

EVIDENCE IN PRACTICE

Example of a Teacher Candidate's Self-Observation Report – Science

Contents of this Report: This is a self-report and reflection stemming from a lesson taught by a future science teacher who was at the end of a semester of clinical experience in a middle school science classroom. This report uses data collected and analyzed by SMT to identify strengths and areas for improvement in the future teacher's teaching methods and behaviors. This report focuses on the types of questions posed, student engagement, teacher responses, misbehaviors, teacher-student event ratios, interaction patterns, and, lastly, a summary of the wait time in the lesson.

Teacher: B. O. Class: Middle School General Science

Topic: Electromagnetism Grade: 6th – 8th combined

Time: 38 minutes

The focus of Data Collection: All L, T, M, and S codes using the seating chart and WT

Lesson Goals and Evidence

Goals for the Lesson: Students will review and apply what they have been learning about electromagnetism by analyzing designs for an electromagnet that can move steel bearings from one location to another. Students are encouraged to ask questions about the engineering design process and resulting data to determine the factors that affect the strength of an electromagnetic field.

Data, Analyses, and Indicators: The following tables, timelines, seating charts, or pics were taken directly from the lesson observation and quantitative analysis screens. The narrative is based on the evidence in those tables and graphics, which indicate teacher actions, teacher-student interactions, student actions, and student engagement during the lesson.

Running Record

Running Record – This is the raw data collected during the teaching episode. Below is a sample showing only the first 33 of the 115 data points collected during the observation.

Index	Code	Description	Lesson Clock	Event Length	Wait Time
1	L01	Administrative	00:00:11	00:00:17	
2	L04	Whole class discussion	00:00:42	00:00:31	
3	T03b	Teachers asks a question in short answer format	00:00:46	00:00:12	00:00:07
4	S05	Student answers teachers question	00:00:55	00:00:21	00:00:01
5	S05	Student answers teachers question	00:01:00	00:00:03	
6	T11	Teacher asks student to clarify their answer	00:01:02	00:00:01	
7	S05	Student answers teachers question	00:01:04	00:00:09	
8	S05	Student answers teachers question	00:01:07	00:00:13	00:00:01
9	T08	Teacher repeats student answer	00:01:12	00:00:03	00:00:02
10	S03	Student comments to the teacher	00:01:19	00:00:03	

RAW OBSERVATION EVIDENCE

Running Record Sample Continued

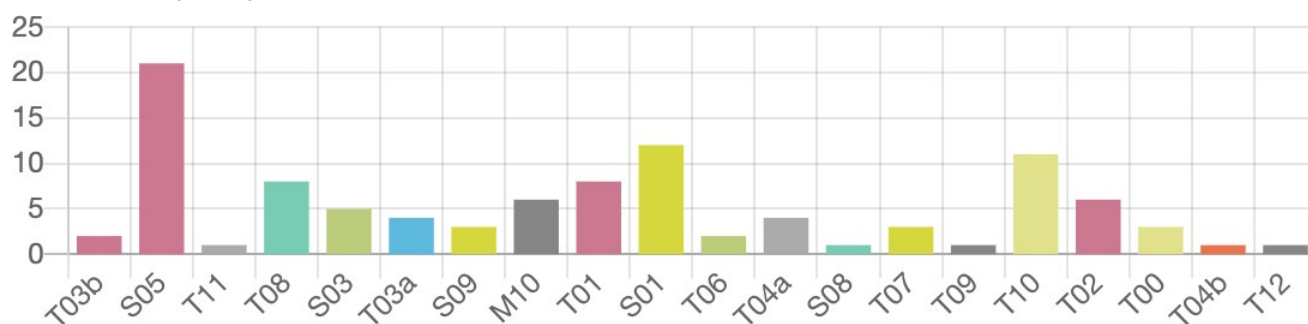
The following entries continue the sample of the first 33 events from a total of 115 coded data points.

