professional learning in trauma-informed practices, teachers incorporated student choice, relevant learning experiences, emotional check-ins, positive classroom routines, and meaningful student responsibilities. Findings suggest that systematic observation and reflection can help teachers make more responsive instructional decisions and create learning environments that promote deeper thinking, stronger connections, and greater student ownership.

Keywords: *student engagement, teacher reflection, trauma-informed practices, instructional design, middle school*

The Problem Observed

Student engagement is a frequent topic of discussion among middle-level teachers, often defined by what is visible in the classroom: students paying attention, completing work, or participating in activities. However, these observable behaviors do not always reflect genuine engagement.

In classroom observations, three middle school teachers noticed an important pattern: students could appear engaged while doing very little deep thinking. They completed assignments, nodded along, and

stayed “on task,” yet their cognitive investment remained minimal.

This realization led to a critical question: How can teachers move beyond student compliance to design learning experiences that foster authentic engagement?

A New Way to Think About Engagement

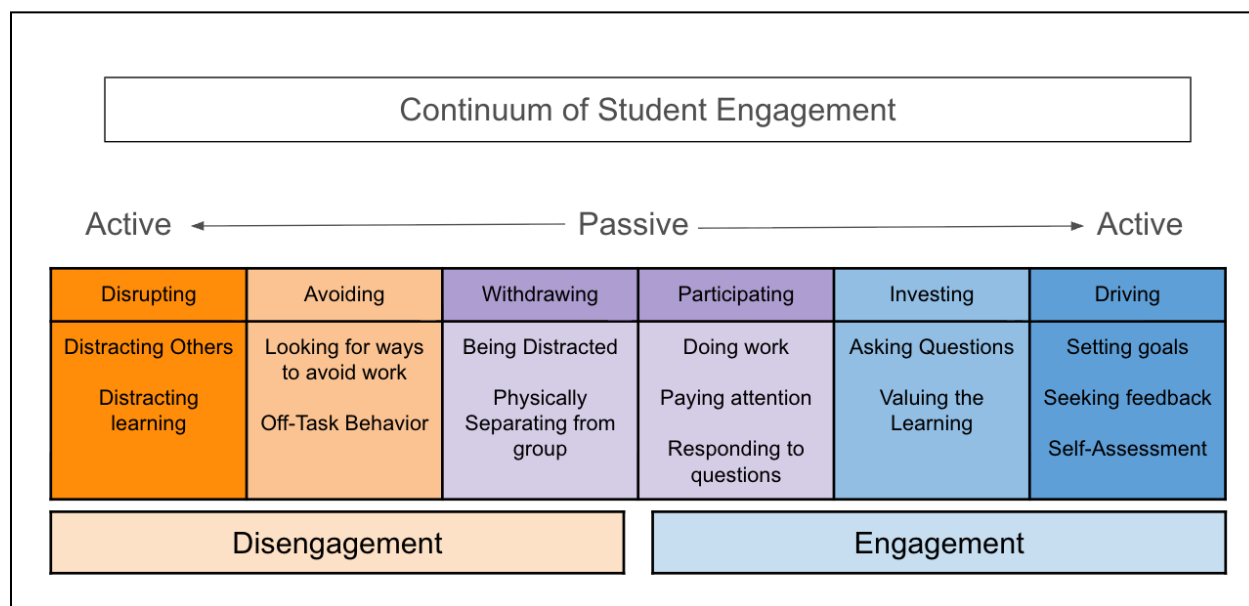
The Continuum of Student Engagement in Figure 1, adapted from Amy Berry's (2020) continuum of engagement, gave teachers a helpful way to rethink this challenge. Rather than treating engagement as a single idea, the continuum describes a progression of student experiences, moving from disrupting, avoiding, and withdrawing

toward participating, investing, and ultimately driving their own learning.

Using this framework shifted teachers' thinking in a subtle but important way. Instead of asking whether students

were doing the work, they began to ask *how students were engaging with it*. That shift changed not only what they noticed in their classrooms, but also how they responded

Figure 1 *Continuum of Student Engagement*



Note. Adapted from the continuum of student engagement presented by Fisher and Frey (2021), based on Berry's (2020) research on student engagement.

What Teachers Tried in Their Classrooms

This classroom-based study took place over three months and involved three middle school teachers whose classrooms collectively included approximately 150 students. Throughout the study, teachers used the Activity Engagement Tool during selected classroom activities to document observable student engagement behaviors. Teachers observed student behaviors during the selected activities and recorded any behaviors listed on the Activity Engagement Tool. Teachers reviewed the collected data to identify patterns in student behaviors across Berry's engagement continuum,

noting which behaviors and engagement levels occurred most frequently. Teachers then used these patterns to identify areas of focus and guide instructional changes throughout the three-month period.

To better understand student engagement, teachers were introduced to Pittman's structured *reflection cycle* (Figure 2), which guided them to *notice* what students were doing, *reflect* on patterns, *learn* from what they observed, and *redesign* instruction more intentionally. The *Activity Engagement Tool* (Figure 3), aligned with Berry's continuum, supported this reflection process and provided a framework for examining student engagement.

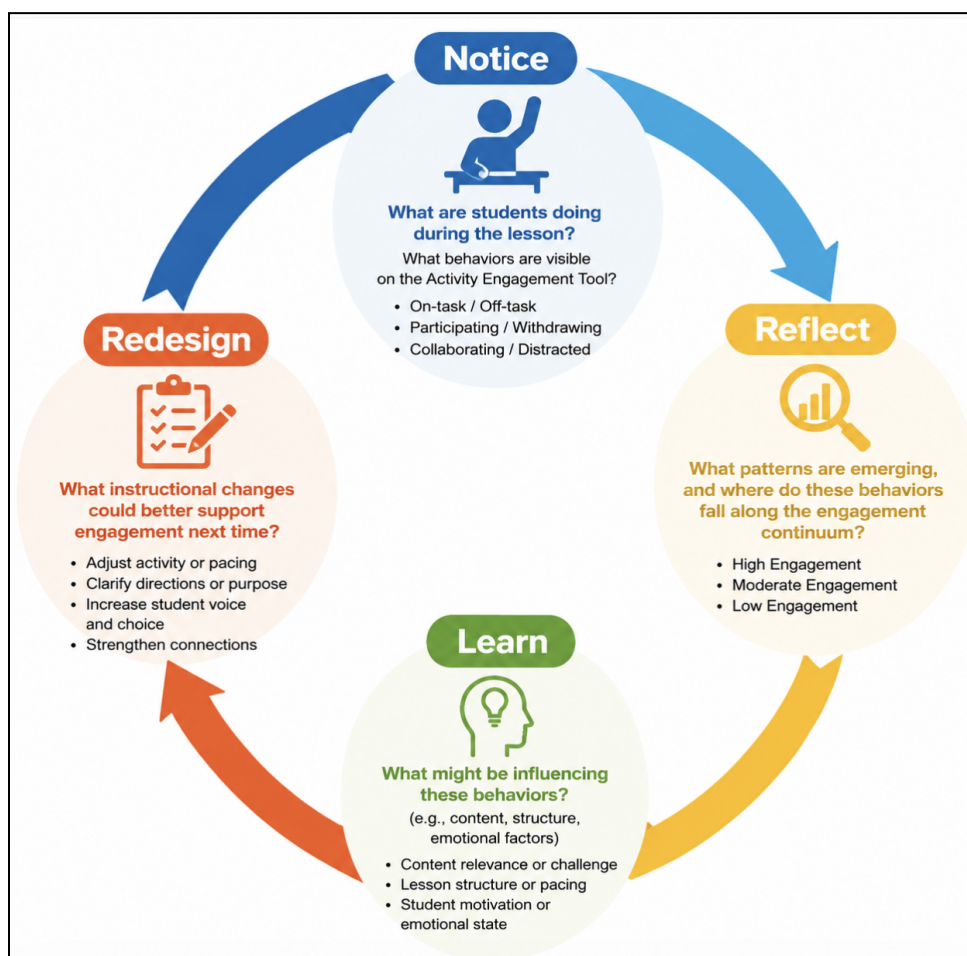
What made this process different was the shift from general impressions to specific evidence. Rather than saying a class felt engaged or disengaged, teachers could point to quantitative data of observable behaviors and consider where those behaviors fell along the continuum.

