Our Community Query: How can we teach others to have empathy by the example we set?
- Lower School TASQUE (Teachers and Students for Quaker Understanding and Education)

Unlocking powerful connections through hands-on learning

Page 7

Also Inside

Giving now is better than giving later!
Make your pledge or gift by Dec. 31, 2017.

Page 5
Welcome to the November issue of Among Friends. In this issue Upper School principal, Mark Schoeffel ponders and explains the critical value in deep learning that endures far beyond space, the walls of Friends Academy, and time, the immediate short-term recall of knowledge level information.

Mark comments, “We want our students to explore and remember core conceptual knowledge so that it lasts and informs them later in life as they solve relevant problems and contribute to the world in their fields and as citizens and parents. Why does most school learning not transfer to become enduring understanding?”

One of my goals this year is to visit every teacher’s classroom, to see them engaging with students in the ways Mark describes. I ask myself these questions using Mark’s words: What will students remember about this? How will it help the student gain skills and knowledge to solve relevant problems or even contribute to the world? What will endure? What stimulates deep thinking and represents challenge and rigor? And finally, How do I know I am in a Friends School?

***

Just this week I dropped in on Meghan Stott’s third grade science classroom. It was time to assess what the students had learned from their study of fossils. She could have given the children a “quiz” where they were asked to draw a line from

Continued on next page
the word trilobite to the picture of a trilobite. She could have asked that students recall how many years ago particular fossilized animals lived. Had Meghan done this she would know that her students can identify one fossil from the other and that they could memorize bits of information in the short term. One might see all the correct answers on a child’s assessment and think, “This is good. This is what it means to know science.”

Instead, Meghan wanted to assess what they had really learned, what will endure from this study and what will be applied to future learning, different contexts, and novel situations. She gave the students just two written prompts: “Why do we study fossils?” The second prompt was “How do scientists use fossils to explain or explore evolution and natural selection?”

While a recall-type quiz might have taken five minutes, Meghan gave the students ample time to write. Children thought for a while and took their time with their answers. They were focused, disciplined and engaged. Meghan’s tone and body language spoke volumes – “We’re not rushing this. It takes time to think this way. Do your best work.” Fast finishers are asked to add more. This is not a race.

Students will begin to understand that we study the past to make sense of the present. They learn how fossils reveal to us the dramatic shifts in climate throughout history and how those data are used to help us mitigate against the effects of climate change today. Through this type of assessment Meghan is able to tap into student’s higher-level thinking skills, revealing how well they understand the bigger ideas. As the year goes on she will refer back to these enduring understandings asking students to apply this learning to new situations.

When I dropped in on Dan O’Keefe’s 8th grade American History classroom, students were pairing up to co-author a practice essay in preparation for an upcoming American History exam. Students are comparing the Alien and Sedition Acts passed under Adams to The Patriot Act passed under George Bush. Students were asked why laws that prohibit

Continued from previous page

Continued on next page
individual freedom pass in times of fear and insecurity and why this action would have a positive impact on the president’s approval rating? Here is the prompt from Dan’s study guide:

[Hook] In your own words, what is a “liberty”? And then, What does it mean to be “secure”?

[Thesis] What seems to happen to people’s liberties and to the popularity of the president when laws are passed that claim to protect them?

On the actual exam, Dan probably didn’t ask his students to recall the exact dates of the The Alien and Sedition Acts of 1798 and The Patriot Acts of 2001, or if he did, he probably knows they won’t remember it precisely in the years to come. He did ask his students to struggle with the concepts of liberty and security.

They will write on this topic in depth, citing evidence and supporting their thesis. In this way he knows they will begin to understand the depth of complexity and the fine line between the American right for liberty and the need for security. They will understand that people had differing views on the issue throughout our history just as they do today. These rigorous expectations bring students to the highest levels of thinking and deep understanding. They will apply it to future learning, different contexts, and in novel situations. That is what endures.

To my last question, How do I know I am in a Friends School?

Meghan and Dan use Quaker pedagogy in their teaching. They demonstrate that truth and knowledge are constructed through continuing revelation, that all members of the classroom community have access to the “truth” and that the “teacher talking” is not the delivery mechanism for information. They serve as guides, coaches – our children’s wise and weighty friends.

He did ask his students to struggle with the concepts of liberty and security.
This year, we ask our community to make their Annual Fund gift intentions by the end of the calendar year. Please help us reach our goal by making your gift or pledge by 12/31/17. All pledges can be funded any time before 6/30/18.

• All Gifts are Tax Deductible (gift payments made by 12/31 qualify for 2017)!
• A gift today gets us closer (and sooner) to 100% participation!
• An early gift or pledge demonstrates your commitment to our children and our future and encourages others to do the same!

100% of our students benefit. Every gift matters!

Make your gift today at www.fa.org/give or call Diane Biolsi, Director of the Annual Fund at (516) 629-4859 for more information.
What is the Annual Fund?
The Friends Academy Annual Fund is the single most important fundraiser of the school year. All gifts to the Annual Fund are an investment in our students, faculty and staff. The Annual Fund provides unrestricted funding for the operating budget, contributing approximately 7% of the total budget each year.

