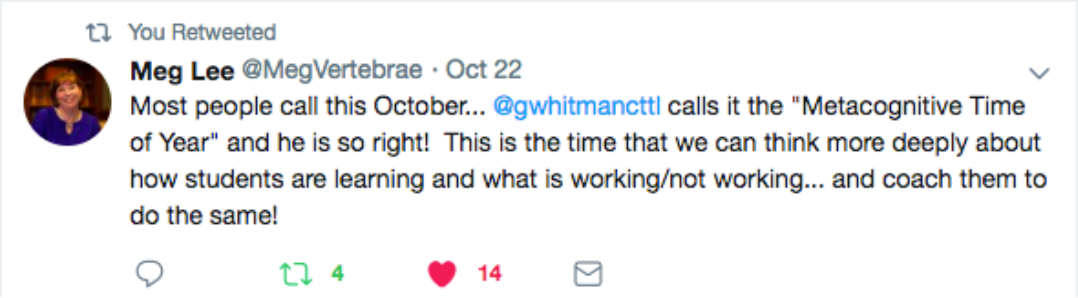
THE CENTER *for* TRANSFORMATIVE TEACHING & LEARNING
AT ST. ANDREW'S EPISCOPAL SCHOOL

The Bridge v. 3.1

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.

A Meta (Cognition) Time of Year
by Glenn Whitman



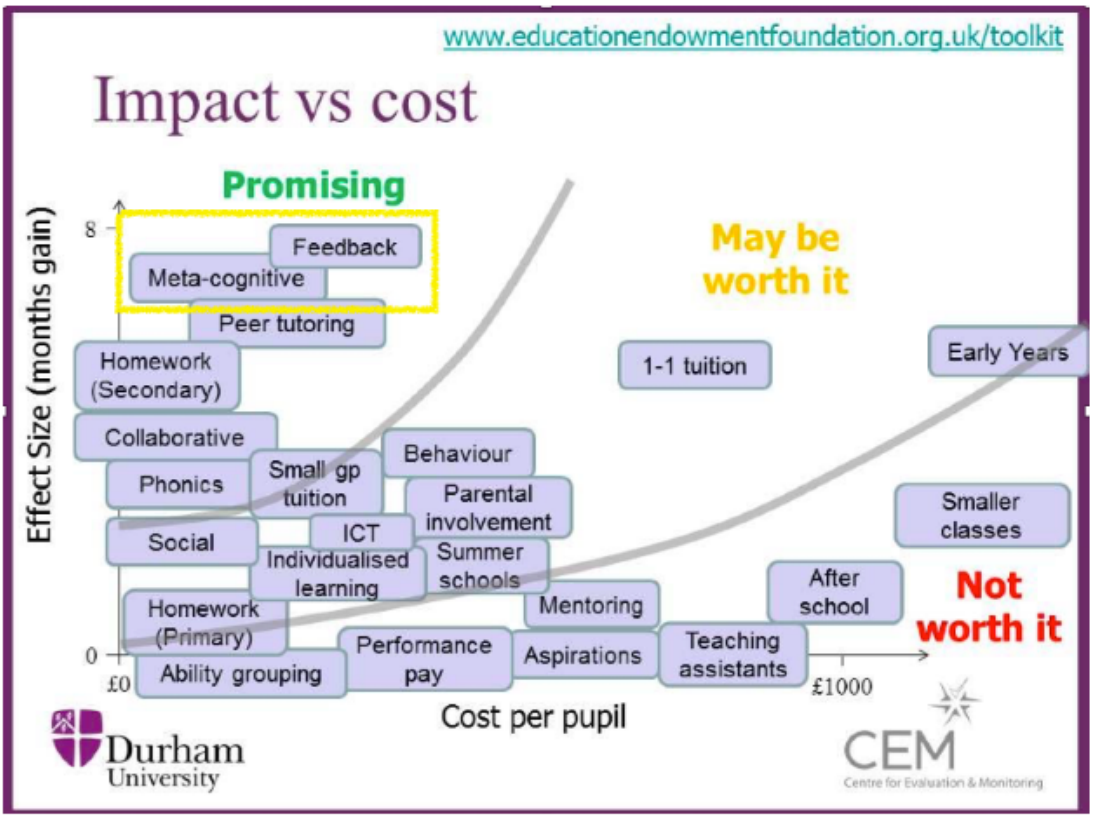
I have been percolating on this "Bridge" for the last month, which was inspired by Meg Lee, Supervisor of Advanced Academics within Frederick County Public Schools. The above Tweet captured a slice of our virtual idea exchange.

