



Dennis-Yarmouth Regional School District

Instructional Office Newsletter

Jennifer Gonzalez on Note-Taking

In this *Cult of Pedagogy* article, Jennifer Gonzalez reports on her perusal of three decades of research on the best way for students to take notes on:

- **Classroom lectures;**
- **Videos in a flipped or blended environment;**
- **Assigned handouts or textbook chapters;**
- **Research for a project;**
- **Authentic tasks during a Genius Hour;**
- **Field trips.**

These are all situations where students need to capture information for future reference. Gonzalez gained the following insights:

- **Note-taking helps students remember.** “The thinking behind this,” says Gonzalez, “is that note-taking requires effort. Rather than passively taking information in, the act of encoding the information into words or pictures forms new pathways in the brain, which stores it more firmly in long-term memory.” In addition, students can access their notes at other times to refresh and reinforce the information.

- **More-detailed notes are better.** Studies have found that detailed, comprehensive notes result in better learning. Brevity is not a virtue when it comes to retention.

- **Explicit instruction on note-taking strategies is helpful.** This is especially true for students with learning disabilities. The Cornell Notes system is an example of an effective strategy that can be taught. Having been exposed to different approaches and the rationale behind them, students could be encouraged to choose the one that works best for them.

- **Visuals boost the power of notes.** Sketches, diagrams, and drawings improve the memory of concepts, terms, and relationships.

(Continued on page 2)

March 2019

Volume 6, Issue # 7

IMPORTANT DATES

March 1	Read Across America Day
March 5 th & 7 th	Conference Days: Early Release for all grades
March 10	Daylight Saving Begins
March 14	PI Day
March 17	Saint Patrick's Day
March 20	Spring Begins

IMPORTANT NOTICE:

Central office is a **fragrance-free zone** so please be respectful and plan accordingly when you visit.

Due to one of our members at the CO being highly sensitive to any type of fragrance, we ask that staff visiting/meeting at the Administration building refrain from using any scented products. Fragrances from personal care products, air fresheners, laundry and other cleaning products have been associated with adversely affecting a person's health. We ask that we all work together to make the environment a safe and healthy workplace for everyone.



Thank you very much for your cooperation!





(Continued from page 1)

- **Revision, collaboration, and pausing are effective strategies.** Teachers might consider stopping a lecture or video to give students a chance to review, consolidate, and chat about their notes up to that point.

- **Scaffolding increases retention.** One strategy is guided notes (a.k.a. skeleton or skeletal): the instructor provides an outline with spaces for students to fill in more detail as the lecture proceeds. A less-structured approach is providing verbal cues like, “This is an important point” or “Be sure to add this to your notes.”

- **Providing instructor notes improves learning.** This would seem to do too much of the work for students, but it’s helpful when students get complete, well-written, instructor-prepared notes *after* they’ve taken their own. Teachers can deal with students being tempted to not take notes (because they’ll receive them at the end of the class) by (a) building in pair sharing of notes; (b) monitoring students’ notes, either during or after the class; (c) giving a small grade for quality; and (d) sharing research with students about the power of the one-two approach.

- **Handwritten notes produce better retention than digital notes.** This has led some teachers and professors to forbid the use of laptops for note-taking. However, says Gonzalez, the research on this is quite young and there’s an argument for allowing laptops so students learn how to deal with the temptations for multitasking that laptops continually present. Students might also be asked to experiment with both approaches and do action research on which results in better learning and retention.



“Note-Taking: A Research Roundup” by Jennifer Gonzalez in *The Cult of Pedagogy*, September 9, 2018, <https://www.cultofpedagogy.com/note-taking/>

Getting Elementary Students Writing in Math Classes

In this article in *The Reading Teacher*, Madelyn Colonnese (University of North Carolina/Charlotte), Christina Amspaugh (University of Virginia/Charlottesville), Steven LeMay (Fairfield University), Kyle Evans (Trinity College), and Kathryn Field (University of Connecticut/Storrs) suggest four

ways that elementary math classes can use writing to clarify and enhance understanding:

- **Exploratory writing** – To make sense of a problem, situation, or one’s own ideas. For example, in a third-grade class learning fractions, students were asked to write in their journals about how fractions are used. One wrote about pizza slices, another about how graham crackers divide up. When they talked, they had insights about how the same fraction can mean different things, given the context: eating half a pizza would fill one’s belly, but eating half a graham cracker wouldn’t.