This work was further supported by professional learning around trauma-informed practices and resilience-infused instructional approaches, which helped teachers better interpret what they were seeing and respond more intentionally.

Teachers used a four-step reflection cycle to guide their instructional decisions:

- **Notice:** What are students doing during the lesson? What behaviors are visible on the Activity Engagement Tool?
- **Reflect:** What patterns are emerging, and where do these behaviors fall along the engagement continuum?
- **Learn:** What might be influencing these behaviors (e.g., content, structure, emotional factors)?
- **Redesign:** What instructional changes could better support engagement next time

Figure 2 *Reflection Cycle*



Note. Created by author.

Activity Engagement Tool

Dr. Pittman developed the *Activity Engagement Tool* (Figure 3) as a classroom observation instrument grounded in Amy Berry's *Continuum of Engagement*. While Berry's continuum provides a conceptual framework for understanding varying levels of student engagement, the Activity Engagement Tool operationalizes the framework by translating each level of engagement into observable student behaviors that can be documented during classroom instruction. This adaptation was designed to provide educators with a practical, teacher-friendly instrument they can use efficiently in the fast-paced classroom.

The tool enables teachers to collect real-time observational data on student engagement during authentic learning experiences. Rather than relying on teacher perceptions after instruction, the instrument focuses on specific, observable student behaviors that align with each level of the engagement continuum. For example, behaviors such as attempting to leave the classroom during instruction or side conversations may be classified as indicators of avoiding engagement. By emphasizing observable behaviors rather than subjective interpretations, the tool supports more consistent classroom observations and reflection.

As part of the reflection cycle process, participating teachers selected a classroom activity or lesson during which they would conduct their observations. Activities varied according to instructional

context and included lab investigations, learning stations, independent practice, note-taking, collaborative learning, and other instructional formats. During the selected lesson, teachers used the *Activity Engagement Tool* to record each observed engagement behavior by placing a tally mark beside the corresponding behavioral indicator whenever it occurred. This provided educators with quantitative data to support their instructional decisions.

After each observation, teachers analyzed behavior frequency across the engagement continuum to identify patterns of student engagement and disengagement in their classrooms. The engagement category with the greatest number of observed behaviors was identified as the teacher's area of focus for the first reflection cycle. Teachers then designed and implemented instructional interventions intended to increase engagement within that category. For example, if observations indicated that students most frequently exhibited behaviors associated with avoiding engagement, the teacher selected and implemented strategies specifically aimed at reducing avoidant behaviors and promoting greater participation during subsequent lessons. This data-informed process is aligned with the iterative nature of the reflection cycle, allowing teachers to use systematic classroom observations to guide instructional improvement and evaluate the effectiveness of their interventions over time. While this was used in a middle school setting, this *Activity Engagement Tool* can be used or adapted to any educational learning environment.

Figure 3 Activity Engagement Tool

Lesson Activity Engagement Tool					
Check all that apply; star ★ the most common category that you observed					
Disrupting (Active) Active Disengagement: Seeking control through noise or conflict.	Avoiding (Passive) Active Disengagement: Trying to look busy or escape the task.	Withdrawing (Passive) Passive Disengagement: Trying to become invisible.	Participating (Passive) Passive Engagement: Doing exactly what is told, but no more.	Investing (Active) These are the behaviors that show a student has shifted from "student" to "learner."	Driving (Active) Active Engagement: Taking responsibility for the outcome.
☒ Attention-seeking ☐ Interrupts or derails instruction ☐ Argues with teacher or peers ☐ Sabotages materials or tasks ☐ Polices peers ☐ Talks Loudly ☐ Using humor or jokes to derail	☐ Tries to escape the task or classroom ☐ Off-task behavior ☐ Fake working ☐ Stares at paper/screen with no progress ☐ Incomplete work ☐ Side Conversations	☐ Head down, sleeping, or silent ☐ No eye contact; physically turned away ☐ Separates from group ☐ Can't repeat what was said	☐ Only responds when called on ☐ Completes tasks exactly as asked ☐ Tracks the speaker ☐ Does the work, not the thinking ☐ Asks, "Is this for a grade?" ☐ Doing just enough ☐ Minimal creative	☐ Asks unprompted questions ☐ Shows visible interest ("aha" moments) ☐ Goes slightly beyond requirements ☐ Makes connections to prior learning ☐ Spends extra time due to interest	☐ Sets personal goals for the task ☐ Seeks feedback to improve work ☐ Self-assesses using criteria or rubric ☐ Leads other peers ☐ Proposal new ideas ☐ Advocates for Choices

Note. Created by author.

What Teachers Actually Saw

As teachers began using the *Activity Engagement Tool*, patterns quickly emerged, especially among students operating in the avoiding and withdrawing ranges of the continuum. These patterns were especially noticeable in middle grades classrooms, where students are developing independence while still needing strong relational and instructional support. These patterns included students appearing to work while doing very little meaningful thinking, engaging in off-task conversations, leaving work incomplete, avoiding eye contact, or physically withdrawing by putting their heads down or trying to go unnoticed.

Seeing these behaviors documented in a structured way helped teachers recognize that disengagement is not a single, uniform experience. It presents differently across students, and often in ways that are easy to overlook without deliberate observation.

How Teacher Thinking Changed

Before engaging in this process, many teachers equated engagement with participation, compliance, or following classroom rules and procedures. Over time, that understanding deepened as teachers began to distinguish between surface-level participation and deeper investment. After

their professional development, teachers started to consider the emotional dimensions of engagement, such as whether students felt safe, connected, and found joy and ownership in their learning. Or whether students were cognitively engaged, demonstrating deep understanding, connection, and transfer of learning. What initially appeared to be disengagement often revealed itself as something more complex, an indicator of unmet needs rather than a lack of effort.

Seeing Behavior Through a New Lens

Adopting a trauma-informed lens sparked one of the most vital transformations. Teachers participated in a one-hour training session exploring how trauma influences brain development and learning, and how these impacts manifest in the classroom. Instead of asking why a student was not motivated, teachers began asking what the student might be experiencing. Educators examine the significance of recognizing fight, flight, freeze, and fawn responses within a classroom setting. Furthermore, they explore the consequences when students operate from their "downstairs brain" instead of their "upstairs brain," noting how a deactivated prefrontal cortex can lead to behaviors commonly mistaken for disengagement (Souers & Hall, 2016). Behaviors communicate a signal of an unmet need. This can be emotional, relational, physical, or control (Souers & Hall, 2018). This reframing changed how behaviors were interpreted. Students who appeared to be avoiding work were sometimes "playing school" without fully understanding the content, while those who withdrew were often responding to stress, lack of relevance, or external challenges.

In one instance, a teacher identified a student who consistently disengaged during instruction. Through reflection, the teacher

recognized contributing factors such as home stress and a lack of connection to the content. This realization led to intentional changes, including more consistent check-ins, stronger relationship-building, and increased attention to emotional safety. Over time, these shifts improved participation and strengthened classroom culture.

What Changed in Planning

As teachers moved through the reflection cycle, their lesson planning became more intentional and responsive. Planning began to center not only on content, but also on students' emotional, cognitive, and behavioral needs.

