

## Introducing:

### **The Classroom Teaching (CT) Scan Descriptive Observation Tool & Coaching System**

#### ***What is the CT Scan?***

The Classroom Teaching (CT) Scan is an online, low-inference observation tool that provides an observer a way to reliably and flexibly capture all\* discrete instructional moves made by a teacher during a lesson. Data is captured in real time and saved to a password protected online database. The CT Scan reflects the behaviorist tradition of teaching and learning, and is well suited to capture teachers using explicit instruction and other practices experts would like to see in use when students with disabilities within general or special education settings are present. Thus, the CT Scan can be used to observe general or special educators. The CT Scan will work on any internet connected device (we recommend laptop or tablet). It is available at [www.thectscan.com](http://www.thectscan.com). \* = *The CT Scan is set up to capture everything a teacher does, but a user can opt to select portions of the options depending on the goals of the observation and coaching. For example, when learning to use the CT Scan it can be easier to use one element at a time.*

#### ***What data does the CT Scan produce?***

The CT Scan does not produce a quality rating or score. Instead, the data speaks for itself in that the observer and teacher can see the lesson in descriptive and quantified form laid out within a unique timeline format: <http://classroomteachingscan.com/ctscan/timeline.htm?menus.txt&362>. The timeline informs the observer and coach which practices were recorded, for how much time, and if the practice was implemented with fidelity. These data are overlaid with what the students were supposed to be doing (e.g., listening, taking notes, group work, etc), the instructional grouping size (e.g., whole class, small group, etc.), the percentage of students who were engaged (recorded using an interval recording system), and specific terms or content that were taught. The observer can record qualitative, time stamped notes. Data are presented in the timeline and also in pie charts for easy digestion. Raw counts and rate per minute for various types of questions, feedback statements, student-generated questions, and other countable data are also presented. Rather than use the data to prescribe a score, the observer and teacher are free to use the unbiased data to make determinations about areas of strength and improvement.

#### ***What are applications for using the CT Scan within teacher preparation coursework or field experiences?***

Uses of the CT Scan are flexible by design. In some instances, teacher candidates can learn to use the CT Scan and then “score” their own video (or of a peer) as part of a scaffolded reflection process. Candidates use the data to recognize if they used practices with fidelity (and if not, missing elements are revealed), and to note how interactive the lesson was and if they delivered ample feedback. Candidates have reported checking the list of practices and implementation markers for fidelity within the CT Scan prior to a lesson to aid in planning. In other modes, the instructor of a teacher preparation course can use the CT Scan to observe a candidate and provide data-driven feedback in a “classic” instructor-student relationship. The data is shared, and is the basis of coaching conversations. The menu of categories, practices, and implementation markers for fidelity within the CT Scan provide the observer with a guide of things to look for as the lesson progresses. Administrators in schools could use the CT Scan alongside existing

walkthrough observation tools to provide clear data which can inform forced scoring decisions. There are likely lots of other uses we haven't thought of yet. The CT Scan can be used live in classrooms, when watching teachers on video, or in a simulator situation. We do not see the CT Scan as a punitive tool used to document poor instruction, but instead as a coaching mechanism that illuminates areas where different choices might be considered, or improvement is needed.

***Who can use the CT Scan? What does training entail?***

We do not currently restrict who can use the CT Scan. It is available free on [www.thectscan.com](http://www.thectscan.com). University faculty, administrators, coaches, teachers, and teacher candidates can all learn to use the CT Scan to observe colleagues, peers, or themselves. Training can be formal, or informal. In the past, schools/faculty have requested Michael Kennedy or a member of his team travel to their school to provide an in person coaching session. This includes a presentation that includes sample scoring using videos, and also live practice with a model or in classrooms. There is a one and two day version of this training. Others have opted to learn how to use it through online consultations and trial and error/repeated practice.

During training the users can request new categories, practices, and implementation markers for fidelity to be included within the CT Scan. It is also possible for a custom version of the CT Scan to be created for a specific university or research project.