- **Informative or explanatory writing** – To describe or explain. Noticing the insight the pizza and graham cracker students had, the teacher asked the whole class to compare the amount of land covered by the playground and the blacktop. The class went outside and used various means to measure both areas, then they returned to the classroom and wrote their theories. As the teacher walked around looking at students’ writing, she was able to assess how well they were grasping the idea that the same fraction can represent different-sized quantities depending on the size of the whole.

- **Argumentative writing** – To construct or critique an argument. The teacher convened students on the rug and asked if a whole was always bigger than a half. Most students said it was, and the teacher then handed out mini chocolate bars to those students and a half of full-size chocolate bars to the few who demurred. She then sent students back to their desks to write to this prompt: “When comparing two different items, the whole of one item is always larger than one-half of another item. Do you agree or disagree, and why?”

- **Mathematically creative writing** – To document original ideas, problems, and/or solutions, elaborate on ideas, and convey fluency and flexibility in thinking. One student in this third-grade classroom had an idea as she did a math worksheet and wrote this question in the margin: “If one-third as a decimal is 0.33333... and two-thirds is 0.666666..., then why is three thirds equal to one and not 0.9999999...? As in this case, mathematically creative writing is often sparked by a student getting curious and exploring beyond the regular lesson.

“Engaging students in mathematical writing both extends students’ communication skills and leverages the power of writing to enhance learning





within the discipline of mathematics,” conclude the authors. “Writing can be a powerful tool that prompts students to think deeply and illuminates for teachers the depth and quality of thinking happening in a student’s mind. The more students and teachers can share and reflect on written ideas, the more deeply students may internalize concepts fundamental to mathematical content.”

“Writing in the Disciplines: How Math Fits Into the Equation” by Madelyn Colonnese, Christina Amspaugh, Steven LeMay, Kyle Evans, and Kathryn Field in *The Reading Teacher*, November/December 2018 (Vol. 72, #3, p. 379-387), <https://bit.ly/2QAwAaX>; Colonnese can be reached at mcolonn1@uncc.edu.

Responding Effectively to Students’ Writing

In this portion of one of Larry Ferlazzo’s question-and-answer columns in *Education Week Teacher*, Susan Brookhart (Dusquesne University) suggests five steps when giving students feedback on their writing:

- **Make sure students know what qualities their writing should exhibit.** For example, if they’re writing descriptive paragraphs, they should be clear that their writing should use adjectives that describe by telling what something looks, sounds, tastes, smells, or feels like, and that readers feel like they are “there,” experiencing whatever is described. Clear directions give students a self-assessment checklist for their writing:

- ✚ **Are my adjectives descriptive?**
- ✚ **Do they conjure up sight, sound, taste, smell, or touch?**
- ✚ **Will my readers feel like they’re really experiencing what I’m describing?**

“The best feedback on student writing,” says Brookhart, “tells students what they want to know to get closer to the particular vision of writing they are working on.”

- **Notice and name at least one thing students did well.** “Even the poorest paper has something to commend it,” says Brookhart. “Find that and begin your feedback there” so students can build on their strengths. Don’t assume that students know which of the success criteria they’re meeting.

- **Suggest one or two immediate improvement steps for the next draft.** “Your



feedback does not need to ‘fix’ everything possible,” says Brookhart. “It only needs to take the student’s work to the next level.”

- **Learn something yourself.** Every opportunity to give feedback is also a chance for the teacher to learn something about what students are thinking, the status of their writing skills, and what they need to learn next.

- **Give students an immediate opportunity to put the feedback to work.** Absent this, a lot of feedback will go to waste because kids don’t have a file drawer in their head that they’ll access the next time this kind of writing is assigned. “No matter how well-intentioned the student,” says Brookhart, “this just isn’t how it works.”