Teachers incorporated more opportunities for student voice and choice, created stronger connections between content and students' experiences, and paid closer attention to how lessons were structured from beginning to end. The focus shifted from evaluating whether a lesson worked to understanding how students engaged and what adjustments were needed next.

Strategies That Made a Difference

As teachers moved beyond compliance, several intentional instructional shifts led to noticeable increases in student engagement. These strategies drew on both classroom observation and research on adolescent motivation.

One important instructional shift involved increasing student voice and choice. Teachers implemented choice boards that allowed students to demonstrate their learning in multiple ways, such as through writing, visual design, or oral presentations. While student voice and choice have broad benefits across educational settings, they are particularly significant in trauma-informed

classrooms. Students who have experienced trauma often feel a loss of control or power in their lives, and providing meaningful choices helps restore a sense of agency and ownership over their learning (Spiritos School, 2025). This flexibility also made learning tasks more accessible, engaging, and relevant for a diverse range of learners. Research further supports this approach, demonstrating that adolescents are more motivated when learning experiences foster autonomy, competence, pride, and respect (Yeager, 2024). By intentionally incorporating opportunities for student input and choice, teachers created learning environments that better supported both students' developmental needs and their emotional well-being.

Teachers also worked to make learning more relevant to students' lives. Teachers redesigned lessons to connect with student interests, current events, or real-world applications. When students saw personal meaning in the content, they were more likely to invest effort and engage more deeply.

Beyond instructional shifts, teachers intentionally focused on the classroom environment and emotional climate. Some incorporated positive music during work time to create a more welcoming and focused atmosphere. Others implemented brief, predictable daily routines, such as asking students to share something positive happening in their lives and having calming fidgets available (Bethell et al., 2014). These practices helped shift student mindsets and created a stronger sense of community.

Teachers also began using daily emotional check-ins to better understand students' readiness to learn. These check-ins provided insight into student experiences and allowed teachers to respond more intentionally to both academic and emotional needs.

Finally, teachers found that giving students meaningful responsibility significantly increased engagement. Assigning roles, leadership opportunities, or ownership over parts of the learning process helped students feel trusted and capable. This aligns with research suggesting that students are constantly asking themselves whether the authority figures around them believe in their competence (Yeager, 2024). When students feel respected and capable, they are more likely to engage fully in their learning.

What Teachers Learned About Engagement

Amy Berry's Levels of Engagement Continuum (2022) provided teachers with a shared language for discussing the behaviors they observed in their classrooms. More importantly, it helped educators recognize that student engagement exists along a continuum rather than fitting into a single category. Integrating the continuum into the Activity Engagement Tool enabled teachers to identify, interpret, and respond to patterns of student engagement during instruction more accurately.

As teachers implemented changes to their instructional practices, student engagement did not increase immediately. Instead, growth was gradual and varied across students, with the most significant improvements observed among those who received intentional support. This process reinforced an important realization: meaningful improvements in engagement occur when teachers respond to what they observe in the moment rather than relying solely on what they originally planned. Observation, reflection, and instructional adjustment became part of an ongoing cycle of continuous improvement rather than a one-time intervention. Through this experience, teachers also developed a deeper

understanding of the complexity of student engagement, recognizing that it is dynamic, multifaceted, and influenced by instructional, environmental, and emotional factors rather than existing as a simple, one-dimensional concept.

Areas for Continued Growth

While many students showed movement toward participating and investing, supporting students in reaching the “driving” level of engagement remains an area for continued growth. This level requires structures that allow students to take greater ownership of their learning, including opportunities for goal setting, self-assessment, and student-led work.

Why This Matters for Teachers

This work reinforces an important idea: engagement is not the same as compliance. This distinction is especially important in middle grades classrooms, where students are navigating increasing independence while still needing strong instructional and relational support. When students are disengaged, they are often communicating something about their needs, their experiences, or the learning environment itself.

By grounding reflection in observable evidence, teachers can better understand those signals and respond in ways that are more intentional and effective. Even small shifts in lesson planning can lead to meaningful changes over time.

Perhaps most importantly, this process positions teachers as decision-makers, professionals who can study their own classrooms, interpret what they see, and adapt their practice accordingly.

Final Thought

When teachers combine a clear framework for understanding engagement with a structured approach to reflection, they move beyond simply noticing student behavior. They begin designing learning experiences that support deeper thinking, stronger connections, and greater student ownership. That shift has the potential to significantly impact both teaching practice and student learning.

Quick Start: Small Shifts Teachers Can Try Tomorrow to Boost Engagement

- Offer structured choice: Give students 2–3 options for how they demonstrate learning
- Start with a daily emotional check-in: Use a quick scale (1–5), emoji, or one-word response
- Incorporate positive routines: Ask students to share one positive thing
- Use music intentionally: Play low-volume, instrumental music during work time
- Connect content to student interests: Begin with relevant questions or scenarios
- Assign meaningful roles: Discussion leader, connector, summarizer
- Pause and reflect during lessons: Are students thinking or just completing?

References

- Berry, A. (2020). Disrupting to driving: Exploring upper primary teachers' perspectives on student engagement. *Teachers and Teaching*, 26(2), 145–165.
<https://doi.org/10.1080/13540602.2020.1757421>

- Berry, A. (2022). *Reimagining student engagement: From disrupting to driving*. Corwin.
- Bethell, C. D., Newacheck, P., Hawes, E., & Halfon, N. (2014). Adverse childhood experiences: Assessing the impact on health and school engagement and the mitigating role of resilience. *Health Affairs*, 33(12), 2106–2115.
<https://doi.org/10.1377/hlthaff.2014.0914>
- Fisher, D., & Frey, N. (2021). *Show & tell: A video column—New thinking about student engagement*. *Educational Leadership*, 79(4).
- Souers, K. V. M., & Hall, P. (2016). *Fostering resilient learners: Strategies for creating a trauma-sensitive classroom*. ASCD.
- Souers, K. V. M., & Hall, P. (2018). *Relationship, responsibility, and regulation: Trauma-invested practices for fostering resilient learners*. ASCD.
- Spiritos School. (2025, June 4). *Moving beyond trauma-informed: Embracing a trauma-assumed approach in special education*.
<https://thespiritosschool.com/blog/moving-beyond-trauma-informed/>
- Yeager, D. S. (2024). *10 to 25: The science of motivating young people: A groundbreaking approach to leading the next generation—and making your own life easier*. Avid Reader Press.

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ORIGINAL PAPER

Leveraging the Power of Common Formative Assessments in Mathematics

Authors: Joshua Griffin, Brittany Hurley, Drew Polly

Abstract: Mathematics learning on the North Carolina End of Grade tests and on national assessments continues to show opportunities for growth in the middle grades (Grades 4-8). This article describes how a rural school district in North Carolina created and used common formative assessments in mathematics to strengthen planning, teaching, and learning. The article provides individuals with free, unlimited access to these assessments, as well as guidance on how they have been used most effectively.

Keywords: *assessment, formative assessment, mathematics, test development*

Background

The Benefit of Common Assessments

Have you ever had your car break down? When your car breaks down, you don't just change a spark plug and hope that fixes the issue. Metaphorically, the same goes with teaching and assessing students. When a student appears to not understand a concept, looks puzzled, or does not provide an appropriate strategy and answer, it is important to understand exactly what their strengths are, where and what their misconceptions are, so you can specifically address what the student doesn't understand. Teachers must be able to act like mechanics to diagnose a student's knowledge base. That is where the power of common formative assessments (CFAs) is.

