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

The Bridge v. 2.3

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.

The Kenny Rogers Theory of Learning

Dr. Ian Kelleher and Glenn Whitman

Bruce Springsteen is typically the CTTL's favorite musician, largely because of Glenn's New Jersey roots. But during this time of year when teachers are providing students their first set of formal feedback, there is a musician that is competing against "The Boss" for the CTTL's most beloved artist. Who could it be?

Here's a hint. At St. Andrew's, teachers have just awarded effort grades (see rubric below), academic grades, and interim comments for all their students. As you read this, teachers are meeting with parents to discuss the current strengths and challenges of students. Given these facts, can you guess who our musical choice might be?

Click Here To Find Out!

Standards	Exceeding Expectations	Meeting Expectations	Progressing Towards Expectations	Not Meeting Expectations
Participation *Attention* *Language* *Social Cognition*	☐ *Consistently* and *independently* offers insights & ideas in class or on-line. ☐ *Consistently* and *independently* asks relevant questions.	☐ *Usually* offers insights & ideas in class or on-line discussions. ☐ *Usually* asks relevant questions that often extend learning during class.	☐ *Sometimes* offers insights & ideas in class or on-line discussions. ☐ *Sometimes* asks relevant questions that might extend learning during class.	☐ *Rarely* participates in class or on-line discussions. ☐ *Rarely* ask relevant questions or engages in class discussion during class.
Note-taking *Language* *Memory* *Spatial ordering* *Temporal sequential ordering*	☐ *Consistently* and *independently* takes organized notes (handwritten or digital). ☐ *Consistently* summarizes & highlights important concepts. ☐ *Consistently* balances note-taking with listening, paying attention & participating. ☐ *Consistently* uses notes alongside active study strategies to learn.	☐ *Usually* takes organized notes (handwritten or digital). ☐ *Usually* summarizes & highlights important concepts. ☐ *Usually* works to balance note-taking with listening, paying attention & participating. ☐ *Usually* relies on notes as a study tool.	☐ *Sometimes* takes organized notes (handwritten or digital) with prompting from teacher. ☐ *Sometimes* uses notes as a study tool.	☐ *Rarely*, if ever, takes notes (handwritten or digital), even after prompting from teacher. ☐ *Rarely* relies on notes as a study tool.
Materials Management *Neuro-motor* *Spatial Ordering*	☐ *Consistently* and *independently* organizes notebook and computer desktop based on teacher/student agreed upon guidelines or learning preferences. ☐ *Consistently* able to quickly retrieve paper or computer documents when needed or requested.	☐ *Usually* organizes notebook and computer desktop based on teacher/student agreed upon guidelines or learning preferences. ☐ *Usually* able to retrieve papers & assignments on request or when needed.	☐ Notebook and computer desktop is *sometimes* organized based on teacher/student agreed upon guidelines and learning preferences. ☐ Papers/handouts are available, but not organized, and *sometimes* difficult to locate on request or when needed.	☐ Notebook and computer desktop are *rarely* organized in any disciplined way. ☐ Can *rarely* find papers/handouts or files on request or when needed in a timely fashion.
Day-to-day learning *Attention* *HOC* *Temporal Sequential Ordering*	☐ *Consistently* arrives to class on time and ready to learn with all materials. ☐ *Consistently* completes homework assignments on time. When questions arise, asks teacher for help. ☐ *Consistently*, and *independently*, links current day's work with previously learned material. ☐ *Consistently* remains engaged and attentive for the duration of each class period. ☐ *Consistently* up-to-date on short-term and long-term workload.	☐ *Usually* arrives to class on time and ready to learn with all materials. ☐ *Usually* completes homework assignments on time. When questions arise, asks teacher for help. ☐ *Usually* able to link current day's work with previously learned material. ☐ *Usually* remains engaged and attentive for the duration of each class period. ☐ *Usually* remains up-to-date on short-term and long-term workload.	☐ *Sometimes* arrives to class late and without all materials. ☐ *Sometimes* completes homework assignments and does not ask teacher for help when questions arise. ☐ *Sometimes* offers an insight on a lesson and its relationship to previously learned material. ☐ *Sometimes* remains engaged and attentive for the duration of each class period. ☐ *Sometimes* remains up-to-date on short-term and long-term workload.	☐ *Rarely* arrives to class on time and with all materials. ☐ *Rarely* completes homework assignments on time and does not ask teacher for help when questions arise. ☐ *Rarely* makes an attempt to relate current lesson to previously learned material, or to offer insights. ☐ *Rarely* remains engaged and attentive for the duration of each class period. ☐ *Rarely* manages time and workload as evidenced by late or missing assignments.

