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Dennis-Yarmouth Regional School District

Instruction Office Newsletter

GETTING STUDENTS DOING AUTHENTIC WRITING

In this article in *English Journal*, Anne Elrod Whitney (Penn State University) says teachers can make in-school writing authentic in four ways:

- **AUTHENTIC GENRE** – This means getting young writers working on “real tasks, not fake ones,” says Whitney – in other words, not five-paragraph essays, book reports, short answers, summaries. Instead, students should be composing advice columns, book reviews, travel essays, magazine articles. Of course students should see examples of those kinds of writing, what makes each distinct, and their purpose, audience, and context. “Encourage students to pay attention to the writing they see people doing outside of school,” she suggests. “Make time to talk about the purposes people fulfill with writing.”
- **AUTHENTIC PROCESS** – “Do we acknowledge the struggle inherent in the process of writing?” asks Whitney. “Do we exercise compassion in its presence? Do we reveal the ways we, too, are imperfect and how we, too, struggle?” The writing process must be flexible, she says, since things never go according to plan. “If their drafts take them somewhere deeper than they thought, do they have the space to follow the thread and see what they write, or does the assignment make a neat fence around their ideas, keeping their writing as tidy as a manicured lawn, but with wilds unexplored on the other side?” She suggests that students keep a process log that follows the ins and outs of their writing over time, perhaps including personal process goals.

(Continued on page 2)

January 2018

Volume 5, Issue # 5

IMPORTANT DATES



- | | |
|--------------------------|---|
| January 1 st | New Year's Day (Holiday) |
| January 2 nd | Back to School |
| January 15 th | Martin Luther King, Jr. Day (no School) |



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!



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The teacher might also model writing for the whole class, composing on a projected screen and thinking aloud, naming the various process moves.

- **AUTHENTIC AUDIENCE** – “In a piece of writing,” says Whitney, “we don’t just say something, we say it to someone.” Teachers need to orchestrate a variety of real audiences for students – “audiences with expectations, interpretations, interests, and questions; audiences who sometimes even reply to what has been written.” Students might write to a family member, a newly elected public official, a student in a younger grade level. They might also experiment with writing the same message to two very different audiences, finding different audiences online, and thinking about the audience response they’re seeking: “With a tweet, perhaps the ultimate response is a retweet,” says Whitney. “With a letter to the editor, perhaps it’s publication. With a humorous story, maybe it’s a laugh. With a public service announcement, maybe it’s a change in behavior.”

- **AUTHENTIC TEACHERS AND STUDENTS** – This means showing our real selves, says Whitney. “No, they don’t need to know who you’re dating, or about the health scare you’re having, if those things don’t feel ready for sharing. But I do mean your writing can’t all be about puppies, and you can’t be such a big and powerful and perfect adult that everything looks easy for you. You’re asking your students to take risks. You can also risk them knowing you.” If you model being excited, nervous, scared, self-critical while writing, then when a student has similar reactions, you can say, “Me too.”

“This means a classroom that is untidy,” concludes Whitney. “It means students not finishing, or finishing things that aren’t in the genre we had planned or as long as we had planned. It means starting over; it means sitting with a writer while she bravely tries to loosen her grip on the unusable words she has just written – words that were not easy to come by in the first place. It means tears when the writing goes

somewhere difficult and unexpected. It means goofy writing and laughs, because young people are actually really goofy and laugh a lot. It means mistakes; it means frustration. It means being brave; it means taking chances. It means hugs. It means watching writers make wrong decisions and resisting the urge to tell them what better decisions would be at least some of the time so that they get a chance to feel what it feels like to discover something through a false start. It means living with things that are messy, messed up, and even not that good some of the time.”

“KEEPING IT REAL: VALUING AUTHENTICITY IN THE WRITING CLASSROOM”

by Anne Elrod Whitney

in *English Journal*, July 2017 (Vol. 106, #6, p. 16-21),

<http://bit.ly/2wnimk3>

Whitney can be reached at awhitney@psu.edu.

Criteria for Good Classroom STEM Problems



In this article in *Education Week Teacher*, veteran teacher Anne Jolly (Center for Teaching Quality) suggests criteria for real-world problems to use in math, science, engineering, and technology classes – the goal being to enliven and deepen learning and help students see that there are issues outside the classroom that are worth their dedicated efforts.