Common assessments, both formative and summative, are important for multiple reasons (DuFour & DuFour, 2013; Schoenfeld, 2015). Common assessments ensure that students are held to the same expectations and learning goals no matter what school or teacher they have (Schoenfeld, 2015). Since students all learn the same standards, it makes sense that the

ways that they are assessed are similar as well. If students are assessed on the exact same items, student results can be meaningfully compared. As a result, shared strengths and misconceptions can be identified and discussed collaboratively, allowing educators to plan targeted additional learning opportunities. If a common assessment is designed correctly, the data can paint a picture of how a student thinks mathematically, which will give teachers the ability to fine-tune a student's mathematical understanding.

When all students are assessed using a common set of items, comparisons extend beyond just the results. Teaching practices that were used to gain certain measures can be discussed and shared, which act as a starting point for teachers to tailor to their own students' needs. While obviously there are differences between populations, even within the same school, meeting to talk about data allows teachers to share experiences of what worked and did not work for their students and is a great source of teachers' professional learning. Any time a collaborative professional practice can be

combined with a teacher's growth mindset, then the students benefit.

The Benefit of CFAs

Using Data from CFAs

In our work, we focus on common formative assessments (CFAs) since we were interested in assessments that allowed teachers to respond to the data to plan and provide additional learning opportunities for students. Unlike the End of Grade and/or End of Course (EoG/EoC) tests at the end of the year, where responding with additional learning opportunities is not feasible, CFAs provide opportunities for teachers and school leaders to analyze and plan what will happen as a result of the data (Maskos et al., 2025).

In mathematics, researchers have found that the use of CFAs and responding to the data has led to long-term increases in student learning (Polly et al., 2017; Veldhuis & Van den Heuvel-Panhuizen, 2020). Teachers, when they have access to CFA data that is aligned to Standards, have been able to successfully look at data and determine how to best meet their students' needs (Nortvedt & Buchholtz, 2018; Polly et al., 2017). Beesley and colleagues (2018) found that middle school teachers, when given valid assessments and support with the analysis of CFA data, were able to appropriately plan and teach additional learning opportunities regardless of their knowledge of mathematics teaching strategies.

Using CFAs As a Planning Resource before Teaching

In addition to using CFAs to provide data about their students, teachers have also benefited from looking at the problems on these CFAs ahead of time as a planning resource. The use of items on a CFA to support unit planning helps to ensure that

the initial teaching of concepts aligns to Standards and the rigor that is included on these CFAs (DuFour & DuFour, 2013). This consistent alignment between planning, teaching, and assessment around the Standards helps to increase the likelihood that students will learn and retain important concepts that will lead to their academic success (Martin et al., 2016; DuFour & DuFour, 2013).

In mathematics in North Carolina, many Standards include multiple concepts that overlap and intersect with each other. As a result, quality assessment items provide teachers and educational leaders with the entire breadth, depth, and rigor of how the Standards could be assessed. While commercially published curricula and instructional resources can help teachers teach content, many of these do not have direct alignment to the Standards and how the Standards are assessed. By looking at quality assessment items while planning instruction, teachers are able to keep the end in mind and determine how to support their students' learning en route to being able to succeed on the assessment (Wiggins & McTighe, 2005). In the next section of this article, we describe our journey designing, using, and revising CFAs and how it has positively impacted teachers' planning and their teaching, and most importantly students' learning.

Our Journey with CFAs Context

Josh Griffin is the Director of Testing and Accountability and the Secondary Mathematics Specialist in Franklin County, NC while Drew Polly is a university-based faculty member who supports mathematics teaching and learning in multiple districts and schools around the state. The school district where Griffin works is a rural district approximately 30 minutes outside of the

Raleigh-Durham Research Triangle area. The district includes 16 schools (8 elementary, 4 middle, and 4 high) and about 8,000 students. As a district, approximately 48% of the students have been identified as economically disadvantaged. A majority of these students are concentrated in specific attendance zones. In terms of demographics, the district's student population is 35.8% White, 30.9% Black or African-American, 25.9% Hispanic/Latinx, and the rest identify with two or more races.

As a small rural district, we were limited in the amount of funding and resources available to teachers, schools, and the district office. Since school populations are small in each school, teachers have 1 or 2 teachers per subject in middle and high school and 3 or fewer teachers per subject in elementary school. These logistics limit the amount of in-school collaborations that are possible, which led us to think holistically about whole district efforts where teachers and district leaders could collaborate and grow together to support teaching and learning. The focus on mathematics CFAs was purposeful since that was the content expertise of the authors.

Process of Creating CFAs

The process of creating the CFAs included two main areas: a) ensuring alignment to the Standards, and b) purposeful format of the items.

Alignment to the Standards

In many districts, it is found that quality teaching is not always the issue; sometimes it is the lack of focus or understanding of the content standards. Some of these high-quality teachers hold the misconception that questions aligned to certain standards can only be asked in a limited number of ways, when that is not the case. Due to this, the need to have questions that display the

breadth and depth of the standards, and also show the range of rigor, was displayed.

Districts using data and common assessments is not a new idea and has been studied in the past (Blanc et al., 2010; Datnow & Hubbard, 2015; Datnow & Park, 2014). However, we knew anecdotally that we needed a process that focused on Standards and the rigor of how the Standards are assessed in the development of the items on the assessments. Using the same protocol that state test makers use to create interim assessments seemed to be the obvious path for creation. To create the state-made interim assessments, the entire item pool is explored, and items are chosen that are uniquely different to show the variety of the standard. Since we in the district do not have access to the state's item pool, we simply looked at all of the interim questions, state EOG released questions, then filled any gaps (if any) with the unpacking document to ensure the breadth and depth of the standard was reflected. The questions from interim assessments and released tests were cloned, which means the numbers, context, and names were changed, but the skills needed to solve the questions remained the same in order to keep what is important and also not show students questions they may see later in the course.

Purposeful format of the items

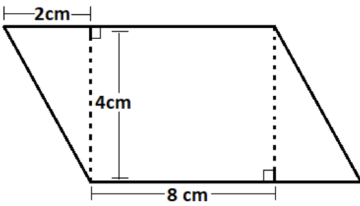
While the NC End of Grade and End of Course (EOG/EOC) tests included both multiple choice and constructed response tests, we intentionally decided to limit the use of multiple choice items. The rationale behind this choice was to ensure that students showed their work and provided evidence of the strategies that they used instead of allowing them to just select an option on a multiple-choice item.

Another intentional decision that was made was to provide multi-part scaffolded items. As you can see in Figure 1, in the

example on the left, students must find the linear best-fit model in Part 1 before using it to find the answers to Parts 2 and 3. In the image on the right, sixth-grade students are

asked to find the area of the different parts of the shape before finding the area of the entire shape.

Figure 1 *Samples of Multi-part, Scaffolded Items*

Sample from Math 1	Sample from Sixth Grade																		
8. (4 pts) The table below displays the walking heart rate and running heart rate of eight girls in beats per minute (bpm). <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="text-align: left;">Walking Heart Rate</th> <th style="text-align: left;">Running Heart Rate</th> </tr> </thead> <tbody> <tr><td>66</td><td>128</td></tr> <tr><td>72</td><td>136</td></tr> <tr><td>74</td><td>134</td></tr> <tr><td>78</td><td>138</td></tr> <tr><td>80</td><td>142</td></tr> <tr><td>84</td><td>146</td></tr> <tr><td>86</td><td>148</td></tr> <tr><td>88</td><td>152</td></tr> </tbody> </table> Part A. Determine the linear best-fit model for the data. (Round your answer to the hundredths place.) Part B. Using the linear best-fit model for the data, what is the predicted running heart rate of a girl whose walking heart rate is 100 bpm? (Round your answer to the hundredths place.) Part C. Using the linear best-fit model for the data, what is the predicted walking heart rate of a girl whose running heart rate is 130 bpm? (Round your answer to the hundredths place.)	Walking Heart Rate	Running Heart Rate	66	128	72	136	74	134	78	138	80	142	84	146	86	148	88	152	7. (9 pts) A tile is shaped like a parallelogram.  I. (3 pts) What is the area of one of the small triangles? (HINT: both triangles have the same area) II. (3 pts) What is the area of the center rectangle? III. (3 pts) What is the area of the entire parallelogram?
Walking Heart Rate	Running Heart Rate																		
66	128																		
72	136																		
74	134																		
78	138																		
80	142																		
84	146																		
86	148																		
88	152																		

When students have to answer multi-part, scaffolded items, teachers can see what part of the Standard students can do successfully and where there are opportunities for growth. Teachers have repeatedly commented about students' specific misconceptions by looking at their work on these types of items.