“Q&A with Larry Ferlazzo” in *Education Week Teacher*, November 17, 2018, <https://bit.ly/2E9PKSr>

Dylan Wiliam on the Powerful Potential of Formative Assessment

“People often want to know ‘what works’ in education,” says U.K. assessment guru Dylan Wiliam in this article in *Voices from the Middle*, “but the simple truth is that everything works somewhere, and nothing works everywhere. That’s why research can never tell teachers what to do – classrooms are far too complex for any prescription to be possible, and variations in context make what is an effective course of action in one situation disastrous in another.”

But recent research tells us that formative assessment, used well, can significantly improve student achievement. Formative assessment is often thought of as in-the-moment checking for understanding. Not necessarily, says Wiliam. Moreover, he believes the term formative assessment is a misnomer; what makes a difference is the *formative use of assessment* at any point in the learning process. “There will never be an optimal model,” says Wiliam, “but as long as teachers continue to investigate that extraordinarily complex relationship between ‘What did I do as a teacher?’ and ‘What did my students learn?’ good things are likely to happen.” Some examples:

- **A seventh-grade English teacher gives a test under exam conditions and collects students’ papers.** After quickly reading them, the teacher decides not to grade them; rather, she gives them back the next day, has students sit in groups of four, and asks each group





to write the best composite paper. Each group then reports out to the whole class and the merits of their collaborative work are discussed and debated. “What is interesting about the example,” says Wiliam, “is that the assessment being used had been designed entirely for summative purposes, but the teacher had found a way of using it formatively.”

• **A fifth-grade teacher introduces students to five kinds of figurative language: alliteration, hyperbole, onomatopoeia, personification, and simile.** Five minutes before the end of the lesson, she write the five on the board and reads these sentences aloud:

- **He was like a bull in a china shop.**
- **This backpack weighs a ton.**
- **The sweetly smiling sunshine warmed the grass.**
- **He honked his horn at the cyclist.**
- **He was as tall as a house.**

Students “finger vote” which kind of figurative language they heard (one finger for alliteration, two for hyperbole, etc.).

Most students give correct responses to the first two, but the third sentence gets a mix of one finger and four fingers. The teacher notes that they are both right and wrong: the sentence has both alliteration and personification. Realizing that a sentence might contain more than one, most students get the last two correct (alliteration and onomatopoeia, and simile and hyperbole). In less than three minutes, this teacher used a formative assessment to check for understanding, grade, and take follow-up action.

• **A sixth-grade class works on suspense stories, with these ground rules: (a) stories need to contain four phases: establishment, build-up, climax, and resolution; and (b) stories must contain at least two examples of figurative language.** When students finish a first draft, they exchange papers with a classmate and everyone switches roles from “author” to “editor.” Each editor marks up the story using four different colored pencils to mark the beginning of each phase and a fifth color to underline the two examples of figurative language. With the editor’s approval, a story is submitted to the “chief editor” (the teacher). Because each editor is accountable for ensuring that the required elements are there, students take the role very seriously.

Wiliam suggests three key considerations with formative assessment: **(a)** Where the learner is right



now; **(b)** Where the learner needs to be; and **(c)** How to get there. Then teachers need to use a process that involves the student, their peers, and the teacher. Trying to follow Albert Einstein’s advice – “Make things as simple as possible, but not too simple” – Wiliam suggests these steps:

- **Clarifying, sharing, and understanding learning intentions;**
- **Orchestrating effective discussions, activities, and tasks that elicit evidence of learning;**
- **Feedback that moves learning forward;**
- **Activating peers as learning resources for each other;**
- **Getting students to own their own learning.**

Wiliam concludes with a quote from researcher Roy Sadler: “The indispensable conditions for improvement are that the student comes to hold a concept of quality roughly similar to that held by the teacher, is able to monitor continuously the quality of what is being produced during the act of production itself, and has a repertoire of alternative moves or strategies from which to draw at any given point.”

“Assessment: The Bridge Between Teaching and Learning” by Dylan Wiliam in *Voices from the Middle*, December 2013 (Vol. 21, #2, p. 15-20), <https://bit.ly/2BAMVWX>; Wiliam can be reached at dylanwiliam@mac.com.