Though it is no longer October, this is still the time of year that students and teachers, along with parents, are reflecting on academic progress. Many students, including those at St. Andrew's, have just finished approximately one-third of their school year. St. Andrew's students returned from Thanksgiving Break to receive feedback on their *current* academic and effort grades for the trimester. More important than grades, however, is how students use this feedback along with their own reflection to change their behaviors and advance their learning within the context of each of their classes.

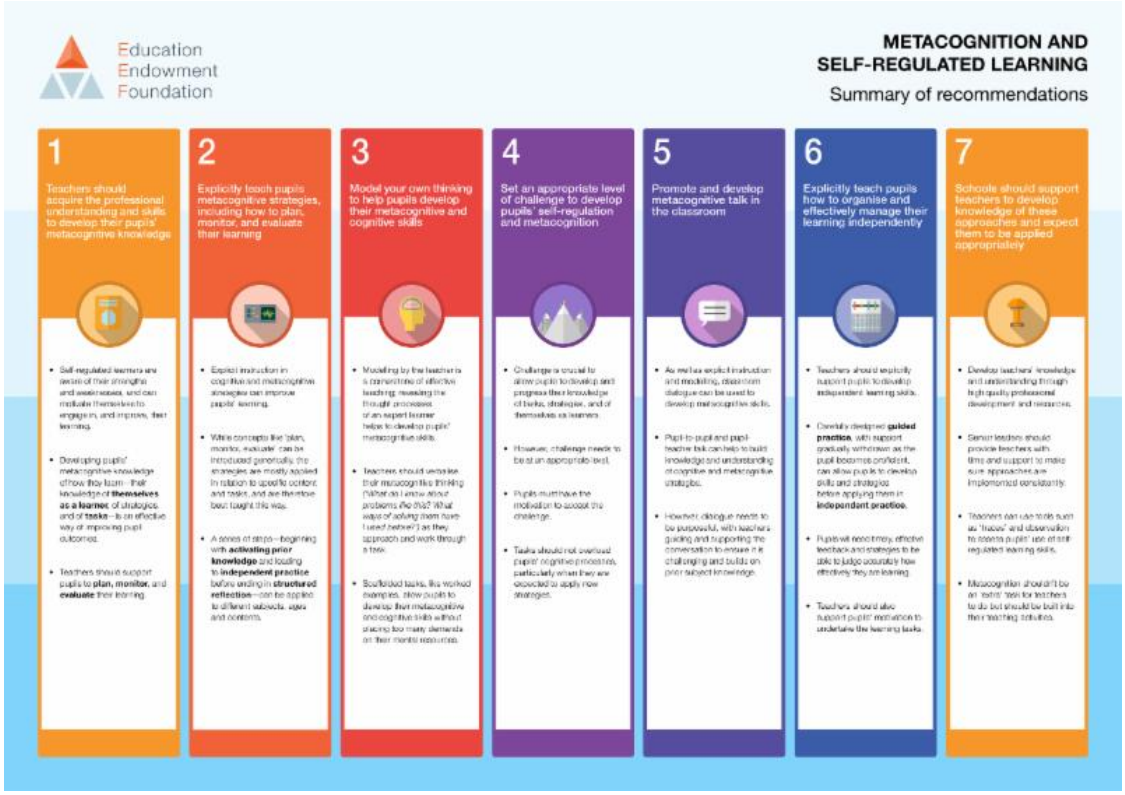
We use the word *current* intentionally when talking to students about their academic and effort work (so far, I have used the word *current* three times, and you might start experiencing *current* fatigue at some point in this piece). With deliberate practice, what might be a *current* weakness, such as writing a persuasive essay, could by year's

end become a strength. Students need to learn to think hard about what is *currently* working or not when acquiring knowledge or developing skills to achieve their goals.