Effort Grade Rubric 2.1

Standards	Exceeding Expectations	Meeting Expectations	Progressing Towards Expectations	Not Meeting Expectations
Self Advocacy *Language* *Social Cognition*	☐ *Consistently*, and *independently*, communicates (in-person or electronically) with teacher to schedule extra help, when needed. ☐ *Consistently* resilient, and proactive, when faced with a challenge in-class or out.	☐ *Usually* initiates communication (in-person or electronically) with teacher to request extra help, when needed. ☐ *Usually* resilient, and proactive, when faced with a challenge in-class or out.	☐ When extra help is needed, *sometimes* initiates communication (in-person or electronically) with teacher. ☐ *Sometimes* resilient, and proactive, when faced with a challenge in-class or out.	☐ When extra help is needed, *rarely initiates* communication (in-person or electronically) with teacher. ☐ *Rarely* resilient, and proactive, when faced with a challenge in-class or out. Often gives up.
Collaborative Work *Language* *Social Cognition*	☐ *Consistently*, and positively, works well with assigned partners/teams. ☐ *Consistently*, and respectfully, listens to the thoughts & insights of classmates while sharing their own. ☐ *Consistently*, and independently, assists classmates who need support/help.	☐ *Usually* works positively with most assigned partners/teams. ☐ *Usually* a respectful listener to the thoughts & insights of classmates. ☐ *Usually* assists classmates who need support/help.	☐ *Sometimes* works well with *assigned* partners/teams. ☐ *Sometimes* a respectful listener to the thoughts & insights of classmates. ☐ *Sometimes* assists classmates who need support/help.	☐ Has difficulty working with partners/teams. ☐ Is *rarely* able or willing to listen to insights & thoughts of classmates. ☐ *Rarely* (and never independently) assists classmates who need support/help.
Meta-Cognition (Thinking about Learning) *HOC* *Language* *Memory*	☐ *Consistently* takes advantage of opportunities to reflect (in writing or orally) on academic performance. ☐ *Consistently* able to article current learning strengths and challenges. ☐ *Consistently* able to explain appropriate personal learning strategies for a given task. ☐ *Consistently* applies, and is receptive to receiving, teacher's written and oral feedback.	☐ *Usually* takes advantage of opportunities to reflect (in writing or orally) on academic performance. ☐ *Usually* able to article current learning strengths and challenges. ☐ *Usually* able to explain appropriate personal learning strategies for a given task. ☐ *Usually* applies, and is receptive to, teacher's written and oral feedback.	☐ *Sometimes* takes advantage of opportunities to reflect (in writing or orally) on academic performance. ☐ *Sometimes* able to article current learning strengths and challenges. ☐ *Sometimes* able to explain appropriate personal learning strategies for a given task. ☐ *Sometimes* applies teacher's written and oral feedback.	☐ *Rarely* takes advantage of opportunities to reflect (in writing or orally) on academic performance. ☐ *Rarely* able to article current learning strengths and challenges. ☐ *Rarely* able to explain appropriate personal learning strategies for a given task. ☐ *Rarely* applies teacher's written and oral feedback.
Absences *Attention* *Memory* *TSO*	☐ *Consistently*, and *independently*, meets with teacher upon return from an absence. ☐ *Consistently* checks Schoology while absent and communicates with the teacher about missed work. ☐ *Consistently and independently* makes up work within a time frame agreed upon by the student and the teacher.	☐ *Usually* meets with teacher upon return from an absence. ☐ *Consistently* checks Schoology while absent and communicates with the teacher about missed work. ☐ *Usually* makes up work within a time frame agreed upon by the student and the teacher.	☐ *Sometimes* meets with teacher upon return from an absence. ☐ *Sometimes* does not have a grasp of what work was missed. ☐ *Sometimes* makes up work in the agreed upon timeframe. ☐ *Sometimes* misses appointments with teachers and revised deadlines.	☐ *Rarely* meets with teacher upon return from an absence. ☐ Does not have a grasp on what work was missed. ☐ *Rarely* makes an effort to make up missed work and misses appointments with teachers and revised deadlines.