- ❖ **The problem must be real.** Perhaps an authentic engineering challenge grounded in compelling societal, economic, or environmental issues that affect people’s lives. “Mythical insects, space aliens, and theoretical life forms are not real-world problems,” says Jolly, “at least not yet.”
- ❖ **Students must be able to relate to the problem.** They won’t buy into solving a problem they don’t care about. Of course an issue outside their ken could be made vivid through a visiting speaker, video, or field trip.
- ❖ **The problem should be do-able.** Students need access to the resources, knowledge, and skills to solve it. This might take interplanetary space travel off the list.



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- ❖ **The problem should allow for multiple acceptable approaches and solutions.** Students will learn less from a project that has a single, predetermined answer.

- ❖ **Students should use an engineering design process to solve the problem.** That means



drawing on science, math, and technology skills and concepts with an overall engineering thought process. Here's the sequence: Define the problem; research; imagine; plan; create; test and evaluate; redesign; and communicate.

- ❖ **The project should align with grade-level standards.** "In a packed school day, neither teachers nor students have time for much 'extra' curriculum content," says Jolly.

- ❖ **Encourage students to come up with real-world STEM problems.** "You might start by asking students to be on the alert for problems in their home, school, or community," says Jolly. They might observe problems around them: homeless people, air pollution, erosion in the schoolyard, or the challenge of managing homework assignments.

- ❖ **Use websites and museums that have good resources for real-world STEM problems.** Some possibilities:

National Academy of Engineering Grand Challenges:

<http://www.engineeringchallenges.org/challenges.aspx>

Boston Museum of Science Engineering Everywhere:

<https://eie.org/engineering-everywhere/curriculum-units>

Engineering Is Elementary Curriculum Units:

<https://eie.org/eie-curriculum/curriculum-units>

eGIF Dream Up the Future: <http://teachers.egfi-k12.org>

PBS's Design Squad: <http://pbskids.org/designsquad/>

Teaching Engineering:

<https://www.teachengineering.org>

Rutgers Today: <http://bit.ly/2vEuRWB>



"The Search for Real-World STEM

Problems" by Anne Jolly in *Education Week*

Teacher, July 19, 2017,

<http://www.edweek.org/tm/articles/2017/07/17/the-search-for-real-world-stem-problems.html>

Getting Young Students Thinking and Talking Like Scientists

"When teachers support students to ask, explore, read, write, and discuss science ideas, they can increase opportunities for sophisticated disciplinary talk in the primary-grade classroom," say Tanya Wright and Amelia Wenk Gotwals (Michigan State University) in this article in *The Reading Teacher*. "Students' curiosity about science can be a powerful motivator to promote talk, and students will talk most when they are excited about an idea and wonder what happens."

But kindergarten students get an average of only 2.3 minutes of science a day – even less in high-poverty schools. The paucity of science vocabulary and conceptual instruction is directly linked to lower literacy achievement later in elementary school. Wright and Gotwals have developed the SOLID Start project to promote science talk in primary-grade classrooms in these five ways:

- **Asking driving questions** – A teacher might launch a curriculum unit with a question like, "Why are only some of the plants at the front of the school dying?" or "Why are there different types of clouds, and how are they connected to whether we'll be able to play outside today?" Questions like these can link the content and activities of a unit to the central theme.
- **Exploring science phenomena** – The teacher can choose activities that get students investigating the driving question – for example, examining the different plants in front of the school to find clues as to why some are dying and others aren't. Some verbal prompts:

What is the reason that...

What do I want to know about...

I wonder...

What if...

How could...

Why does...

The teacher might record students' talk during explorations on an easel sheet, linking observations back to the driving question.



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- **Talking about read-alouds** – Reading books with the class can extend the exploration well beyond what can be seen and touched in the school and introduce a wider range of science vocabulary. The teacher might make strategic selections of vocabulary words that will enrich the exploration and get students talking about how each book relates to the driving question. “Remember that you don’t have to read an entire informational text,” say Wright and Gotwals. “It is fine to read a section of the text that supports students in answering the driving question.”
- **Talking about drawing and writing** – Students can be prompted to sketch their observations in notebooks, watch the teacher draw diagrams and pictures, and then discuss what it all means. “As young students explain their models, pictures, and writing to peers and adults,” say Wright and Gotwals, “their work provides a meaningful context for practicing extended science talk and for teachers to both support students in sense-making and to press them for evidence-based explanations.”
- **Scaffolding students’ thinking** – Toward the end of each unit, the teacher pulls together the class’s explorations, read-alouds, visuals, and discussions and prompts students to arrive at the answer to the driving question. This kind of pull-it-all-together discussion may be challenging for students, and it’s helpful to have a word wall, pictures, graphics, and other displays to scaffold the discussion, along with some verbal prompts:



Can you explain more about that...
Why do you think...
What made you think that...
What did you do when...
What do you predict will...