Additionally, while teachers typically enjoy the convenience of having students take online assessments since they can immediately see tables and graphs of students' data, we strongly encourage teachers to give these assessments on paper without an online option. This decision has not been made lightly as the EoG/EoC and NC Check-ins are 100% online assessments. However, we have found that students are more apt to show their work and strategies if they are required to write things on paper. For those teachers who do give it to students online, they require students to turn in their work on notebook paper to provide evidence of their strategies.

Providing Collaborative Opportunities Around Data

One of the most powerful pieces of common assessments is bringing teachers who don't normally collaborate with one another together to talk about their data and teaching practices. Just simply giving students assessments and collecting data does not improve students' data. The benefit of CFAs is the analysis of data and planning additional learning opportunities for students based on the data. Studies have shown that teachers benefit when they are supported during the analysis of data and planning of future learning opportunities (Polly et al., 2017; Beesley et al., 2018).

As a result, throughout our work with CFAs, we have been committed to holding regular meetings over Google Meet for teachers to collaborate with one another to discuss data, teaching strategies that they

used, and plan for additional learning opportunities. These meetings also provided opportunities for teachers to provide us with feedback on the items so that our process of continually refining them included teacher input. In the next section, we share the journey around the Math 1 assessments, which is a course that is taken in our district by both eighth graders and freshmen in high school.

The Beginning of the Process

Creation. The first common assessments created were done with NC Math 1, taken by both eighth graders and high school students. Historically, high school scores across the state are low due to the elimination of double testing and the "advanced" students taking Math1 in middle school. Although our Math1 teachers are veterans and high-quality teachers, our proficiency rate for high school prior to common assessments was slightly below the state average. Through our work with high school teachers, we knew we had a strong staff; however, beyond pacing, there were significant differences in what was taught, the depth of the standards addressed, and how students were assessed. Assessments built at the school were very inconsistent both in content and in rigor, and oddly enough, it was not the same school that had the "weaker" or "easier" test. It varied from unit to unit. We at the district level were not able to bring teachers together to talk about common issues or how we teach specific skills effectively, so we knew something needed to be done.

The summer before our common assessment implementation, a team was created to dive into interim assessments (NC Check-Ins), released EOCs, and the NCDPI unpacking document to create a breadth and depth of each individual sub-standard. Once created, items were cloned/written in order to accurately represent each sub-standard

and made into a unit assessment based on the district's pacing. Rubrics and answer keys were also created to support teachers' work.

Year 1. The first year of common assessment focused on honing the assessment. Each assessment served as a working document and was adjusted depending on multiple factors. The two biggest factors included whether: 1) the test assessed the skills that we want to assess, and 2) the way that the questions were being asked was ambiguous or confusing to students. If we found any issues, we revised the assessment for the following year. We also made notes of common student struggles and then talked about it as a group on how to provide additional learning opportunities on certain skills with students who have not demonstrated proficiency. Each of these meetings lasted 45-60 minutes, and we had them after each unit assessment was given, which was approximately every 4 to 6 weeks.

To be fully transparent, the first year for each grade was always the biggest struggle we faced at the district level, since we were establishing buy-in from teachers. As a district, we had to stress that these common assessments were for the betterment not only of our students, but also our teaching practice. The accountability piece was designed for the teacher to internally assess what and how they were teaching in hopes of fostering a growth mindset and becoming a reflective practitioner. Luckily, we had buy-in from a majority of our teachers. One in particular, who is a fantastic educator, happened to have students who did not score as high as her peers' students. This teacher had the pedagogical content knowledge to be successful, but needed to be shown the breadth and depth of the standards. After the first year of implementation, this teacher's

scores rose over 30%, and they became one of the highest in our district.

Year 2. Year two, our focus shifted from being reactionary to being proactive. Based on the previous year's results, we knew how we taught a certain skill and the results that came from that teaching practice. We were able to bring teachers together to talk about what they found to be successful and also collaborate to find solutions to where they were not successful. The success of the previous year solved the buy-in problem, and now we were working as an entire district instead of individual school PLTs. Each meeting we would spend about 10-15 minutes talking about results, discussing if any items needed to be modified, and next steps on student deficiencies, but then shifted to focus for the next 45-50 minutes on what was coming up next and how we would modify our current teaching practice to anticipate student struggles.

Year 2 also brought about our first attempt in grades 6 through 8. We decided to build all three grade levels at once and ended up being at least a few units ahead of the teachers. The first year of middle school looked very similar to the first year of NC Math 1. Our focus was making the assessments as good as they could be, and grade-level teachers and district staff spent a lot of time looking back as we discussed next steps to get our students where they needed to be.

The second year of middle school, however, looked very different from what the second year of Math 1 did. Middle schools across the state, especially in smaller rural districts, have found that a lot of their teacher candidates do not go through the typical higher education/pre-service teacher path. A majority of middle school teachers are getting their teaching licenses through a more non-traditional path, such as lateral entry or a residency license, and we

have a very transient population of middle school teachers. Due to many teachers having a lack of training and experience, our meetings in year 2 for middle school had a different format. During the meetings, we were still looking ahead, but the meetings were more district-led. The group talked about student struggles from the previous year, then resources were given and discussed in depth to help support the teachers' pedagogical content knowledge. The purpose of the meetings was exactly the same; however, what the district provided was more hands-on to help support newer teachers.

Our Latest Work: Including Upper Elementary Grades

During the summer of 2024, we decided to take the work of middle and high school mathematics CFAs and scale the work to both fourth and fifth grades for the 2024-2025 school year. Although the format of our assessments is slightly different due to standards-based grading, our processes have been almost the same. Similar to our experience at the secondary level, we have been met with positive teacher feedback and success with teachers being more knowledgeable of their Standards and the level of rigor that is expected for students.

One new aspect of our project that has emerged through the work in fourth and fifth grade has been considering the most essential questions for teachers to consider before and during data meetings. This topic came up due to teachers' busy schedules, and our goal is for teachers to look at their data prior to our meetings, but in ways that provide momentum to use data to inform planning for their students' future learning opportunities.

The addition of upper elementary grades has also led us to embrace teachers' flexibility in the administration and use of this. This flexibility has led to an increase in

teachers' buy-in and interest in using them, while also leading to variance and differences in their uses. Specifically, some teachers in upper elementary school grades use these CFAs formally, like the NC Check-ins and End-of-Grade tests; they provide read-aloud options for students who qualify for that accommodation, and they require independent work. Meanwhile, other teachers have used the CFAs in modified formats. Some teachers use the items for group work for students to work on during their math period, while some use them individually for exit tickets where they complete the CFA across a few days. These variations in how the CFAs are given are also the case with middle school teachers in order to provide flexibility. With these differences in CFA use, we have provided teachers with autonomy on how to use these quality items with the caveat that students' data on group work likely looks different than their data on independent work done in a more formal assessment context.

Recommendations and Looking Forward

Through this work with common assessments, teachers' instruction has improved, and students' data has benefited. As we look ahead, here are a few things that we feel are valuable considerations. These include: a) maintaining a collaborative culture, b) selecting rigorous additional learning opportunities, and c) reflecting on what specifics our students need.