Index	Code	Description	Lesson Clock	Event Length	Wait Time
11	S05	Student answers teachers question	00:01:23	00:00:04	00:00:00
12	S05	Student answers teachers question	00:01:30	00:00:05	00:00:02
13	T03a	Teachers asks a question in yes/no format	00:01:34	00:00:11	00:00:03
14	S09	Choral response to a teacher question	00:01:38	00:00:00	00:00:01
15	M10	Student misbehavior	00:01:45	00:00:08	
16	M10	Student misbehavior	00:01:57	00:00:21	
17	L03	Demonstration	00:02:02	00:00:26	
18	L02	Lecture/notes	00:02:09	00:00:06	
19	T01	Teacher presents information	00:02:44	00:00:34	00:00:04
20	T03a	Teachers asks a question in yes/no format	00:02:48	00:00:01	00:00:02
21	S09	Choral response to a teacher question	00:02:52	00:00:00	00:00:02
22	S03	Student comments to the teacher	00:03:17	00:00:22	00:00:01
23	T01	Teacher presents information	00:03:37	00:00:19	00:00:09
24	L15	Video	00:04:10	00:00:24	
25	M10	Student misbehavior	00:04:50	00:00:40	
26	T01	Teacher presents information	00:06:19	00:02:09	00:00:06
27	S01	Student asks teacher a question	00:06:26	00:00:04	
28	T06	Teacher acknowledges student answer	00:06:29	00:00:02	00:00:01
29	T04a	Teachers asks question requiring speculation	00:06:34	00:00:03	00:00:30
30	M10	Student misbehavior	00:06:52	00:00:19	
31	S08	Student asked question, think, pair, share	00:07:04	00:00:01	00:00:15
32	S05	Student answers teachers question	00:07:23	00:00:24	00:00:01
33	T07	Teacher confirms student answer	00:07:25	00:00:00	00:00:07
		Continue – total of 115 data points			

OBSERVATION EVIDENCE

Code Summary

Code Summary Graph of Events



Code Summary Data Table

Code	Description	Events	Event %	Duration	Duration %
T03b	Short-answer question	2	1.94%	00:00:29	1.79%
S05	Student answers teacher question	21	20.39%	00:03:29	12.90%
T11	Ask student to clarify	1	0.97%	00:00:01	0.06%
T08	Repeat student answer	8	7.77%	00:00:07	0.43%
S03	Student comments to teacher	5	4.85%	00:01:00	3.70%
T03a	Yes or no question	4	3.88%	00:00:20	1.23%
S09	Choral response	3	2.91%	00:00:00	0.00%
M10	Student misbehavior	6	5.83%	00:03:10	11.73%
T01	Present information	8	7.77%	00:07:33	27.96%
S01	Student asks teacher question	12	11.65%	00:00:54	3.33%
T06	Acknowledge student answer	2	1.94%	00:00:02	0.12%
T04a	Speculation question	4	3.88%	00:00:13	0.80%
S08	Think pair share question	1	0.97%	00:00:01	0.06%
T07	Confirm student answer	3	2.91%	00:00:03	0.19%
T09	Clarify for student	1	0.97%	00:00:01	0.06%
T10	Answer student question	11	10.68%	00:00:47	2.90%
T02	Give directions	6	5.83%	00:03:29	12.90%
T00	Monitor student work	3	2.91%	00:05:13	19.32%
T04b	Speculation and justification	1	0.97%	00:00:06	0.37%
T12	Use student answer	1	0.97%	00:00:02	0.12%
	Overall T Codes	55	53.40%	00:18:26	68.27%
	Overall S Codes	42	40.78%	00:05:24	20.00%
	Overall M Codes	6	5.83%	00:03:10	11.73%
	Overall Codes	103	100.00%	00:27:00	100.00%

INTERPRETATION

Data Highlighted on the Chart

Questions Posed

Questions Posed – 4 yes/no questions, 2 short-answer questions, 4 questions requiring speculation, 1 question requiring speculation and justification

Recommendation: For the questions requiring speculation, it would have been beneficial to follow them up with a question requiring justification.

Student Engagement

Student Engagement – 3 choral responses to teacher questions, 12 students asked the teacher questions, 21 students answered teacher questions, 5 students commented to the teacher

Recommendation: For the nature of this lesson, this is a good amount of student engagement. Students interacted a lot by answering questions and asking good questions as we went through the design process.