Who contributes to the Annual Fund?
Since the Annual Fund is the most significant yearly fundraiser at Friends Academy, we strive for participation from all members of the community - parents, alumni, grandparents, parents of alumni, faculty and staff.

When should I make my gift?
We encourage you to make your tax deductible gift or a pledge by December 31st, 2017.

Make your gift today at www.fa.org/give or call Diane Biolsi, Director of the Annual Fund at (516) 629-4859 for more information.
One of my favorite stories from schools comes from a grade one classroom I knew, where a rule eventually had to be established: “Students need to be sure not to leave recess early to work on their personal books.” In that classroom, kids were so motivated and excited about the books they were writing to share with others that they were skipping recess every day to keep working on their books. No grades were involved and the students were designing and writing their own work. Recess was not as fun to them. What a great problem to have!

Continued on next page
These students were “writers” in a classroom workshop where they were in charge of their learning and the product, constantly writing and making meaning, with a real-world outcome of publishing and sharing their work with people they cared about. No one told them they needed to wait until they understood how to write before they could become a writer!

Too often, students feel they are not engaged by their learning, and too often, learning fades fast if we have them sitting and listening to us tell them how history or science works in the past, instead of having them try to be and think like scientists and historians.

After all, how many of us can remember what we learned from our classes in high school? Part of the problem may be that the important learning did not last or stick. A good test for you to take is to ask yourself to describe any experience where you learned to truly understand something, and not limit it to school. What comes to mind?

We want our students to explore and remember core conceptual knowledge so that it lasts and informs them later in life as they solve relevant problems and contribute to the world in their fields.

Continued on next page
and as citizens and parents. Why does most school learning not transfer to become enduring understanding?

With all the challenges of a digital age for students who feel increasingly pressured by parents, schools and peers to measure up and perform for others and be perfect “or else,” we live in a time of anxiety where deep learning is threatened from all sides and schools are increasingly too busy and even part of this problem. More than ever, our students need patience, kindness, and most of all, time to learn well, to learn deeply, and to learn to value their own voices and test their understandings, with teachers as partners in the process of inquiry, reflection, and collaboration. They deserve also a school that is laser-focused on providing them a learning environment that is informed by the best research in learning, one aligned by shared understanding of how learning works.

Our Upper School teachers are currently engaged in a multi-year process of exploring the research on deep learning, where students construct, test, and rethink their understandings in order to attain mastery within and across disciplines and also with the highest goal, something cognitive scientists call flexible transfer. Flexible or “far transfer” happens when students are able to expertly apply what they learn beyond the classroom in new situations and contexts. Transfer for enduring understanding does not, however, happen automatically – in fact, research tells us

Continued on next page
that classrooms are too focused on rote memory work that allows inert knowledge to fade or disappear because the “tests” of that knowledge are short-term and context-specific, without education for transfer.

“Learning for transfer” happens when students practice complex and meaningful tasks in active ways in environments where feedback is frequent, specific, and not tied to immediate performance evaluation. Think science labs or field studies, where students gather data around a problem (say, fish dying in the Sound or overpopulation of deer), share it, and puzzle or work through what they have discovered, in order to reshape the problem or question they started with, all the while framing their inquiry in terms of bigger problems and research relevant to their present and futures (ie: diminishing resources and world population growth, dying ecosystems and the destruction of natural resources as they lead to world hunger). Or discussion-based classrooms, where a big question keeps getting shaped and reshaped by the students in discussion and performance (say, Arther Miller's *The Crucible* as a window into social ostracism, human rights, and the supposed “freedom” of speech that is never a given in a society governed by rumor, untruth,
and lies), where each voice matters and students build ideas together, in small cluster groupings, in teams, and in a circle (ie: a **Harkness-shaped circle**) over time, then writing and sharing drafts and rewriting, all working to answer bigger questions that they raise in light of the world they live in now: “fake news,” “the information age,” and all its trolls, traps, and perils.

Each of these are environments where students make meaning, engage in testing their understandings, get multiple levels of feedback, and most of all, where they reshape their understandings to refine them and test them again. I remember my high school artroom as one such place. Process was everything, but we were always getting up and looking at each other’s work. Theater stages that are well run are workshops of this high caliber, as are the fields athletes play on, as long as the coach knows what to do, and not do.

In Alison Fornell’s Upper School English class, students journal before bouncing ideas off of one another.

The conductors and lead practitioners, the teachers and coaches, need their apprentices to do lots of meaningful work targeted to highly specific and scaffolded learning goals. The science of learning becomes an art when the teachers see this teaching work and have time to explore and see how and when students learn well, with ample exposure to the research and examples of when and how great learning gets shaped.

Without students engaged in sustained, deliberate practice, or with real-world applications or new contexts to apply and test their working understandings, brain research and the best work in cognitive science tells us that motivation wanes, knowledge fades and understanding does not become robust – it even dies. To form new neural connections that last, the living learning cycle (think visually of a whirlwind expanding, a spiral staircase widening or a tree branching out and up) needs to be fed, and that means active learning, frequent feedback (the right kind), and deliberate practice, with students driving decisions and real-world opportunities to test for transfer.