Respect for Physical Education



In this article in *Principal Leadership*, Ingrid Johnson (Grand Valley State University) and Mike Ginicola (Stratford Public Schools, CT) push back on some common mistaken notions about physical education:

• **Misconception #1: Physical education is “gym.”** Actually, physical education is one of 18 core subjects identified in the ESSA legislation, and it’s vital to students’ futures and the health of the nation. “The gymnasium is the room that I teach in,” say the teachers, “but I am a physical education teacher.” Johnson and Ginicola bemoan the fact that only Oregon and D.C. meet suggested minimum requirements for minutes of physical education.

• **Misconception #2: Gym is a time for students to burn off excess energy.** Yes, students are active during class, but the ultimate goal is applying what they learn in their lives. Physical education





teachers should be able to say what students will be learning in each class (standards, goals, focus, objectives), why they are learning it (its role in increasing physical literacy), and how they will know when they are successful (feedback and self-monitoring).

- **Misconception #3: Dodgeball and kickball are fun.** “Human target” games should never be played, say Johnson and Ginicola; they cause injuries and mental health problems.

- **Misconception #4: Students should be playing full-sided team sports.** Actually, small-sided games are better, optimizing each student’s skill practice and contact time with equipment.

- **Misconception #5: The focus should be on competitive sports.** Only about half of students will engage in this kind of athletic activity in high school, and a mere five percent will do so as adults. That’s clearly not the best focus for K-12 physical education.

- **Misconception #6: Physical education steals time from academics.** In fact, say Johnson and Ginicola, high-quality physical education can teach and reinforce math, reading, writing, and science concepts, and by middle school, teachers can inject additional content. What’s more, research has shown that regular physical education improves students’ focus and achievement in academic classrooms.

- **Misconception #7: There’s no meaningful assessment in physical education.** In a good class, students’ cognitive, affective, and psychomotor skills are measured against national standards. How hard students try, and how quickly they change clothes, should not be part of the assessment picture.

- **Misconception #8: Gym is really about planning time for elementary classroom teachers.** This is a hot-button respect issue for physical education teachers. The fact that art, music, phys. ed., and other “specials” create prep periods for homeroom teachers “should in no way diminish what students learn during that time,” say Johnson and Ginicola. “Additionally, students should not be held back from physical education lessons because they did not complete classroom work or had disruptive classroom behavior.”

“**The bottom line,**” conclude the authors: “Quality physical education programs are an essential component of the well-rounded education of our young people... It’s time to put an end to old-fashioned gym class and start holding physical education teachers



to the same standards and expectations as other teachers in school.”

“**Fit to Learn**” by Ingrid Johnson and Mike Ginicola in **Principal Leadership**, January 2019 (Vol. 19, #5, p. 14-17), <https://www.nassp.org/2019/01/01/fit-to-learn-january-2019/>; the authors can be reached at johnsoi@gvsu.edu and ginicolam@stratk12.org.

Supporting EL Students in High-School Math Classes

In this article in *Mathematics Teacher*, Manqian Zhao (University of Connecticut) and Karen Lapuk (Goodwin College Magnet Schools) suggest five ways to help English learners succeed in high-school mathematics classes:

- **Build cultural background knowledge.**

Although Arabic numerals and basic formulations are almost universal, mathematics language is different from everyday speech, and it has different “dialects” around the world – for example, there are different ways to solve long division problems in Puerto Rico, Vietnam, Poland, Colombia, and Laos. “Without awareness of cultural differences,” say Zhao and Lapuk, “some teachers might identify EL students as having limited mathematics knowledge; however, the truth is that they know how to do mathematics, they just do not know how to do it ‘our way.’ Acknowledging different methods of solving problems is important, especially when students understand in a systematic way how to get the correct answer.” Students might be given a short questionnaire at the beginning of the year to assess their knowledge (e.g., metric measurement, U.S. money), skills, and ways of solving problems.

- **Build math vocabulary.** Code-switching between languages and explicitly addressing different ways of saying numbers is helpful. For example, the Chinese number words for 11, 12, and 13 translate as *ten one*, *ten two*, and *ten three*, and the French word for 90 is *quatre-vingt-dix* – $4 \times 20 + 10$. It’s also helpful to draw attention to cognates that are similar across languages – for example, the prefix *tri-* means three in English, French, Italian, Spanish, and Portuguese. Students might create a chart comparing attributes of shapes (triangle, octagon) in their native language and English: name, attributes, a real-life object, and a sentence in English.