This effort grade rubric is designed to help each student reflect and better understand him or herself as a learner. Working toward these observable standards and mindsets enhances each student's ability to meet his or her potential because "effort matters most."

If you know a song by Kenny Rogers, it is most likely "The Gambler." How did this song become a trademark of the CTTL's playlist? Why did Ian feature this song in a presentation that he gave at a recent St. Andrew's morning meeting? And what led him to sing it at a recent conference?

The CTTL's love of Kenny Rogers stems from a presentation by John Hattie at the 2017 Learning & the Brain Conference in San Francisco. Hattie is well-known in the research-informed teaching world for his giant meta-studies evaluating what works and what does not work in education. His research has been well-studied by teachers and school leaders from around the world who are trying to find the most effective instructional strategies for their classrooms.(1)

Hattie's latest work reminds Ian of one of his favorite books, The Hitchhiker's Guide to the Galaxy, the story of the search for the answer to the ultimate question of life, the universe, and everything. Hattie's goal is, perhaps, the ultimate question for education. What is the most important thing for students to do to help them learn? To answer this, Hattie examined studies of 20 million students.

The Kenny Rogers Theory of Learning

Hattie's answer was deemed "The Kenny Rogers Theory of Learning" by his graduate students. People only seem to know one Kenny Rogers song, "The Gambler," and only two lines of that song. Can you sing those lines right now? Consider this your formative assessment. We will let you pause to do this.

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Now, all together, sing: "You gotta know when to hold 'em, know when to fold 'em, know when to walk away, and know when to run." It turns out that the answer to the ultimate question in education is "using the right strategy at the right time." This is a wonderfully

simple answer that speaks to what we see as teachers.

If a student is being successful in class, we will ask, "What strategies are you using that are helping you succeed?" to connect their success to the quality of their effort, rather than innate ability. If a student is running into challenges, we will ask the following:

- What other strategies can you implement?
- Which strategies are working in another class for you?
- Which strategies are effective for your peers?
- How could you tweak the current strategy to make it work?

We may also suggest strategies for them to try. The goal is to meet challenge with the mantra, "I need to find a better strategy," and not, "I cannot do it."

Every student is on a constant journey of developing and refining his or her own personal toolkit of learning strategies. The teacher plays a Yoda-like role in guiding this strategy journey. The ultimate goal is, over time, to build each student's self-awareness so that the student uses the right strategy at the right time, boosting their self-confidence in the process.

This, then, is a key moment in the year. We pause to make each student reflect on which strategy to keep using for a particular subject and which strategy to fold, or no longer use, because it is not working.

Three Teacher Strategies
The challenge we have observed is whether or not a student is using a strategy properly. When asked which strategies are the first ones we recommend to students, we often defer to two: (1) spaced practice; (2) retrieval practice (sometimes called self-testing). Both of these strategies help imbed knowledge and skills into long-term memory, therefore aiding recall during assessments and other applications of knowledge and skills.