Teacher Responses

Teacher Responses – The most common teacher response was answering a student question (T10). For student answers to teacher questions, the most common teacher response was repeating the answer (T08). The teacher confirmed student answers on 3 occasions (T07).

Recommendation: Rather than repeating or acknowledging students' answers, the teacher could have followed up with clarifying questions to inspire deeper thinking. For example, the teacher could say, "Tell me more about that," or "Give me an example of what you mean."

Misbehaviors

Misbehaviors – There were 6 misbehavior events. All of them involved students chatting with each other when they should have been listening to others speak. 3 of the 6 codes were for one student, who tends to struggle to pay attention and chat with friends when she is supposed to be listening to the teacher or her classmates.

Recommendation: The student with the most misbehavior events should probably be assigned a different seat, away from the friend she tends to get distracted talking to.

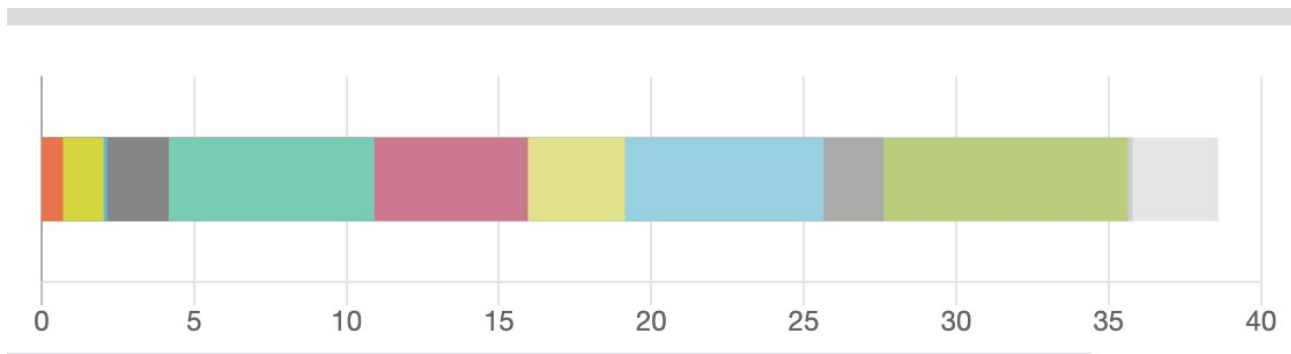
Teacher Student Events Ratio

Teacher-Student Events Ratio – The Overall T Codes vs. Overall S Codes (Percentage of Time) indicate teacher actions occupied 68.27% of the lesson time, while student actions occupied 20%.

Recommendation: To increase student actions, the teacher could ask more follow-up questions to help students think more deeply about their answers and share more of what they know.

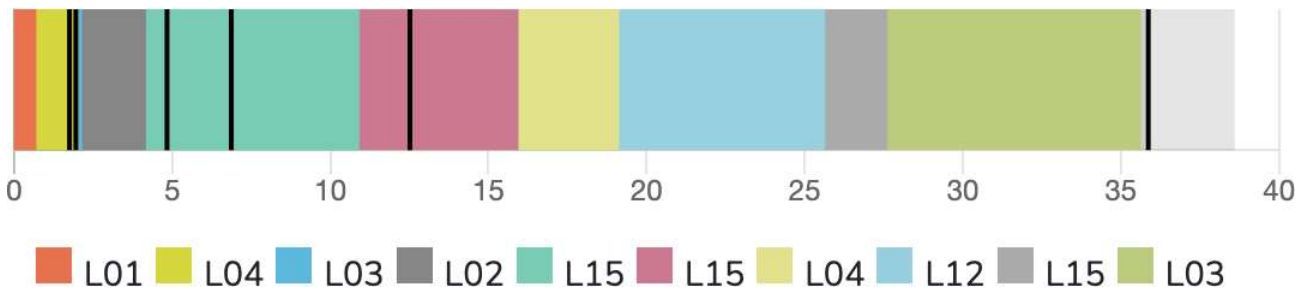
LESSON EVIDENCE

Lesson Summary



The different shades of color in the above graphic represent the different parts of the lesson. Most of the class time was spent watching a demonstration, completing a lab activity, and discussing.