- **Dealing with word problems.** “For EL

math vocabulary cards





students, decoding a traditional word problem can be difficult, particularly when they are not invested in the story or do not understand key words or even names,” say Zhao and Lapuk. “These problems are not presented as a narrative, as one would read in an English class, but as a descriptive puzzle that students need to decode.” It’s helpful to create word problems using students’ names and drawing on everyday stories, news reports, or even culturally relevant legends.

- **Support math writing.** Students might be asked to create a double-entry journal, with the math problem on one side and the student’s step-by-step thinking process on the other. The native language can serve as a mediator between the math problem and the explanation of the thought process in English. Students might also be asked to post a tweet to explain a definition, or write a short story or journal entry using math vocabulary.

- **Support speaking in a “free” language environment.** Some EL students are quiet in whole-class math discussions because they need extra time to translate the content. Such students benefit from working on problems in small groups and being allowed to use their native language, use drawings, or work with the double-entry journal mentioned above.

“Supporting English Learners in the Math Classroom: Five Useful Tools” by Manqian Zhao and Karen Lapuk in Mathematics Teacher, January/February 2019 (Vol. 112, #4, p. 288-293), available for purchase at <https://bit.ly/2RaSCFm>; the authors can be reached at manqian.zhao@uconn.edu and klapuk@gmail.com.

Easing the Transition for Elementary English Learners



“There are plenty of hard things about school for all kids,” says Arkansas teacher Justin Minkel in this *Education Week Teacher* article; “too many tests, too much sitting, too little recess. But for English learners, there is an added layer of difficulty; the constant effort to understand and make yourself understood can be exhausting.” Here’s what Minkel does to ease that burden for his 25 first and second graders, all of whom speak either Spanish or Marshallese at home:

- **Warm them up.** Minkel has students sit in a circle and pass around an invisible ball without talking, imagining that it keeps changing in size and weight,

from a marble to a weighty boulder. He also reads books aloud, has students choral-read a familiar book, and has them turn and talk about what they like to do after school or describe their favorite place to read at home.

- **Get them laughing.** Anyone trying to speak an unfamiliar language has an “affective filter” of self-consciousness, embarrassment, and fear of looking foolish, says Minkel, and that can “stifle our thoughts and trip up our tongues.” Humor can help – singing silly songs, reading hilarious books aloud (the *Elephant and Piggie* series by Mo Willems or the chapter on whizzpoppers from Roald Dahl’s *The B.F.G.*). “Don’t be afraid to be ridiculous,” he says.

- **Get most of the talking happening in small groups or with partners.** “It’s a good teaching practice, with all students but especially English learners, to do less ‘teacher talk’ and more conversation and group work,” says Minkel. “The kids, not the teacher, are the ones who need practice speaking English.” Before having students speak in front of the whole class, he suggests having them discuss the topic with their “elbow partners” to practice the language they’ll use if they’re called on. That way they’ll speak more, learn more, and be less self-conscious.

- **Don’t let your frustration show.** “There is no faster way to make a child clam up than to express anger and frustration,” he says. “Take a deep breath, slow down, and show your students the same grace you would want if you were taking an algebra class in Russian.”

- **Realize that more is going on in their minds than they can express.** “One of the hardest parts about struggling with a foreign language is that you don’t have the words to express your thoughts,” says Minkel. He imagines himself at a dinner party where everyone is speaking fluent French and what he thinks is a sophisticated thought comes out, “Me like books when they is good and not bad.” It’s okay for students to speak their native language every once in a while, especially with a small group of classmates about math or science, providing a bridge for difficult concepts. And it’s okay for the teacher to speak with students in their first language – especially if the kids are more proficient than the adult – “a wonderful role reversal.”

“Being an English Language Learner Is Hard. Here Are 5 Ways Teachers Can Make It Easier” by Justin Minkel in *Education Week Teacher*, February 7, 2018, <https://bit.ly/2BJL4kP>