***How do we get started?***

Contact Michael Kennedy at U.Va: [mjk3p@virginia.edu](mailto:mjk3p@virginia.edu) or 434 924 0827. You can also see the CT Scan intro video at: <https://vimeo.com/349115687>.

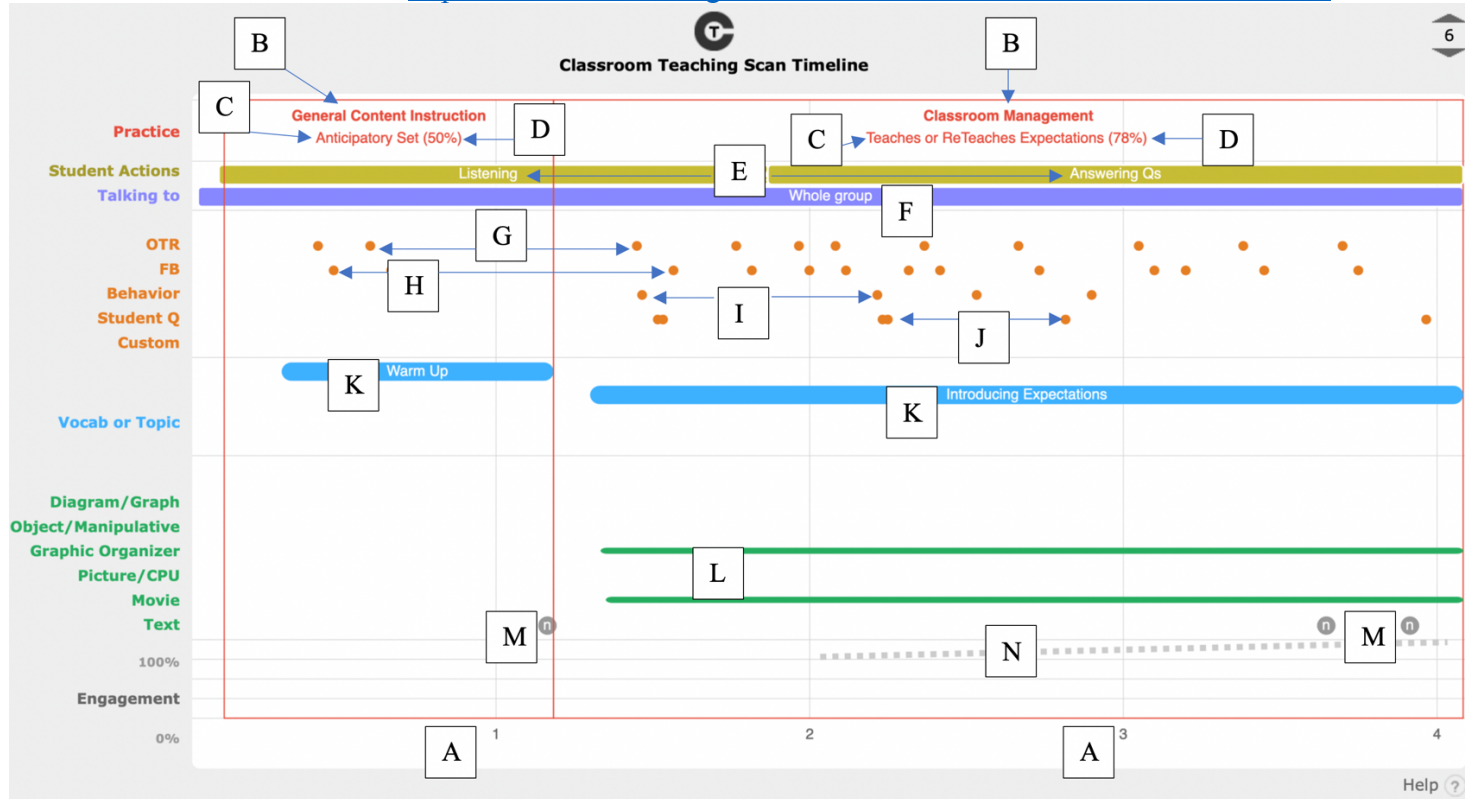
## Classroom Teaching (CT) Scan Interface

