SeeMeTeach® Teacher Challenges

Using Sufficient Wait Time (Novice User/Simple Method)

SMT Teacher Challenge
Using Sufficient Wait-Time (Novice User/Simple Method)

The minimal required training to complete this challenge includes:
- Training 1: Setting up a lesson observation in SMT
- Training 2: Qualitative Comments Mode
- Training 3: Quantitative Data and Analysis Mode
- Training 7: Wait-time Basic

Introduction

A common goal in most classrooms is to get students to think deeply, speculate on a specific topic and contribute robust ideas and answers during a particular lesson. However, when the quickest thinking student is called on right away, the thinking process of the other students is squelched, and the fastest students (by a few seconds) get the recognition, while slower responding students get an impression of not being capable and not up to par regarding expectations. We know that sometimes the "best" answers are those that are formed when students are allowed to ruminate for a bit. When students are called on right away, there is not enough rumination time for creative and well-thought-out answers to form and take shape. A simple technique to rectify this issue is wait time.

What is wait time? Generally speaking, wait-time is the silence or pause between comments, statements, responses, or questions posed by either the teacher or student(s). When teachers ask questions requiring thoughtful answers, speculation, and justification for their ideas, wait time provides students more time to think about the question and construct a response. Knowing about and using wait time is an essential factor in student engagement and learning. Even though the identified and documented benefits of wait-time are a semi-recent contribution (Rowe, 1963; Lake, 1973; Fowler, 1975; Tobin, 1987), wait-time has become one of those "laws" of teaching. Like gravity, it works, and there are very predictable and productive results when in place.

Research indicates that if teachers increase their average wait-time from the average 1 second (or less) to at least 3.5 seconds, there is an extensive list of positive things that might and are likely to occur (Rowe 1969, 1974a, 1974b, 1974c, 1974d, 1986). A few of the predictable and positive results of using sufficient wait-time are increases in:
- The length of students' responses increases between 300% and 700%, and in some cases, more depending upon the study.
- More inferences are supported by evidence and logical argument.
- The number of questions asked by students increases, and the number of experiments they propose increases.
- Student-student exchanges increase; teacher-centered "show and tell" behavior decreases.
- Failures to respond decrease.
- Disciplinary moves decrease.
- The number of appropriate responses increases.
- The number of low achievers contributing increases.

- Different students begin contributing.

When combined with better questioning, wait-time is a complete package that gives students ample time to think, allows them to keep thinking without being cut off after a second or two, and therefore keeps them engaged in the lesson. When students remain engaged in the lesson, the cycle of learning continues to new heights.

Here is an example of how one teacher was able to use SMT to collect data and increase their use of wait time by analyzing their teaching. Notice how the increase in wait time also positively affected student engagement.

Date	1/10	1/23	2/10	2/20
Wait-time 1 (T-T)	00:03	00:03	00:05	00:07
Wait-time 2 (S-T)	00:00	00:00	00:03	00:04
Wait-time 3 (T-S)	00:01	00:01	00:03	00:06
% of students responding	35%	29%	68%	75%
% of IEP students responding	22%	29%	88%	88%

Beyond the initial wait-time research, where Rowe noted two categories of wait time (Wait Time 1 and 2), both Lake (1973) and Fowler (1975) offered four categories of wait time to consider the possible combinations when either the teacher or student could start, or end wait time. Depending on whether the teacher or student started or finished the wait time timing cycle, each of the four wait times acts as an indicator of some aspect of instruction.

The following are the functional definitions of how SMT captures wait-time data and differentiates between WT 1, 2, 3, and 4.
- Wait-time 1 (WT1; T-S) is the silence between a teacher posing a question and a student's action/response occurring (coded by another S code).
- Wait-time 2 (WT2; S-T) is the silence between a student responding to a question posed by the teacher and the teacher following up the student's response with a statement, response, or another question (coded by another T code).
- Wait-time 3 (WT3; T-T) is the silence between a teacher posing a question (T3a, T3b, T4a, or a T4 code) and then following up the question with a statement, response, or another question (coded by another T code). Note: WT3 is like WT1, but the teacher's action ends the silence, not the student's action.
- Wait-time 4 (WT4; S-S) is the silence between a student's action/response and another student's action/response begins. Note: WT4 is like WT2 but ends with a student action, not the teacher's action.