In his terrific book, *Making Learning Whole*, David Perkins reminds us of cognitive psychologist K. Anders Ericsson’s seminal research on expertise: “One of Ericsson’s questions concerned the relative contribution of talent versus the right kind of practice. Contrary to the common belief, Ericsson and his

**Continued on next page**
colleagues argued that talent played a negligible role compared to what he called deliberate practice.” One of the essential components of deliberate practice is frequent, informative feedback, or what is called “ongoing formative assessment,” something very different than the assignment of grades. Helpful, frequent, rich feedback comes in many forms, but it is not what we typically think of – it is not advice or grades.

The late Grant Wiggins speaks about feedback as fundamentally different than advice, evaluation and grades. As he characterizes it in his 2012 article “Seven Keys to Effective Feedback” in Educational Leadership, “whether feedback is just there to be grasped or is provided by another person, helpful feedback is goal-referenced; tangible and transparent; actionable; user-friendly (specific and personalized); timely; ongoing; and consistent.”

Here he describes what great feedback looks like:

“As I have noted before, the best example I have ever seen in person was a welding class where students were expected to examine welds on a table – some of excellent quality, some not – before placing their own weld down and signing off on it. I watched a boy, thinking he was done, inspect the welds and go back to his station: he realized his weld was not up to standard just by comparing his to the models. So, feedback need not be labor intensive or wildly time consuming.” (Granted, “Thoughts on Education” by Grant Wiggins, 04/15/2014)

How does the example of a budding welder (whose master welder does not speak to him but instead simply gives him examples of different welds) help us understand the feedback students need in schools? If a teacher, coach or supervisor provides many varied models along a continuum of quality with lots of opportunities for students to study and to use these during and after experiments or tests to demonstrate understanding through performance, learners are constantly learning how to improve by testing their work. The students with their hands-on neural network models in the AP Biology classroom, or the ones dissecting brains to understand the structure of how thinking happens, are like the apprentice welders, comparing models. As Wiggins tells us, “basically feedback is information about how we are doing in our efforts to reach a goal.”

Learning, in so many ways, is about precise, ongoing, quality feedback, which can also be experiential and not teacher-directed. Hands-on practice

Continued on next page
with lots of working models shared, with room for looking at mistakes and correcting them, gives us a foothold for enduring understanding to grow. Think of seeing pictures of Michelangelo’s David in a book, but then going to see it in all its vastness at the Accademia in Florence. After walking round and round, you suddenly see the form from an entirely different vantage and context, with all your previous assumptions being reshaped in living time, with that new “feedback” as fuel.

One amazing benefit to the cognitive science revolution is how much it has shown teachers about what type of feedback works, and what doesn’t. Today, we have much more valid information about how the brain works and how learning happens, or doesn’t. Neuroplasticity, the brain’s ability to modify or form new neural connections and rewire itself, says we can grow as learners, but not always; when we regularly practice and refine our understandings by sharing and testing out our theories of “how things work” or “what is right or true,” we can move from short-term memory (not lasting) to something called retrieval, where the knowledge begins to move into understanding that sticks. Application in new contexts helps, and so does time. Do we give students enough time to learn the important things well?

An Upper School Biology student practices making “Bee Sticks” in order to manually pollinate plants in a hybrid lab experiment.

Continued on next page
give students enough time to learn the important things well? And what are the consequences if they start to believe learning is merely transactional and about pleasing others, meeting their expectations as opposed to shaping our own visions of what is right, or true?

A final mention needs to be made of another key – students becoming more aware of themselves as learners and decision-makers, something with a fancy name, “metacognition.”

As is clear, people learn “by using what they know to construct new understandings and this is an active process” (https://www.nap.edu/read/9853/chapter/6#68, How People Learn: Brain, Mind, Experience and School, Expanded Edition, 2000, Chapter 3). Social settings where people can test their theories enhance metacognitive practice, and good classrooms are like great workshops in this way. Metacognition happens when students learn to ask questions themselves, to “test” and “self-assess” their own understandings and those of others.

Think of people learning how to edit their own and others’ work. Teacher modeling is important. So are workshop environments that allow students to do this often, alone and together, with lots of models and different interpretations being created, live. Imagine Leonardo with Verrocchio and all the apprentices, always doing work together and seeing each other try new approaches with new materials as they make meaning, alone and together.

When I witness an engaging Harkness discussion, or I see students testing out their theories of how the brain works with manipulables (models of neural connection), I am heartened. We don’t teach students to write by talking to them about writing; students need to be real scientists and practicing writers in the field to understand how to “do science” and write well.

To become the exceptional school we can be, we are immersed in researching how the science of learning supports our mission as we seek to let the light in each of our students come out in an enduring way, so their lives will speak for our dawning new age. We need that. I think we all want the kids asking to please work on their personal books at the cost of “recess” (which, by the way, I loved, too).
Q:
Are you reading *Inside FA* each week?

A:
Yes!
Why?
It’s what you need to know this week at FA... in one bulletin... at the start of every week... delivered to your inbox.