Meta-cognition is defined as "thinking about your own thinking"[1] or "the ways learners monitor and purposefully direct their learning."[2] At the CTTL's Science of Teaching and School Leadership Academy during the summer of 2018, both Dylan Wiliam and Pedro de Bruyckere spoke about the importance of metacognition to a learner's self-awareness. Metacognition is also shown by this study from Centre for Evaluation and Monitoring at Durham University (U.K.) to be one of the cheapest but most impactful strategies to improve learning outcomes.



However, metacognition often requires students to think harder about themselves and their learning than they either want or know how to do. The challenge for teachers is to help students successfully engage in metacognition. Once again, the CTTL turns across the Atlantic for some guidance and inspiration: the Education Endowment Foundation's "Metacognition and Self-Regulated Learning: Guidance Report," published in 2018. We were interested in reading this report for our own goal of empowering students to be more independent, confident, efficient, and self-aware learners. This accessible article also includes a chart of its "Summary of Recommendations;" see below.



We encourage teachers to use this resource to think about how they *currently* integrate meta-cognition moments into their instructional design. What could metacognition look like in your class? Try:

Helping students tap into their prior knowledge and skills.

- When starting a new unit or assignment, don't just assume that students will be able to tap into their pre-existing store of knowledge and skills. Instead, ask students simple prompting questions and lead a discussion to help them see how their prior learning experiences can help them with the current unit or assignment.

Discussing ways to approach an upcoming assessment.

- Try elevating the use of metacognition in advance of an assessment by asking students to think about the following questions: Which study strategies will lead to success on this type of assessment? Which of my current strengths does it tap into? Which of my current areas of weakness does it challenge, and what strategies can I use to help me with this?

Create scaffolds for students to use prior assignments to help them with current assignments.

- Students should be active in this conversation around types of challenges and potential solutions. For example, if they are assigned a paper, ask them how they've completed previous writing assignments. What worked? What didn't? We know from research on feedback that lessons learned from one paper tend not to be carried over well to the next unless we add in small scaffoldings like this.

Asking students after an assessment to consider what went well or not so well and why.

- Consider asking questions such as: How did you prepare for this assessment? Describe a part of the assessment that you mastered; how did you prepare for this section? Examine the mistakes you made; given these, how can you improve on future assessments? Doing this can help students learn about themselves as learners.

How a teacher incorporates metacognition into his or her class can look quite different with our youngest aged learners than it might with our oldest age learners. Regardless, it is critically important in helping students become independent and self-aware learners. At the heart of thinking metacognitively are routines and questions that you might consider building into your instructional design that help students do two things: firstly, build their metacognitive knowledge of themselves as learners; and secondly, build metacognitive skills to apply their prior knowledge, skills and strategies to new learning tasks.

There are some resources not originally designed for metacognition that can help us make sure it is deliberately built into every grade level, course, and class. For example, the following two resources can help students activate their prior knowledge and connect a current assignment or learning moment to what they already know and can already do.

- Visible Thinking that emanated from Harvard's Graduate School of Education's Project Zero provides "thinking routines" that continue to be easy for teachers to integrate. The range of different types of routines create flexibility for teachers and brings novelty, something the brain likes, to the student experience. Ron Ritchart, Senior Research Associate at Project Zero, has written *Making Thinking Visible: How to Promote Engagement, Understanding, and Independence for All Learners*, which has been an invaluable resource and is a great starting point for teachers with many routines within its pages.

- Right Question Institute is a new favorite of ours. It provides great resources for teachers and students for developing the right questions that can be applied to thinking metacognitively about one's teaching or one's learning.