“Supporting Disciplinary Talk from the Start of School: Teaching Students to Think and Talk Like Scientists” by Tanya Wright and Amelia Wenk Gotwals in *The Reading Teacher*, September/October 2017 (Vol. 71, #2, p. 189-197), <http://onlinelibrary.wiley.com/doi/10.1002/trtr.1602/abstract>; the authors can be reached at tswright@msu.edu and gotwals@msu.edu.

Dealing with the “Eager Beaver” Dynamic in Class Discussions

In this *Cult of Pedagogy* article, Jennifer Gonzalez describes a history teacher’s elation after an animated discussion about the Holocaust that she had planned for ten minutes and lasted the whole class. “Days like this rock,” thought the teacher. But she was missing some important details:

- *Haley had a lot of questions but never found the right moment to ask them. A few times, she almost raised her hand, but someone else would start talking and she didn’t want to interrupt.*
- *Robert felt like an idiot the whole period because he wasn’t 100 percent sure what the Third Reich was and definitely didn’t want to ask.*
- *Nadia thought the discussion was dumb – people were really oversimplifying the whole tragedy. But she didn’t want to start trouble.*
- *Becky and Kyle, super-shy students, were silent during the discussion.*
- *Three other students were secretly texting the whole time.*



In fact, only nine of the 28 students in the class contributed to the discussion – four were really into it, five commenting once. The other 19 were passive observers.



This teacher had the “fisheye syndrome,” says Gonzalez, as if she were looking at her class through a peephole lens that made the talkative students look larger and pushed the quiet ones to the periphery. “I’ve been guilty of fisheye teaching,” says Gonzalez. “A lot”. Recently, even. And I’ve seen many other teachers, good teachers, do it too... You pose a question, and one of your sharp, verbal kids’ pipes up right away with an answer. It’s a good answer, one that takes the class in the direction you were hoping they’d go, demonstrating a solid grasp of the material. Wow, you think, *they’re really learning!* (And, if we’re being honest: *You like me! You really like me!*). Then it happens



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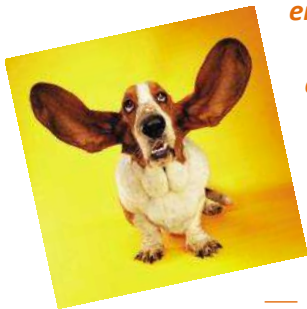
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with another student, another extrovert, and then one more. Things are hopping now, a bona fide 'class' discussion, but really, you're just volleying with three or four students. Most of the others have already checked out. You don't realize because you're high on the whole thing, the nice rhythm we've got going with those three or four that we lie to ourselves just a little."

But can't a student get just as much from listening to a good discussion as from taking part? No, says Gonzalez. Here's what's going on in an eager-beaver-dominated discussion:

- *Unless quiet students speak, the teacher can't really tell if they're understanding or even tuned in (especially if they are "compliant pretenders").*
- *The passive students aren't getting practice at verbal communication and thinking on their feet – skills that employers always mention in surveys of what they're looking for in employees.*



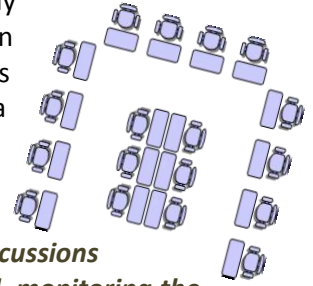
— *No amount of listening compares with the cognitive and social challenge of framing and expressing ideas. Students who actively participate in class are getting far more bang for their buck than passive observers.*

— *Quiet introverts especially need to speak. "Although our painfully shy students will resist," says Gonzalez, "and our compassion will make us want to protect them, we do them no favors by letting them avoid this practice."*

In addition, the extroverts must learn to listen, not be the center of attention, and let someone else take the stage. "In school, in their careers, and in their most important relationships, listening skills are hugely important," says Gonzalez. "Chances are, your big talkers don't have a lot of practice in skills like paraphrasing another person's ideas, asking thoughtful follow-up questions, or thinking quietly before they speak. By making a concerted effort to balance the participation in our classes, we are also giving those extroverts a chance to grow in ways that could have a powerful impact on their quality of life."