The work involving the use of CFAs has included using the data from CFAs to better understand students' strengths and opportunities for growth and plan additional learning opportunities. The collaborative nature of the conversations between the teachers and us about the data and how to respond to it has been powerful for everyone involved. Teachers have become open and transparent about what has led to increasing

students' data and where students still demonstrate misconceptions. These conversations have carried over to the focus in Year 2 of using the CFAs to anticipate misconceptions and use the items to help inform planning of units. We have found that having teachers who are collaborative and embrace a culture of discussion and sharing to be essential in this work.

Another takeaway that we have learned is the need to select rigorous additional learning opportunities. Upon looking at the data the first time, teachers are often disappointed in their students' overall data on these assessments. Some of them report the need to tell their students that these are challenging problems and that they just want students to show their work and try their best. As a result of these rigorous items, a lot of teachers divert to plan and use easier activities and tasks in follow-up lessons. We have learned from our conversations with teachers in data and planning meetings that teachers just need a bit of guidance and opportunities to talk about what makes items rigorous and to ensure that those aspects of items are included in future activities.

Lastly, this CFA work has led teachers to be more student-focused than ever before, with a focus on reflection. Teachers in the data meetings often make comments about how they are pleased that they focused on specific concepts and types of mathematics problems while they were teaching. They also have referred to their students' process of learning to push through the struggle of rigorous tasks. One fifth grade teacher shared via email, "I think the more of these assessments they have taken, the better they are getting at taking them...they have learned to productively struggle through these questions."

Teachers have become more reflective through the CFA process about their planning, their teaching, and their

students' data. As indicated previously, it is this process of teachers reflecting on the CFA data and their teaching that improves their teaching and, in turn, increases their students' data and signs of their learning.

References

- Beesley, A. D., Clark, T. F., Dempsey, K., & Tweed, A. (2018). Enhancing formative assessment practice and encouraging middle school mathematics engagement and persistence. *School Science and Mathematics*, 118(1-2), 4-16. <https://doi.org/10.1111/ssm.12255>
- Blanc, S., Christman, J. B., Liu, R., Mitchell, C., Travers, E., & Bulkley, K. E. (2010). Learning to learn from data: Benchmarks and instructional communities. *Peabody Journal of Education*, 85(2), 205-225. <https://doi.org/10.1080/01619561003685379>
- Datnow, A., & Hubbard, L. (2015). Teachers' use of assessment data to inform instruction: Lessons from the past and prospects for the future. *Teachers College Record*, 117(4), 1-26. <https://doi.org/10.1177/016146811511700408>
- Datnow, A., & Park, V. (2014). Data-driven leadership (Vol. 12). John Wiley & Sons.
- DuFour, R., & DuFour, R. (2013). *Learning by doing: A handbook for professional learning communities at work*. Solution Tree Press.
- Martin, C. S., Polly, D., Wang, C., Lambert, R. G., & Pugalee, D. K. (2016). Perspectives and practices of elementary teachers using an internet-based formative assessment tool: The case of Assessing Mathematics Concepts. *International*

- Journal for Technology in Mathematics Education*, 23(1), 3-13.
- Maskos, K., Schulz, A., Oeksuez, S. S., & Rakoczy, K. (2025). Formative assessment in mathematics education: A systematic review. *ZDM—Mathematics Education*, 57, 679-693.
<https://doi.org/10.1007/s11858-025-01696-x>
- Nortvedt, G. A., & Buchholtz, N. (2018). Assessment in mathematics education: Responding to issues regarding methodology, policy, and equity. *ZDM*, 50(4), 555-570.
<https://doi.org/10.1007/s11858-018-0963-z>
- Polly, D., Wang, C., Martin, C. S., Lambert, R. G., Pugalee, D. K., & Middleton, C. W. (2017). The influence of an internet-based formative assessment tool on primary grades students' number sense achievement. *School Science and Mathematics*, 117(3-4), 127-136.
<https://doi.org/10.111/ssm.12214>
- Schoenfeld, A. H. (2015). Summative and formative assessments in mathematics supporting the goals of the Common Core standards. *Theory Into Practice*, 54(3), 183-194.
<https://doi.org/10.1080/00405841.2015.1044346>
- Veldhuis, M., & Van den Heuvel-Panhuizen, M. (2020). Supporting primary school teachers' classroom assessment in mathematics education: Effects on student achievement. *Mathematics Education Research Journal*, 32(3), 449-471.
<https://doi.org/10.1007/s13394-019-00270-5>
- Wiggins, G. P., & McTighe, J. (2005). *Understanding by design*. ASCD.

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COLUMN: BETWEEN TEACHERS**Designing Your Classroom Before Students Arrive****Author:** Maggie Price

Like many other beginning teachers, I entered the classroom with no knowledge of or experience in the world of education. I did not study education in college, and I had not been a traditional student teacher. I was fortunate enough to be teaching at the high school that I had graduated from only six years earlier and had a large support system of my own former teachers and others at the school. What I found, though, was that most of the advice I was given was directed at the big picture, like contributing to students' long-term success or deciding what I wanted my classroom rules to be for the year. All advice was given to me under the assumption that I at least somewhat knew what I was doing.

While I deeply value and appreciate this advice, what I really needed was help with the small choices, like how to physically set up my classroom and how to organize my day as well as my space so that it ran efficiently. I needed to be given advice on how to achieve basic survival in the classroom, which is a feeling that can easily become forgotten once daily routines become second nature. Many beginning teachers may receive this guidance from mentors during their first few weeks of the school year, but as someone who began mid-year, I had no formal mentor until the start of the following school year.

I've been teaching for two and a half years now, and have learned many lessons throughout that time about how to set up a classroom so that it maximizes your chances of surviving the school year.

The Beginning

My teaching journey began in the middle of the school year, when I was hired at the beginning of the second semester. Despite having no real idea of what I was doing, I instantly fell in love with teaching. That love was the only thing that carried me through the remainder of the school year. Looking back, I remember feeling extremely stressed and overwhelmed. Every day, I was responsible for managing 70 students while making countless decisions that no one had prepared me to make. I had so many questions that only led to more. At the time, each of these questions felt like life or death.

- How do I want students to sit?
- Should I have assigned seats?
- How do I assign them?
- Where do I want to sit?
- Why do I just have a lab counter and no desk for myself?
- Where do students turn in work?
- Where do students find materials, like scissors?
- Should they always have access to scissors, since they're mini knives?

One seemingly random concern that I had was their access to staplers. When I was a high school student, I had witnessed a fellow classmate staple himself in the forearm, partially because he was dared, and partially out of boredom. The teacher remained oblivious and never noticed the incident. That was the type of classroom that I wanted to avoid when setting up my own. The decisions made in response to those

questions continue to shape my classroom every day, much more than I initially expected.

The Lesson

Throughout that first semester and even the following school year, my learning experiences all pointed to one central idea: Classroom management begins *before* the student misbehaves. Experienced teachers did hint at this in their advice to me, but most classroom management advice was about creating rules to deter distracting behaviors or how to respond when those behaviors happen. That is still valuable for beginning teachers to know, but it is also very important to understand that classrooms can be designed and set up in ways that help to minimize interruptions.

Letting the Classroom Answer Questions

One thing that you'll quickly learn once you begin teaching is that students will ask you what feels like 100 questions each, all at the same time, every single day. For me, this felt like it increased my stress ten-fold. I was already overwhelmed, and felt like I was being pulled in a million directions at the start of each class. So, I decided to try to set my room up to be able to answer some questions myself, before the student ever felt the need to ask me. I wanted students to already know where to sit, where to get materials, where to turn things in, and where to find absent work without having to interrupt me and ask.