The screenshot shows the Classroom Management interface. At the top, there is a 'Set Classroom Management' header with a timer at 02:41. Below this, there are sections for 'Teaches or ReTeaches Expectations' with a list of options, 'Set new practice', and 'Add Vocab Term or Topic'. A central grid displays various teaching practices with their respective counts, such as 'Deep Q OTR (3)', 'Rote Q OTR (8)', 'Chor/Grp Response (1)', 'Non-Acad OTR (1)', 'FB Acad Specific (1)', 'FB Behav Specific (3)', and 'Generic FB (9)'. Below the grid are checkboxes for visual aids like 'Diagram/Graph', 'Object/Manipulative', 'Graphic Organizer', 'Picture/CPU', 'Movie', and 'Text'. At the bottom, there are dropdown menus for 'Teacher' (Special Ed), 'Talking To' (Whole group), and 'Co-teaching?' (1-teach/1-assist). A text input field for 'Student actions' is set to 'Answering Qs', and a 'Teacher is teaching students expectations for upcoming reading lesson' message is displayed with 'Oops' and 'Send' buttons. A 'Done' button is at the bottom left and a 'Help' icon is at the bottom right.

- A. Broad category being used by teacher
- B. Specific practice being implemented
- C. Implementation markers for practice (green observed, black not observed)
- D. Time of observation (running clock)
- E. Window to record content being taught
- F. Count of deep, probing OTRs
- G. Count of rote OTRs
- H. Count of choral/group OTRs
- I. Count of non-academic OTRs
- J. Count of academic-specific FB
- K. Count of behavior-specific FB
- L. Count of generic FB
- M. Count of prompts or precorrections
- N. Count of behavior redirections (negative)

- O. Count of error corrections (positive)
- P. Count of questions asked by students
- Q. Count of number of students asking questions
- R. Custom counters
- S. Visual aids being used (check = active)
- T. Which teacher and group size
- U. Co-teaching model being used
- V. Document what students are supposed to be doing
- W. Window to take qualitative notes

