



The Bridge

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Welcome back to *The Bridge*, the monthly newsletter of the Center for Transformative Teaching and Learning. Each month *The Bridge* analyzes a specific aspect of teaching and learning through a Mind, Brain and Education Science research-informed lens.

Great Endings

By Dr. Ian Kelleher



Great Endings

As the end of the year races towards us, it feels a bit like the last 5 minutes of class. So in this last Bridge of 2017, do we try to squeeze in *just one more thing* as the students are packing up and walking out the door? Or do we remember than the first 10-20 and last 5-10 minutes are prime learning times, and use this chance for retrieval practice and review of some of the key ideas that make up the spine of our work?

If you have been following along, you would know that we must resist that strong urge to talk at disappearing backs and embrace the opportunities that this precious time affords.

Selfishly, this also my own retrieval practice moment. So what have we talked to you about in 2017?

1. Do project based learning (PBL) right

Forcing students to use information and skills in a novel context is a good way to help build durable, agile, usable knowledge. But great projects make the difference, not lots of projects. John Hattie describes great projects as ones where we put students in 'the pit' where they don't necessarily know the way out, and they are scrabbling at the walls for a while to fight their way out.

Including elements of choice, real world connections, humor or empathy can help build motivation and engagement, as can you wonderfully selling the purpose. Students may well not see the purpose as clearly as you - a theme we will pick up later.

However, the most important thing about PBL is making sure students are prepared for the pit. This requires making sure they have robust core knowledge and skill mastery necessary to thrive in the pit. PBL can be a frustrating and inefficient way of learning unless we have made sure students have sufficient understanding to work with a necessary degree of independence.

One scaffold for this we like is *The Trivium*, whose three stages are as follows:

- (i) **Grammar** = build knowledge. Use formative assessment with abandon throughout to ensure this has been done well.
- (ii) **Dialectic** = discussion, which can be in any format, in person or online, live or back and forth over time. Use this to assess students' knowledge, help fill in gaps, and begin making tendrils to other ideas.
- (iii) **Rhetoric** = use the knowledge and skills in a novel context by creating something.

2. Give feedback that works

Think of writing feedback on student as one-on-one attention, the most labor intensive type of teaching there is. When we commit to one on one teaching, it is such a massive investment of a teacher's finite time that we should really make sure we do it well.

(i) **Make it understandable.** Students often do not understand the feedback they get, either because they cannot read it, or because they do not know what it means they should do. Make feedback clear (would recording it as audio help? Or including a brief person to person moment ?), and give students a clear actionable next step.

(ii) **Allow students to use the feedback.** However brilliant what you write is, if students do have a chance to act on that feedback in the very near future, all your hard work was largely a waste of time. Students' lives are so busy that they carry over much less from one assignment to the next -unless we very purposefully scaffold this. Give feedback at a point in the student's work cycle when they can do something with it. Then, when they receive the final graded work, give minimal summarized feedback, if any. Research suggests that giving feedback only, without a grade, aims achievement and attitude.

(iii) **The feedback you give in May should not be the same as the feedback you give in September.** Early on in the school year, give rapid, detailed, process oriented feedback. But if you continue in this fashion all year, you risk building a culture of dependency in your students. You need to wean them off this over time. Think about how brief, summarized and delayed you can make your feedback in May and *still* have your students thrive on it. Then plan how to get from September to this point. Think of this 'feedback continuum' as a process of building metacognition, a robust toolbox of skills, self-awareness, confidence and independence in each student.

3. How can we set homework that does a better job of helping learning?

We gave our students an opportunity to say they wanted no homework, and instead they said they wanted 1.5-2 hours a night, and they wanted it because it helped them learn. But they also want quality homework. What does research suggest this looks like?

(i) **Quality is more important than quantity.** Quality homework improves learning. The sheer quantity of it does not. Research is clear on this. Does it help students prepare for a summative assessment some time in the future? Does it make students use the information and skills they have learned in a new context? Is it something that will prepare students for the next day's class that is best done at home? If it is none of these, is it instead busy work that poisons motivation and which can be culled?

In terms of time, from grade 6 on multiply the grade number by 10 to get the total amount of time spent on homework each night that maximizes learning. Beyond this figure - an hour for 6th graders, 2 hours for 12th graders, overall learning decreases.

(ii) **Students understand the purpose of the homework.** Teachers often overestimate how clear the purpose of an assignment is. Maybe it is the curse of knowledge - we know how all the pieces fit together so well. This is a simple thing to address. We can explain the purpose more deliberately when we set an assignment, we can remember to weave the assignment back into the story of the class after the students do it, we make sure that we never set assignments that students do but are which never mentioned again, and we can make sure that if we don't get as far as we had planned in class we boldly cancel an assignment that just does not fit yet.

(iii) **Students understand what they have to do.** Many assignments are done poorly, or are copied in desperation, because students do not know what to do. Teachers tend to underestimate this problem. Try allowing some time in class for students to begin assignments that you might think are problematic. And do not set an assignment if you did not reach the necessary point to understand it in class. The frustration this may cause and the misunderstandings you then have to work to fix are not worth it.

4. Formative assessment is your friend

Use short low- and no-stakes assessments abundantly to help figure out if what you are teaching is actually sticking in students' minds. And tell them what you are doing, "This is for you to figure out where you are and what to do next, *and for me to do the same.*"

5. Relationships underpin everything

Learning happens when students think hard. How do we make students think hard in our classes? And how do we make sure that thinking hard is at the top of each student's agenda when they walk into our class or open up our homework assignment? Strong, positive relationships with each students, which begins by *knowing* them, underpin this. In the hustle and bustle of all the other agendas we are working to, we must not lose sight that relationships are fundamental to great teaching.

And finally...

If you are going for the fully monty on this article, get yourself a blank piece of paper, copy out these five headings, then write out what you remember under each.

- 1. Do project based learning (PBL) right**
- 2. Give feedback that works**
- 3. How can we set homework that does a better job of helping learning?**
- 4. Formative assessment is your friend**
- 5. Relationships underpin everything**

And, whether you do this or not, remember that the teacher's learning brain is every bit as important as our students' learning brains. We are about to change one of the headings on our MBE Placemat from 'Choice and Play' to 'Choice, Play and Down Time.' Make sure you dedicate time to all three in this well earned winter break.



Upcoming CTTL Events

Diversity in the DMV: A Regional Student and Educator Conference

February 23, 2018

TAKOM: The Principles and Strategies of Neuroeducation

June 18-20, 2018

Creating Innovators Through Design Thinking

June 18-20, 2018

National Diversity Directors Institute

June 24-27, 2018

Science of Teaching and School Leadership Academy

July 22-26, 2018

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