The Challenge

This specific teacher challenge aims to implement strategies to increase overall wait time utilized in the classroom and analyze the effect of increased wait time on student engagement.

Challenge Steps:

1) **Teach a Lesson**: First, capture the video and audio of the lesson. Make sure to teach the lesson as you usually would, as this lesson will be used for your baseline data.
2) **Complete the Required SMT Training:** If not already done, complete the required training to learn how to collect Wait Time using the "simple" method. The minimal required training recommended includes:
   a. Training 1: Setting up a lesson observation in SMT
   b. Training 2: Qualitative Comments Mode
   c. Training 3: Quantitative Data and Analysis Mode
   d. Training 7: Wait-time Basic

Note: The cheat sheets accompanying these trainings provide an excellent summary of the training and are fantastic resources to keep on hand while you code your recorded lessons.

3) **Collect Data**: Use the SMT teacher observation app to collect baseline data explicitly focusing on wait time. **Note: Data collection should focus on any T code and any S code (utilizing the seating chart if possible) plus the wait-time button.**
4) **Document and Analyze Data**: After you have collected your baseline data, plot the pertinent data on the Data Summary and Change Chart. The blank lines are for any additional factors you want to focus on. For example, % of IEP students responding or % of minority students responding.
   a. Note: See the Suggestions for Analyzing Data section in this teacher challenge for additional suggestions on analyzing your specific data.
5) **Revamp Your Teaching:** Implement one change to how you approach wait time in your classroom. It is recommended to:
   a. Only implement one change or one strategy at a time to determine precisely what is making the difference in student engagement.
   b. Fill out the "My Plan of Action" google form to document your observations and progress through this teacher challenge. This can be used for your personal development or as evidence for a yearly observation or pre-service teacher certification program.

Note: See the Implementing Growth and Change section in this teacher challenge for additional suggestions on implementing specific changes to your teaching.

Data Buttons		Wait-Time Type	Total Events	Total Time	Average
Lesson Demographics					
Pre-Lesson Questions		Wait Time 1 (T-S)	1	00:01	00:01
Code Summary					
Lesson Summary		Wait Time 2 (S-T)	1	00:03	00:03
Management Summar		Wait Time 3 (T-T)	1	00:02	00:02
Student Engagement					
Teacher Actions Plus		Code	Wait-Time 1	Wait-Time 2	Wait-Time 3	Wait-Time 4
Interaction Patterns					
Wait-Time Summary					
Small Groups					
Post Lesson Questions					
Summative Comments					

6) **Repeat Challenge Steps 1, 3, 4, and possibly 5:** One cycle through this process might achieve the

desired results, but more than likely, it might take more than one cycle. Teaching is complex, with many variables in play, but sometimes a tiny change can have a noticeable and occasionally substantial effect on the learner or the learning environment.

Reminder – After collecting your data, refer to the Wait-Time Summary to view wait-times 1-4 by wait-time type, events, total time, and averages for each wait-time.

<div align="center">Data Summary and Change Chart</div>

	Observation 1	Observation 2	Observation 3	Observation 4
Date				
Wait-time 1 (T-T)				
Wait-time 2 (S-T)				
Wait-time 3 (T-S)				
Wait-time 4 (S-S)				
% of students responding				

Questions and Data to Ponder Regarding the Level of Wait-time Used in a Lesson:
1. How does the WT1 average correspond to the teacher's intention for using wait time to give students ample opportunity to think about the teacher's question?
2. How does the WT2 average correspond to the teacher's intention to use wait time to give students ample time to think about a student's response and respond to that student? (Look at the relationship between WT2 average and the S-S count in Interaction Patterns.)
   a. After a student responds and the teacher pauses and slows to react, other students fill this void and may respond by commenting or offering a response. This is especially true if the teacher suggests this is a desired expectation for the class.
3. Which wait times are below or above the time of 3.5 seconds that triggers the positive results of using wait time?