**CT Scan Timeline** <http://classroomteachingscan.com/ctscan/timeline.htm?menus.txt&1166>

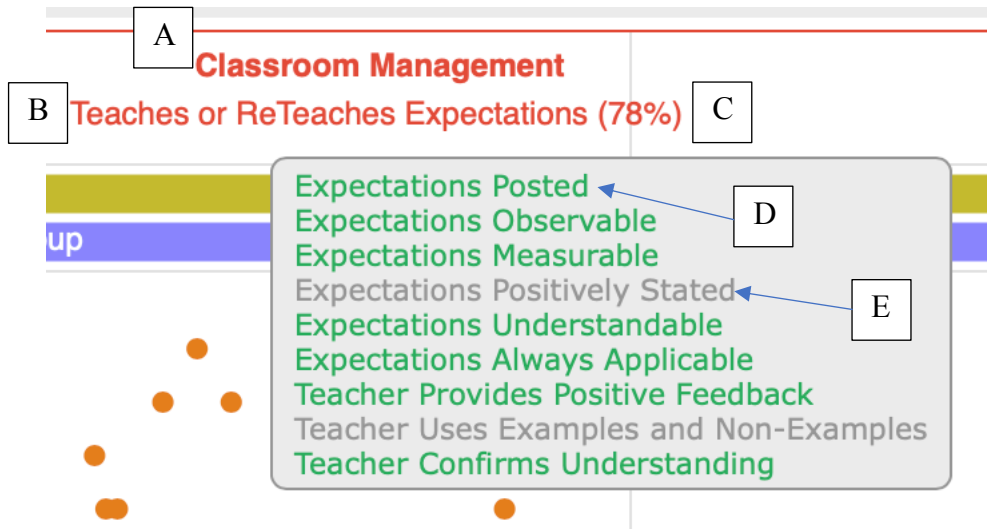


A. Minute of lesson (timeline runs left to right)  
 B. Broad Category that was implemented  
 C. Specific practice that was used (each red box represents length of use for practice and notes everything that happened while it was used)  
 D. % of implementation markers used for practice. See Appendix X below for detailed breakdown.  
 E. Category of what students were supposed to be doing  
 F. Group size teacher was addressing  
 G. Each dot is an OTR. Clicking any dot reveals the type (deep, rote, choral)

H. Each dot is a feedback statement (academic specific, behavior specific, generic)  
 I. Each dot is a type of behavior prompt (precorrect, error correction, behavior redirect)  
 J. Each dot is a question asked by a student  
 K. Topic, term, or other content being taught  
 L. Use of visual aids  
 M. Clicking on the n reveals qualitative notes that were taken  
 N. Trend line of student engagement (from momentary time interval set a priori by observer)

### Detail of implementation markers

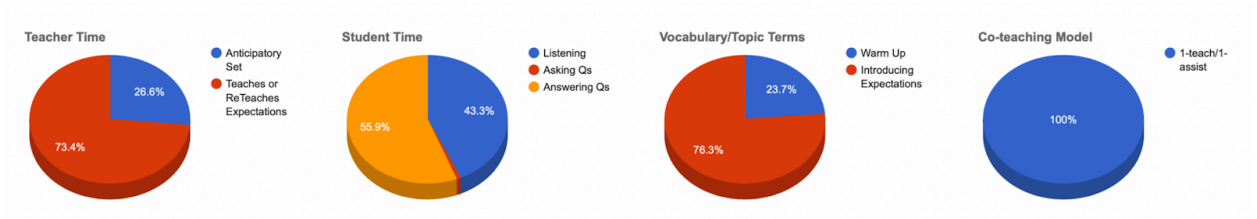
<http://classroomteachingscan.com/ctscan/timeline.htm?menus.txt&1166>



- A. Broad category that was implemented
- B. Specific practice that was used
- C. % of implementation markers observed for practice
- D. Green implementation markers means the observer saw it used during this instance of the practice – The teacher may use the same practice multiple times during a lesson, and use different markers each time
- E. Black implementation markers means the observer did not see it used during this instance of the practice, but it could be used if the teacher used the same practice later in the lesson

In the project, observers will use these data to inform teacher candidates which elements of evidence-based practices they need to incorporate for the next observation. When teacher candidates are self-reflecting, they will also recognize the implementation markers they did and did not implement, thereby helping them self-identify areas for improvement.

### CT Scan pie charts of how the teacher and students spent their time during the lesson, and raw counts of countable events during lesson including rate per minute



Setting	Value	Event	(#)	#/M
Session Id	1166	Deep Q OTR	(1)	0.2
Observer	MK	Rote Q OTR	(8)	2.0
Observer_email		Choral OTR	(1)	0.2
Teacher Id	24601	Non Academic OTR	(1)	0.2
Grade	4	Academic Specific FB	(0)	0.0
Subject	English	Behavior Specific FB	(3)	0.7
Date	2019-08-16	Generic FB Statement	(10)	2.5
Block		Prompt or Precorrect Statement	(1)	0.2
Setting	Inclusive	Behavior Redirect	(1)	0.2
Video	Live	Error Correction	(3)	0.7
Reminder	2	Student Ask Q	(4)	1.0
Research	Baseline	Num Student Ask Q	(2)	0.5
Template	menus.txt	Custom 1	(0)	0.0
		Custom 2	(0)	0.0

In this project, teacher candidates will reflect on how much time was spent using specific practices, and how many and the rate per minute of countable events such as: various types of OTRs and feedback statements, prompts/ pre-correction statements, error corrections, and other data.