I didn't figure out how to do all of that at once, and I am continuing to refine my classroom so that it runs more smoothly. I began by making nametags for the desks so that students had assigned seats. Each time I gave new assigned seats, I began writing "New Assigned Seats" on the whiteboard with a smiley face. As students came in,

they would see the board and automatically find their new seats without me having to remind them or be interrupted by them asking if we had new seats. Now when I change seats, I no longer have to stop instruction to inform students of the change.

I even learned one lesson about assigned seats by accident. I start every semester with students sitting in alphabetical order so I can learn their names more easily. This past semester, I didn't have time to create nametags before the first day. So, out of necessity, I decided to let students choose their seats on the first day. Throughout class, I observed the students and took notes on who was the most talkative, which students distracted each other, and which were very quiet. After school, I created a seating chart and set up nametags. When students came in the next day and saw they had assigned seats, they assumed it was because they had been too talkative the day before and exhibited better behavior.

Something that causes many distractions without teachers noticing is student access to classroom materials, like scissors, colored pencils, or glue. I've always kept one materials station, and originally just used the setup that was left by the previous teacher in my classroom. This setup was on a small wooden table with open shoe-box-sized storage containers for the materials. The station was mostly out of sight, and students had to stoop down to access the materials. I quickly realized the Materials Station needed to change, so I moved it to an area with easier access, but kept the open containers. I noticed that students tended to throw materials back into the containers from a few feet away instead of walking them back and placing them where they belonged. To fix that behavior issue, I decided to move to stackable, labeled drawers. I set these up at the beginning of summer with the hope that it will make throwing colored pencils too

inconvenient for students to attempt, but I won't know if it works until school begins.

The biggest source of student questions that I face is about absent work. Many beginning teachers are caught by surprise at the number of chronically absent students. There are several ways that make-up work can be given to students, and like my materials station, I have tried a couple of different things. At first, students had to ask me for makeup work, and I would get it for them. I absolutely do not recommend this as it is stressful. You will quickly get disorganized because you will learn that you have to keep all assignments out and easy to access at all times, and you're inviting constant interruptions. It was a large "no thank you" for me.

Next, I tried keeping a folder for each day of the week in a location for students to access. Monday contains the work for Monday from that week, Tuesday contains Tuesday's work, and so on. Because some students miss more than one week at a time, they become confused, and it resulted in me still being interrupted by questions.

Now, I do something that takes a lot of time to set up at the beginning of the semester, but is completely worth it. I have a bin of hanging file folders, with one for each student. When they are absent, during that same class period, I will put all papers from class in their folder. If they ask me where to find their missing work, even if they've missed nine days, I say "It should be in your folder by the door. Did you check it?" Usually the student will go to the folder and find what they need. While it is tiring to create folders for all students, using the folders consistently throughout the school year has created a system that students can independently use. It has greatly reduced the

stress caused by constant interruptions from students regarding absent work and has helped me to maintain tidiness and order in my classroom.

One Decision at a Time

These are just a few examples of the constant tweaks that are happening in my room. None of the decisions are big decisions when you look at them separately, but during my first semester, they each felt overwhelming because I had never been taught the small things about setting up a classroom. All of those small decisions have now worked together to help my room run more smoothly and to reduce my stress load during the school day. I hope that this information is helpful to other beginning teachers as you plan for your new rooms and begin setting them up. I also want to remind beginning teachers that your classroom can be changed at any time. No classroom is perfect, but every room can be refined by making one small decision at a time.

If you are setting up your first classroom, or you are considering making changes in your classroom, this resource may be helpful. The QR code below will direct you to a quick-tips classroom setup guide. There are five tips for teachers who may be overwhelmed with setting up their room. The guide could also be used in professional development sessions for beginning teachers. On the guide, there is another QR code that will direct you to a more comprehensive guide that discusses the pros and cons of several classroom setup options. Using the pro/con guide can help you make decisions based on several factors, depending on how you would like your classroom to be set up and what your teaching style is.



Scan the QR code for Classroom Setup Quick Tips

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COLUMN: TOPICS, TECH, AND TRENDS**Teaching Kids to Use AI Well, Not Just Catching Them When They Don't****Author:** Joey Lord

This installment marks the second of a three-part series exploring the evolution of artificial intelligence, the ethics surrounding its use, and its potential to enhance student learning. Look for the next and final feature in the *NCMLE Journal*, where we will dive deeper into the potential to enhance learning.

Walk into almost any K-12 classroom right now, and you'll feel it: something has shifted. Generative AI — ChatGPT, Gemini, Claude, Copilot, DALL-E — showed up faster than most schools could get ready for it, and it's already changing how students do their work and how teachers think about what "their work" even means.

We have to stop treating every use of AI as an automatic academic integrity violation. That instinct is understandable, but it's not sustainable, and it's not even the right question. The real question isn't whether students are using AI — they are, whether we've given them permission or not. The question is whether we're teaching them to use it well. Banning it doesn't solve that. Teaching them how to think alongside it does.

Richard Culatta, CEO of ISTE and ASCD, recently said something worth sitting with: schools spend too much time defining AI literacy as an abstract concept and not nearly enough time teaching kids how to actually use the technology for learning (Klein, 2025). That distinction matters more than it sounds like it should. Knowing what AI is isn't the same as knowing how to use it responsibly, and right now, most of our policies are built for the first problem, not the second.

Start With Transparency, Not Rules

Every hard question about AI in schools eventually traces back to the same unresolved line: when does help become cheating, and who decides? That's not a question we can answer in the abstract. What we can do is build transparency into the process so students, teachers, and parents aren't guessing.

That starts with telling students plainly when AI is allowed, when it isn't, and what it looks like to disclose using it — and then actually holding that standard consistently across a school, not just in one teacher's classroom.

Teachers have a role here too, and it's a more powerful one than we usually give it credit for. When we show students how we use AI to brainstorm a lesson or work through a discussion topic, we're modeling something important: AI as a thinking partner, not a replacement for thinking. A simple version of this works well — a human starts with a question, AI helps draft or organize ideas, and a human finishes by revising and deciding what's actually good. That loop keeps a person in charge of the judgment calls the whole way through, and it's worth saying out loud to students, not just doing quietly.

It's also worth being honest with kids that these tools get things wrong — confidently, and often. AI can produce answers that sound completely reasonable and are simply false. Teaching students to fact-check what a chatbot tells them isn't optional; it's the whole package.

Meet Students Where They Actually Are

None of this looks the same at every age, and it shouldn't.

With elementary students, it helps to keep things concrete. Compare a smoke detector to a human nose smelling burnt popcorn — it gives kids a real sense of what a machine is doing versus what a person is doing, without getting abstract about it. At this age, the goal is simple: build the habit of asking "is this actually true?" and get comfortable with low-stakes, creative uses — brainstorming a story, generating an image for a project, using dictation tools to turn spoken ideas into text. The one non-negotiable is that they say when they used it.

By middle school, kids are ready for harder questions, and they usually start asking them on their own: whose work is this, really? Where does my thinking stop and the AI's start? This is the age to get serious about spotting bias and unreliable output, and to expect students to explain how AI shaped what they turned in. That habit of self-disclosure is exactly what serves them later.

High school is where it gets real. Students need to know the difference between AI helping them synthesize information and AI doing their thinking for them — especially in research and argumentative writing, where that line matters most. They also need to know that colleges and employers don't agree on AI policy, and that the habit of being upfront about how they used it will carry more

weight than any specific rule. This is also the age to open up the bigger conversations: algorithmic bias, data privacy, the environmental cost of these tools, what AI means for creative and professional work. Kids this age are ready to see AI as more than a tool — it's a force shaping the world they're about to enter, and they should get to productively struggle with that concept.