"Some students are naturally going to be more active, more talkative, livelier than others," Gonzalez

concludes. "We're not trying to make them all be the same, just better, stronger, more balanced versions of the people that showed up on day one." The shift may happen in baby steps – quiet students making just one contribution a day. Here are several ways to help the process along:



- *Video several class discussions and view them afterward, monitoring the number of students who participate.*
- *Make a laminated seating chart and use a dry-erase marker to check off students when they speak.*
- *Be explicit with students about the importance of broad student participation in discussions.*
- *Have sidebar conversations with over-participants about limiting their comments and sometimes paraphrasing a classmate's thoughts.*
- *Pull aside quiet students before class and prime them with a question you might ask or contribution they might make.*
- *Increases wait time. Ask a question and have a "no hands raised" period of at least three seconds to give more reflective students time to process. These simple steps are especially helpful in getting girls to participate more.*
- *Vary discussion formats, using think-pair-share in groups of 2-4 students, or sometimes having all students write about your question before discussing it.*
- *Use icons to call on students. An English language teacher in Malaysia printed out four sets of icons (a duck and three others) and distributed them randomly around the classroom. When an icon appeared on the screen with a discussion question, the students who had that icon had to come to the front of the class and answer the question or perform a task. "The looks on their faces every time they saw an icon appear was just a classic!" said this teacher.*



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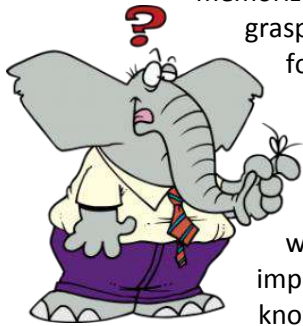


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"The Fisheye Syndrome: Is Every Student Really Participating?" by Jennifer Gonzalez in *The Cult of Pedagogy*, September 25, 2013,
<https://www.cultofpedagogy.com/fisheye/>

Forgetting Starts the Moment Something Is Taught; What's to Be Done?



"Teachers have long known that rote memorization can lead to a superficial grasp of material that is quickly forgotten," says Youki Terada in this article in *Edutopia*. "But new research in the field of neuroscience is starting to shed light on the ways that brains are wired to forget – highlighting the importance of strategies to retain knowledge and make learning stick."

One insight from the research is that forgetting is actually functional – it's a good thing that our brains discard extraneous information that won't serve an important ongoing purpose. Studies have shown that about 56 percent of new information is forgotten within an hour, 66 percent after a day, 75 percent after six days – unless there's reinforcement or a connection to prior knowledge. Every teacher's challenge is finding ways to thwart this process with the information they want students to remember.

"We often think of memories as books in a library," says Terada, "filed away and accessed when needed. But they're actually more like spider webs, strands of recollection distributed across millions of connected neurons. When we learn something new... the material is encoded across these neural networks, converting the experience into a memory." When these synaptic connections are fired, the memories they contain are strengthened. When they're not fired, the memories get weaker and are less easily accessed.

Research has also established that not all new memories are created equal. For example, if you're asked to remember NPFXOSK and ORANGES, the latter will be much easier because the word connects with a number of vivid memories – the image of the fruit, its

smell and taste, associations of oranges in your mother's kitchen or growing on a tree. So the more connections teachers make to other memories in students' brains, the better retention will be. Five strategies for putting these insights to work in the classroom:

✚ **Combining text with images** – *Visual aids help organize textual information, whether they're photographs, artwork, or graphic displays.*

✚ **Peer-to-peer explanations** – *When students explain what they've learned to a partner, fading memories are reactivated, strengthened, and consolidated. This process also gets students more actively involved in learning.*

✚ **The spacing effect** – *Memories are more effectively embedded when they're reviewed at intervals throughout the school year.*

✚ **Low-stakes practice tests** – *These retrieve and strengthen remembered material and also lower the stress of higher-stakes tests by building confidence and making assessment less daunting. A series of quick quizzes can even replace a single high-stakes test, with better effects.*