### Sample Coaching Email to Teacher Candidates Using CT Scan Data

Dear (Student Name),

Thank you for being part of the project! Immediately below is a table noting your strengths, targeted areas for improvement, and action steps for becoming even more awesome. Pay special attention to the **One Big Thing** (last row of the table). We think improving the One Big Thing will have a big payoff for your students. Below the table is a link to a graph presenting descriptive data from your lesson. We included a tutorial on how to interpret this data in Video #1 of the PD library: <https://vimeo.com/238340100> (skip to the 14 minute mark) If you have any questions about the graphs or the feedback in this email, please email Michael Kennedy (mjk3p@virginia.edu). Please do not share or discuss this feedback with your peers or observers until the conclusion of the study.

Practices	What You Did	Comments
Anticipatory Set	Provided an anticipatory set to launch the lesson  ~1 minute	<p><b>Implementation markers used:</b> Provides explicit cue, Teaching was clear and consistent  <b>Implementation markers not observed:</b> Provides rationale, States Goal</p> <p>It was great to see you open the lesson with an anticipatory set. Your signal to get things started was very clear – students knew it was time to learn. I also liked how clear and consistent your language was. You spoke in a clear voice throughout and students were not confused. I didn’t hear you provide a specific rationale for the lesson, or state a goal – it is important to do so in order to properly inform students about why you’re doing what you’re doing. This doesn’t take much time – just a sentence or two, but can help properly motivate students. Watch the first minute or so of this video <a href="https://vimeo.com/224856584">https://vimeo.com/224856584</a> to see a sample. You provided two opportunities for students to respond and one feedback statement in the first minute of the lesson.</p>
Teaching or Re-Teaching Expectations	Explicitly taught expectations  ~3 minutes	<p><b>Implementation markers used:</b> Expectations posted, observable, measurable, understandable, always applicable, positive feedback, confirms understanding  <b>Implementation markers not observed:</b> Positively stated, uses examples and non-examples</p> <p>Teaching expectations is always a good choice to start a lesson. I was very pleased to see you opting to spend time doing so (of course we asked you to for the lesson, but still...). Your expectations are posted for students to see, they are observable and measurable, and easy for students to understand. The expectations you have set are also always applicable for students. Throughout the lesson you gave the students opportunities to demonstrate their learning (9 during the 3 minutes), and provided feedback on their performance (11 statements). One thing to note is one of your expectations is not stated positively (No</p>

		running). Expectations that are positively stated help set the tone for a positive environment where all students feel comfortable. I also think it is powerful within a lesson to provide examples and non-examples of the behavior being implemented. Here is a great video example: <a href="https://vimeo.com/296906628">https://vimeo.com/296906628</a> .
Error Corrections	2 error corrections, and 2 negative behavioral redirections	You provided two error corrections following student mistakes in responding to your prompts. This is great to see, an immediate correction prevents small mistakes from snowballing. You also handled them positively, which means you were upbeat and provided an environment where it is safe for mistakes to happen. I did note you made two negative behavioral redirections as well (“stop it”). See if you can eliminate this type of feedback, although I know it comes very naturally!
Prompts and Precorrection Statements	4 prompts/ precorrection statements	You provided four prompts/ precorrection statements during the lesson. These clear statements really help students understand what your expectations are, gives them superb messages about what you want them to do and how to do it, and lets them know to avoid pitfalls you know students have fallen into before. I thought you did very well to space out these prompts and precorrections during your brief lesson to support students’ needs. Well done.
Opportunities to Respond (OTRs)	11 questions 8 rote 1 choral 3 deep	We heard you ask 11 questions at a rate of 2 questions per minute. During our observation, you asked 8 rote questions, 1 choral response question, and 3 higher-level questions. One way to make your practice even stronger would be to ask more questions, especially more complex questions that emphasize critical thinking, as discussed in Video 6. It is also important to try and achieve an average rate of 3 OTRs per minute or more. I realize not all teaching activities lend themselves to that high rate of OTRs, but if you are teaching or re-teaching expectations, giving examples and non-examples, there are lots of chances for rapid fire OTRs that are meaningful. This video model has excellent examples of what I am talking about: <a href="https://vimeo.com/296906628">https://vimeo.com/296906628</a> .
Feedback Statements (FB)	13 feedback statements 9 generic 1 academic-specific 3 behavior-specific	During the observation, we noticed you giving 13 feedback statements to students, at a rate of 2 per minute. We heard you give 9 generic feedback statements like “Good job,” and no 1 academic-specific feedback statements. These academic feedback statements, where you give the students detailed feedback, are a great way to build engagement. We noticed that you provided 3 behavioral-specific feedback statements to students and that the percentage of students engaged in the lesson fluctuated between 75% and 100%. The most expedient practice to use after a student responds to a prompt is to say “yes” “good job” or something else very quick. It helps with pacing, and does tell students you are pleased with them. However, providing behavior-specific feedback is much more powerful in the long term for letting students know exactly how they have met your expectations. Behavior-specific feedback makes it far more likely that desirable behaviors will recur. See an example of this type of feedback in this modeling video: <a href="https://vimeo.com/135427688">https://vimeo.com/135427688</a>