In many schools, "metacognition" is divorced from the context of where learning takes place-often incorporated in a beginning of the year goal setting process, which is revisited periodically through the year when students receive grades and comments from their teachers. Research suggests that this is not a particularly effective way to build metacognitive knowledge and skills. A better practice is to build metacognitive activities as seamlessly as possible into the everyday story of the work in each class. Metacognition, at its heart, is a set of skills that helps students learn; as such, these skills are best developed when they are embedded in the context of learning. Doing so helps answer two important motivational questions for students regarding metacognition: *How to do I do it?* and *What is the value in doing it?*

Practicing metacognition is not limited to students. It is always a great time of year for teachers to ask for feedback from students, implement it, and ask themselves metacognitive questions to evaluate the effectiveness of teaching methods. Early in my teaching career, I decided to collect feedback at the end of the trimester rather than the end of the year so that I can adjust my pedagogical practice in partnership with my students. The vital metacognitive element within this process is then reflecting on

questions such as: What am I doing that is helping students learn? What unexpected things did students pick up on, and what things were unexpectedly absent? What barriers to learning exist that I was either unaware of or that I underestimated? And how can I use this all these insights to change my practice? One simple way educators can put this into practice: immediately after class, write in lesson plan a short note about what went well, what didn't go well, and what to do next time as a guide for the next lesson. Spending time on these metacognitive moments is essential for educators to advance on their own journey of self-awareness.

The CTTL has been privileged to engage with teachers and school leaders in CO, IA, MD, VA over the last few months. There is a growing movement of teachers and schools using strongly supported research strategies. In many ways, we see metacognition as an achievable goal for many schools that are enhancing their integration of research-informed strategies. Let us know how it works for your school in your classroom with your students. And, if you were keeping score, this article currently has 13 currents in it, and hopefully it altered some of your current thinking on metacognition.

Have you planned your summer professional development.... YET?

TAKOM: The Principles and Strategies of Neuroeducation
June 17-19, 2019

Join us for a workshop for K-12 educators and school leaders, approaches the science of learning through academic themes (e.g., listening, speaking, reading and writing) and provides tools and activities for next-day classroom use.

Creating Innovators Through Design Thinking
June 17-19, 2019
Join us for a three-day seminar that explores the instructional philosophy, tools and activities that nurture essential innovative thinking. This workshop develops the different strategies necessary to build creative, collaborative, and design-minded classrooms.

National Diversity Directors Institute
June 24-26, 2019

Designed specifically for those who want to sharpen their skills and deepen their practice around creating equitable and inclusive school communities, the 3-day program will:

- engage participants with interactive sessions that will deepen core knowledge around diversity, identity, and inclusion
- provide a framework for developing and implementing trusted practices
- give members an opportunity to plan their diversity efforts at their school with support from institute faculty throughout the year in a formal mentoring program

Science of Teaching and School Leadership Academy
July 21-25, 2019

A five-day deep dive into Mind, Brain, Education science and how this research can inform, validate, and transform teaching and learning. For more information, visit our website and/or email academy@thecttl.org.

Visit our website to learn more!

Neuroteach Global: In January 2019, the CTTL will launch **Neuroteach Global**, which provides reinforcement and spaced practice with the MBE research and strategies that were foundational to the Academy. Visit neuroteach.us or email neuroteach@thecttl.org if you are interested in being part of the first cohort of Neuroteach Global users. **Here is a recent press release with more information about this innovative, MBE resource.**

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Learning Environments | Curriculum Design | Pedagogy & Assessment | Student Success & Well-Being

Resources for this Bridge:

Quigley, A., Muijs, D. and Stringer, E. "Meta-cognition and Self-Regulated Learning: Guidance Report."Education Endowment Foundation

de Bruyckere, Pedro. "Metacognition: Teaching Your Pupils and Students How to Learn, *"The Ingredients for Great Teaching*. SAGE Publications Ltd; 1 edition (April 28, 2018)

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