Management Summary

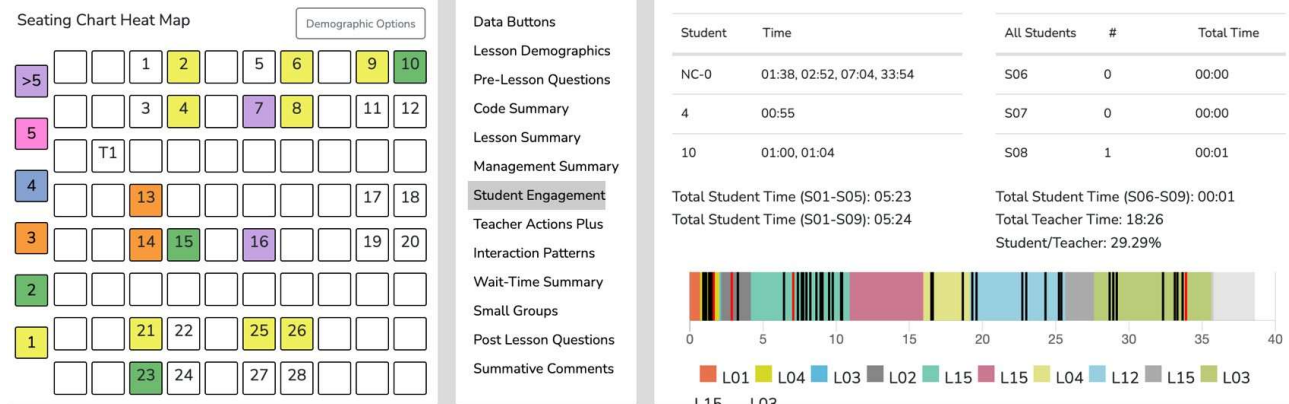


The black lines in the graphic above represent times during the lesson when misbehaviors occurred. All misbehaviors involved students talking to each other when they were supposed to be listening to the teacher or others speaking. Most of these occurred when students were supposed to be watching a video.

Recommendation: Unfortunately, this lab had to be more of a demonstration due to budget restrictions. Because the school could not provide enough circuit sets for students to do this as a hands-on lab, they had to watch a video of a science teacher demonstrating the lab. If the school could reassess its budget and include enough circuit sets for students to work in groups, there wouldn't really have been a need to redirect talking students toward the TV screen; rather, they would have been actively engaging with each other and the activity.