✚ **Interleaving** – *It's more challenging to remember when different skills are mixed together in a single assessment – for example, multiplication, division, addition, and subtraction. Assessments that cover multiple areas and/or skills force students to think on their feet, which encodes learning more deeply.*

"Why Students Forget – and What You Can Do About It"
 by Youki Terada in *Edutopia*, September 20, 2017,
<http://edut.to/2hiLtC3>

The Power of Retrieval Practice to Improve Long-Term Memory



In this *Cult of Pedagogy* article, Jennifer Gonzalez says she's surprised that "retrieval practice" (trying to recall information without having it in front of you, then checking to see how much you remembered) isn't discussed more frequently by teachers and school leaders. But isn't this old hat? After all, flashcards have been around for at least 100 years. "What's new is the research," says Gonzalez. "In recent



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years, cognitive psychologists have been comparing retrieval practice with other methods of studying – strategies like review lectures, study guides, and re-reading texts. And what they’re finding is that nothing cements long-term learning as powerfully as retrieval practice.”

Gonzalez interviewed Pooja Agarwal, a leading researcher in this area, who described one of the experiments she conducted with her colleagues. In a middle-school social studies class, students were given regular quizzes that covered only 1/3 of the material they were learning. During these no-stakes quizzes, the teacher left the room and didn’t know which segment of her curriculum was being quizzed. In end-of-unit exams, students scored *a full grade higher* on the material that was quizzed than on the 2/3 that was taught and reviewed in the usual manner. Clearly the act of being quizzed was what improved students’ long-term memory.

“Here’s what this means for teachers,” says Gonzalez. “When we teach something once, then want to do something else to help students learn it better, instead of just reviewing the content, we’re much better off giving something like a quiz instead.” In other words, if we do more asking students to pull concepts out of their brains, rather than continually trying to put concepts in, students will actually learn those concepts better.”

Gonzalez reviews some time-honored ways to use this approach in the classroom:



□ **Think-pair-share** – The teacher poses a question – for example, “Think of one thing you learned yesterday about cells” – has all students jot down their

answers, and then turn to a partner and share answers. Having students’ first retrieve individually is important, because if they immediately pair up, only the quickest responder will get the retrieval benefit.

□ **Low-stakes quizzes** – These can be on paper or with an all-class response system like Plickers, Poll Everywhere, or clickers. Making quizzes low-stakes is important to tapping into the retrieval effect without raising students’ stress level.

□ **Brain dumps** – Have students get a sheet of paper (or launch a blank document on their computers) and write down everything they know about a topic. This could be at the beginning of a unit, part way through, or

near the end. Students then discuss what they’ve written with a partner, focusing on discrepancies and gaps, and combine the whole class’s information into a whole-class brain dump.

□ **Flashcards** – These can work well in class or at home, but students need to be taught how to use them correctly:

(a) Once a card has been mastered, keep it in the deck until it’s been answered correctly three times; (b) Actually retrieve the answer and say it out loud (students don’t get the full benefit if they look at a familiar item, think “I know this,” and look at the back of the card); (c) Shuffle the deck; changing the sequence makes remembering more challenging. See <https://collegeinfo geek.com/flash-card-study-tips/> for more ideas on flashcards.



Gonzalez suggests using retrieval practice in Do Now, during-class sponge activities, exit slips, and something to do while students stand in line for lunch. Some additional suggestions:

▪ **Remember that retrieval practice is a learning activity, not an assessment, and should be kept low-stakes.**

▪ **Retrieval practice is most effective when it’s done in short bursts over time, rather than in a long session.** “This spacing causes students to forget some of the material, and the struggle involved in trying to recall it strengthens their long-term learning,” says Gonzalez.

▪ **Include feedback.** “If students retrieve the wrong information, the practice won’t be much good unless they find out the right information,” she says, “so be sure to give them feedback as they go.” This also improves students’ metacognitive judgment on when they really remember something and when they don’t.

▪ **Include higher-order questions if that will be the focus of the unit’s summative assessment.**

“Retrieval Practice: The Most Powerful Learning Strategy You’re Not Using” by Jennifer Gonzalez in *Cult of Pedagogy*, September 24, 2017, <https://www.cultofpedagogy.com/retrieval-practice/> See Memos 189, 553, and 610 for “classic” articles on the retrieval effect.



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