(1) Spaced Practice
Spaced practice is quite simple. However, while teachers recognize the value of the spacing effect and try to coach their students to use it, educators do not always create space in their homework assignments for such practice to occur. One of the best explanations about spaced practice come from the Learning Scientists. Educators must not only explicitly teach this strategy, but also provide space for students to implement spaced practice in the time leading up to a summative assessment. We often are asked, "What is the best time duration for spacing?" The best answer is, "Just as the students are forgetting." The actual time varies drastically because it is so context dependent; therefore, nailing this time is part of the master teacher's art. Frequently giving short formative assessments and well-crafted exit tickets will help you determine when the students are forgetting the material.

(2) Retrieval Practice
Retrieval practice is a favorite of the CTTL because it brings an element into studying that students too often avoid: challenge. For most parents, you might recall studying for your lower, middle, or high school tests by re-reading your highlighted notes or using flashcards. But re-reading notes has been proven to create a false sense of "knowing," and most students actually use flashcards incorrectly; they turn the virtual or handwritten cards over too quickly without struggling to come up with the answer. A better strategy for students would be to take a piece of paper and write out what they know, forcing themselves to struggle when they have reached the "I have forgotten this" moment. Encourage students to tackle practice problems in the same way before THEN going back and checking answers with their notes. The act of trying to recall, even if unable to do so, ultimately helps material stick better. The challenge of studying this way means that students often avoid it, but it is this very deliberate difficulty that makes this strategy work. So how as teachers can we incentivize retrieval practice in our classes?

(3) Self Advocacy
"Be a good self advocate" or "See me outside of class for extra help" are classic teacher comments. And for good reason. As we discuss above, the teacher plays a key Yoda role in helping the students analyze, build, and refine their toolkit of strategies. They help guide them on their journey of using the right strategy at the right time. They apply scaffoldings for each individual student and then peel them back over time as the student grows - thus building self-awareness, self-confidence, and independence.

Recently, St. Andrew's teachers provided students with interim comments that provided at least one specific strategy for a student to implement; see below for an example. Can you spot the dulcet tones of Kenny Rogers in here?

> *Glenn, Although I don't see a lot of traditional participation from you, you make eye contact and demonstrate your engagement. You have emailed me and stayed after class to clarify or communicate, which I appreciate. Self advocacy is one of your notable*

strengths. While a consistent worker, I have noticed less consistency in your performance on reading checks, so I suggest two strategies: 1) instead of highlighting, put notes in the margin, so upon review before class your eye is drawn to key places, and 2) listen and read first; then take some time to skim over the chapter while marking important sections. This gives your brain a second opportunity to see material. When writing, I recommend that you focus on organizing your thoughts ahead through an outline or a mind map. Think of the purpose of each paragraph and focus on keeping your ideas streamlined to that topic. (2)

Moreover, during parent-teacher conferences, teachers will share strategies that they have observed to be working or not working. However, for change to occur, all these strategies must ultimately lead to an important metacognition moment for each student. What is currently working and what is not? Are the strategies I am considering a good match for the cognitive demands of the task? Which strategies should I hold on to, and which strategies should I fold? Who can I talk to to help me figure this out?

We will end this piece with a shameless ask. If anyone has a personal connection to either Kenny Rogers or Bruce Springsteen in particular (given Glenn's adoration), we would love for Kenny and/or Bruce to perform at a CTTL event. Since integrating the music of Kenny and Bruce into professional development is always an effective strategy, please be in touch.

Endnotes:

(1) There is debate by some about Hattie's work, but this is beyond the scope of this blog, except to point out that meta-studies including hundreds of millions students involve a high degree of statistics knowledge and some degree of judgment calls. The devil is in the details, which means that Hattie's work is best judged by analyzing each one of his hundreds of individual studies on its own merits rather than making bulk claims. Because of the sheer volume of his work and the level of knowledge needed to analyze it, this is difficult to accomplish. To our knowledge, this study that comes from a study published in Nature which is considered one of the most well-regarded of science journals, seems solid.

(2) Susheela Robinson, English teacher and Head of the English Department at St. Andrew's Episcopal School, wrote this insightful interim comment.

Upcoming CTTL Events

Parent Night School
November 16, 2017

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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