This Can't Just Live in One Classroom

Even teachers who do all of this well can't carry it on their own — the school around them has to back it up. Districts need real, tiered policies — elementary students shouldn't be held to the same standard as seniors — that spell out what's allowed, what disclosure looks like, and what happens when the line is crossed, while remaining flexible enough to keep up with technology that isn't slowing down.

Assignment-level clarity matters too. Teachers need to be able to tell students, in plain terms, what's fair game on this specific assignment. And it might be time to rethink how we assess altogether — leaning more on drafts, revision history, and in-class work, since a polished final product can hide exactly how much of the thinking was actually the student's.

None of this works if teachers themselves haven't had real time with these tools. Ongoing, hands-on professional development — not a one-off training — is what actually builds the judgment to teach this well, and it needs refreshing as the tools change, which they will keep doing.

And families need to be in the loop. A back-to-school night explanation, a newsletter, a page on the school website — whatever the format, parents deserve to understand how AI shows up in their kids' classrooms and what's expected of them.

The Bottom Line

Ethical use of AI isn't a discipline problem. It's a literacy problem — one of the defining ones of this era, alongside reading and digital citizenship. Schools that treat it that way, that invest in teaching judgment instead of just policing behavior, are going to serve their students far better than the ones still trying to catch kids in the act.

AI is going to keep changing. Our policies will have to keep changing with it.

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But the goal beneath it all stays the same: we're not just trying to get kids to use AI. We're trying to get them to use it well.

References

Klein, A. (2025, July 1). *ISTE CEO: Schools to redefine learning in the age of AI*. GovTech / Education Week.

COLUMN: STUDENT SHOWCASE**The Good, the Bad, and the Concerning: Considerations on Artificial Intelligence in Middle School****Author:** Madeline Kimes

I am a high school sophomore with many concerns about Artificial Intelligence (AI)'s short- and long-term effects on learning. My brother and I conducted our own research to explore the short-term effects of using AI on retention of knowledge. The results were frightening but fascinating, and will direct future work for me on this subject.

From our research results, the effects of AI on learning are not good, to put it bluntly. Many students we surveyed are using AI on nearly every assignment that comes their way. Research is beginning to indicate the potential for skill atrophy in our youth as a result of AI misuse (Kos'myna et al., 2025), which is extremely troubling to me. Students in middle school should especially put a focus on limiting their use of AI. In these formative years, they are developing their critical and deep thinking skills (Crone and Dahl, 2012). Critical thinking skills are imperative to ensure these students can form arguments, think things through, and succeed in school and their future careers. AI's potential to disrupt the development of these skills is troubling.

How will middle school students know how AI is potentially affecting their brain's development if they are not taught? The answer is that they likely will not. If we would like to see reduced use of AI, we must incorporate responsible AI use courses into schools' curricula. These courses should teach students about the negative and

positive effects of AI on learning, how it works, and how to use AI responsibly.

These issues, as well as others, have been a large concern for me as a high school student. Not only am I concerned for my peers, but I am also concerned for the future generations that must work alongside the students who overrelied on AI. Although research is being published on AI, it is still a relatively new subject. To learn more about it, I took a hands-on approach and decided to do my own research with my brother. Last semester, we were enrolled in "Introduction to Artificial Intelligence" through NCSSM Connect. We reached out to our professor, Fola Omofoye, MD, and he offered to mentor us in creating our project. We conducted a crossover study in our high school, in which we were looking to find how well students who used AI were able to retain information vs. students who were asked to use a textbook to do the same research. We found that students who used AI to write an essay were not able to retain nearly as much information as students who had used a textbook. We came to the conclusion that when students are using AI, they may be mindlessly writing information down rather than interacting with the information from the textbook and putting information into their own words. As a result of not interacting with the information in a hands-on approach, you are likely not able to retain as much information.

My research is in its infancy, and I have ideas about how I would continue this

work. I am looking to conduct my study again with the lessons that I have learned. Some improvements to my study would be to have the participants take an initial test to assess their knowledge on the topic they are to be tested on. This would provide me with a baseline and a better idea of how much these students learned and how much they initially knew. Additionally, I would conduct the study not only with students from my high school, but with students of a variety of demographics, including age and location. This would ensure that I have a diverse variety of participants, which would increase the validity of my study.

Teachers and students could take the lessons learned in this study to encourage them to put an emphasis on limiting the usage of AI in their classrooms and daily lives. Although AI is a powerful tool that can be a complement to our lives, it is not a replacement for critical thinking. We must establish this precedent and apply it, especially in the classroom.

My message to middle school students is to empower yourselves to seek out information, to be inspired, to voice your opinions, and to be curious and inquire. When you are a young student, you have every opportunity for education and success at your fingertips. You can and should optimize your future by resisting over-reliance on AI.

How can you build fundamental skills?

If you are a current middle school student, you should work to build a wide range of fundamental skills rather than outsourcing your learning opportunities to AI models. When you are learning a topic in a subject like math, for instance, the first thing you must do is learn to do the process by hand. After you establish these initial skills, you then learn how to do this topic on a calculator. This means that there are not

many applications of AI that would benefit you long-term before you have developed these initial skills. However, there are some ethical ways that you can use AI. Using it to create flashcards, explain complex concepts to you in a way that you can understand, and to give you feedback on assignments are all great ways that you can use AI.

How should you, as a middle school student, seek information?

First, you should consider ignoring the “AI overview” when you conduct a Google search. I personally have done this, and I have seen a significant improvement in my ability to find and locate information online. The AI overview feature is unnecessary and encourages students to passively find information. This is an issue because passively finding information might decrease your likelihood of retaining it long-term. Instead, you should actively seek information by searching a textbook or reliable websites.

Next, I would recommend that students, in their everyday lives, research more than only topics that they are assigned to write about. Alternatively, they should seek out information that they are interested in. This is a far better way to spend your free time, in contrast to scrolling through social media platforms. Becoming an informed person, especially on things that you care about, likely will open up a myriad of new opportunities for you. I beseech you to consider becoming someone who knows how to seek out information, because it means that you are the type of person who is doing above what is expected to learn.

How do you voice your opinions?

To voice your opinion, you should start by speaking to your peers about things that are important to you, whether that is climate

change or your favorite video game. What we are lacking in this day and age is people's ability to communicate. Learning to communicate will not only help you foster new friendships, but it will also open new doors for you in your future careers.

Once you refine these skills, you should use these skills to make a positive impact on your community. Become an active member of your community by volunteering and leading local community organizations.

Conclusion

I believe that AI is an extraordinarily powerful tool that could be used to help us learn. However, I also believe that if we do not teach our youth about the possible negative effects of using it, we can face adverse consequences. Some questions that I implore middle schoolers to consider before they decide to use AI are:

1. Why are you using this tool at this time?
2. What do you give up when you choose to utilize an AI tool for a given task?
3. Are you learning for the sake of learning, or just for a grade?

My name is Madeline Kimes and I am from North Carolina. I am interested in studying chemistry on a pre-med track to become an Oncologist. In my free time I golf, weightlift, and skateboard!

If you ask yourself these questions and still earnestly believe that using AI is in your best interest, then I encourage you to use it to your advantage. However, AI is still in its infancy, and I believe that you should use it with caution above all else.

References

- Crone, E. A., & Dahl, R. E. (2012). Understanding adolescence as a period of social-affective engagement and goal flexibility. *Nature Reviews Neuroscience*, 13(9), 636–650.
<https://doi.org/10.1038/nrn3313>
- Kosmyna, N., Hauptmann, E., Yuan, Y. T., Situ, J., Liao, X.-H., Beresnitzky, A. V., Braunstein, I., & Maes, P. (2025). *Your brain on ChatGPT: Accumulation of cognitive debt when using an AI assistant for essay writing task* [Preprint]. arXiv.
<https://doi.org/10.48550/arXiv.2506.08872/>