<div align="center">Suggestions for Analyzing Data</div>

Levels of Student Engagement – At the beginning of this challenge, some of the positive effects of using wait time were listed. We will list them again, along with suggestions for SMT captured and analyzed data that might serve as indicators of change for these factors.

Positive Effect	SMT Data Indicator
The length of students' responses increases between 300% and 700%, and in some cases, more depending upon the study.	Code Summary and Student Engagement Summary would show an increase in total time and average time per student response. Total time for S5/# of events of S5
Teacher-centered "show and tell" behavior decreases.	Code Summary would show a decrease in overall T code time. And the S Code/T Code ratio would indicate more time used for S Codes.
Failures to respond decrease.	SMT doesn't have an S Code for failure to respond, but one of the U codes could be designated to record such behavior. U1 might be used to note this student event.
The number of appropriate responses increases	SMT doesn't have an S Code for appropriate answers, but the observer might note the few that exist or not.
The number of low achievers contributing increases*	Student Seating Chart Heat Map provides the number of responses per student – a visual sweep of low achievers and contributions would indicate an increase or not.
Different students begin contributing*	Student Seating Chart Heat Map provides the number of responses per student – a visual sweep of who contributed would indicate an increase or not.

*Note: This data can only be collected if student responses are linked to specific students on the seating chart.

Implementing Change and Growth

Guiding Thoughts:
➢ When combined with better questioning, wait-time is a complete package that gives students ample time to think, allows them to keep thinking without being cut off after a second or two, and therefore keeps them engaged in the lesson. When students remain engaged in the lesson, the cycle of learning continues to new heights. When the quickest thinking student is called on right away, the other students, and this continues to happen, thereby stopping the thinking process of the other students, it creates an impression of not being capable and not up to par regarding expectations. We know that sometimes the "best" answers are those that are allowed to ruminate for a bit, and with average wait times of less than one second, there is not enough rumination time for creative and well-thought-out answers to form and take shape.
➢ If students aren't used to a teacher using wait time, it may make them uncomfortable. Therefore, tell students what to expect from you. Let them know this is a part of your routine and expected manner of interacting with them. Perhaps share some of the benefits of using wait time with them.
➢ Any question posed should be accompanied by wait time. Questions that require students to think profoundly vs. respond with yes or no (generally speaking) or spout memorized material should be

accompanied by longer wait times. And as the reader works toward using more open-ended questions that require students to think. Ask the question, then allow for ample think-time.

➢ Put one hand behind your back and begin to count off on your fingers: 1 one-thousand, two one-thousand, three one-thousand, and so on. Meanwhile, smile and look encouraging. While eye contact is positive in many instances, in this case, making eye contact can make students nervous, so consider looking around the room but not directly at any student. Note that 2-3 seconds may seem like an eternity to you and your students when first using wait time. You will get used to it, and so will your students.

➢ After time elapses, you may see hands going up and, when appropriate, call on a student. Provide an acknowledgment and call on another student.

➢ If no hands go up, call on someone. Call on another student. An experienced teacher used little cards with students' names written on them. When no hands came up, he would pick the top card, and the students knew it was their time to respond. They could pass just once that quarter; if they did, he noted it on the card and moved on to the second card/student's name.

Modules to Modify Instruction

See the following SMT modules for teaching tips and strategies that will help increase overall wait time and engage more learners during the lesson.

- Module 1 - Understanding the teacher-student synergistic relationship as described in the Teacher Decision-making Framework.
- Module 2: Identifying Teacher Actions - Asking questions that dig into student thinking; Asking questions and responding in ways that result in more student-student interactions.
- Module 3 - *Maximizing Student Engagement in the Classroom* - Using dry erase response boards has a built-in wait-time factor. Some students get their ideas down fast, others slow - but they all get much more time to think than the typical 1-2 seconds of wait-time in most classes. See for the many benefits of using dry erase boards in Module 3.

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