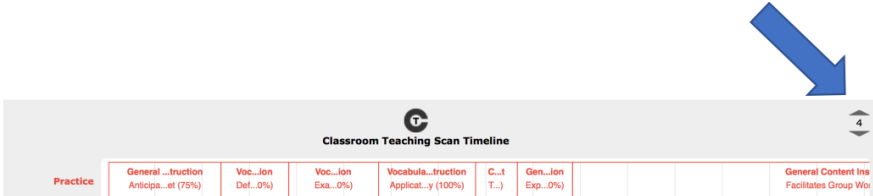


Comments	
The Big Picture	You did a terrific job with this lesson! I really liked the warm and clear opening to orient students and call them to order. I also always love it when a lesson begins with a review of expectations. Never a waste of time – always a good choice. Your expectations look good other than the one about “no running” see if you can rephrase that one. Also, when teaching, use examples and non-examples. Toss in some role play or other modeling. Kids love it, it’s a lot of fun, and is memorable and powerful. Here’s an example: <a href="https://vimeo.com/135427688">https://vimeo.com/135427688</a> .
One Big Thing	I want you to work on increasing your rate of OTRs, and match it with behavior-specific feedback statements. It takes training to remember to give this sort of praise. Write out some sample statements, and memorize them – or write on your lesson plan notes so you can quickly reference them and remember in the heat of the lesson. Will pay big dividends!
One Big Thank You!	Thank you for participating in our research study. We know how many demands there are on your time, so we just wanted to say thank you—without you, our study wouldn’t have been possible. We appreciate your willingness to open your classroom to us and to let us observe your practice.

**Link to CT Scan Data Output**

<http://classroomteachingscan.com/ctscan/timeline.htm?menus.txt&1166>

*Note: If you find your CT Scan data is jumbled like you see below and hard to read, click on the up arrow above the 4 to spread things out a bit.*



The screenshot shows the 'Classroom Teaching Scan Timeline' interface. At the top, there is a navigation bar with a refresh icon and a number '4' with an up arrow icon above it. Below this, there is a table with columns for different teaching practices and their percentages. The table is partially visible, showing columns for 'Practice', 'General Instruction Anticipate (75%)', 'Voc...lan Def...0%', 'Voc...lan Exa...0%', 'Vocabula...truction Applicat...y (100%)', 'C...l T...)', 'Gen...lan Exp...0%', and 'General Content Ina Facilitates Group Wo'.

**Remember!**  
 You can also use the professional development video library at any time on [www.edpuzzle.com](http://www.edpuzzle.com) or [www.spedintro.com](http://www.spedintro.com)