STUDENT EVIDENCE

Student Engagement Summary

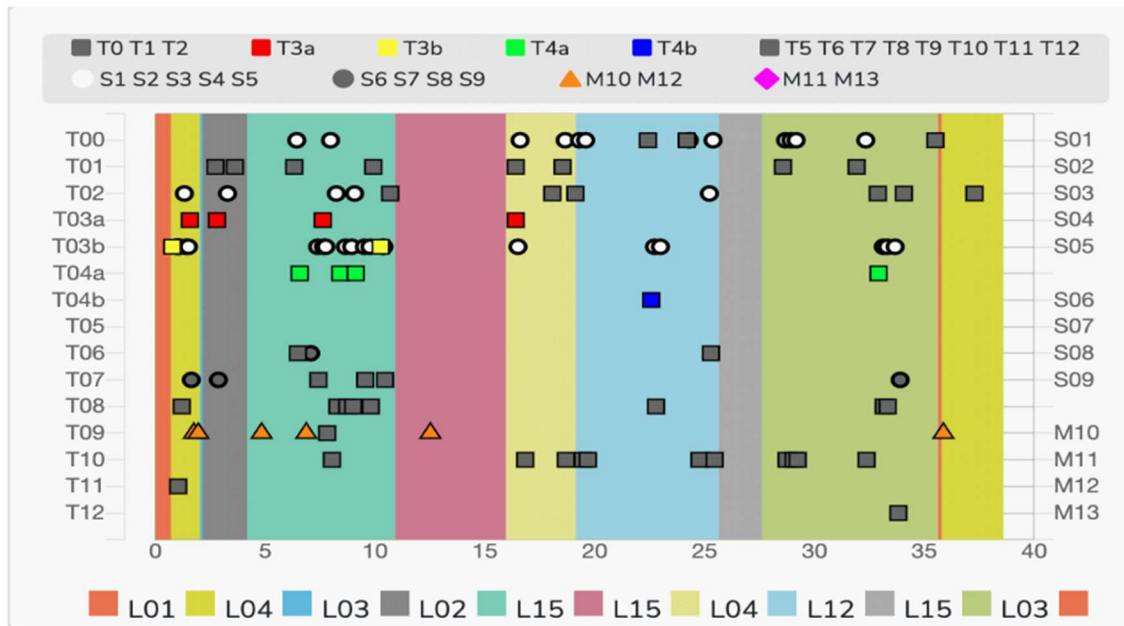


The seating chart heat map indicates that several students engaged by asking questions, commenting to the teacher, or answering questions. A few student engagement codes were choral responses, where several students answered out loud at the same time, which the seating chart heat map does not indicate. Students 7 and 16 both had more than 5 coded engagements, whereas the other students who engaged did so only 1-3 times. 15/31 students engaged at least once, while 13/31 students didn't engage at all.

Recommendation: The heat map clearly shows which students respond and engage quickly versus those who engage little or not at all. I recommend calling on specific students who are not raising their hands or engaging. Because I know these students well, I know several are very shy and do not want to be called on in front of the class. Because of this, an interactive way of sharing without speaking in front of the class would allow for more student engagement. Since students have their own iPads, they could write and hold up their answers or use an online platform such as Nearpod or Jamboard to submit answers anonymously.

LESSON TIMELINE

Teacher Actions Plus



The map above shows when all codes occurred during the lesson. The gray squares account for the teacher's instruction, directions, and responses. The red, yellow, and green squares account for teacher questions. The gray and white circles account for student actions.

Recommendation: Although the map shows many teacher codes, they are well spread across the lesson, with student interactions intermingled throughout. The teacher never talks or answers questions for long without a student engaging. I would only recommend allowing students to express their thoughts more by asking follow-up, deeper-thinking questions.

INTERACTION EVIDENCE

Interaction Patterns – 3 Codes in Sequence

S-S: 9	T-S-T: 25	T-T: 21	Find Patterns Of:	3
Pattern	Sum			
S05-T08-S05	4	S01 - Student asks teacher a question	T00 - Teacher is monitoring students working	
T10-S01-T10	3	S02 - Student asks student question	T01 - Teacher presents information	
S01-T10-S01	3	S03 - Student comments to the teacher	T02 - Teacher is giving directions	
T01-S01-T10	3	S04 - Student comments to another student	T03a - Teachers asks a question in yes/no format	
S01-T10-	3	S05 - Student answers teachers question	T03b - Teachers asks a question in short answer format	
		S06 - Student answers question dry-erase rspns bd	T04a - Teachers asks	

This graphic shows predominant patterns of three codes in sequence. The most predominant teacher-student interaction pattern is T-S-T, indicating teacher-student-teacher interactions. The most predominant pattern overall is T-T, likely because the teacher presents and then poses a question to the class. There are 9 S-S interactions, which are likely students answering questions back-to-back.

Recommendation: To increase S-T-S, ask more clarifying questions of the student or take a student's response and ask another student to add to it.

INTERACTION EVIDENCE

Interaction Patterns – 4 Codes in Sequence

S-S: 9 T-S-T: 25 T-T: 21

Find Patterns Of:

4

Pattern	Sum	S01 - Student asks teacher a question	T00 - Teacher is monitoring students working
S01-T10-S01-T10	3	S02 - Student asks student question	T01 - Teacher presents information
T10-T01-S01-T10	2	S03 - Student comments to the teacher	T02 - Teacher is giving directions
S01-T10-T01-S01	2	S04 - Student comments to another student	T03a - Teachers asks a question in yes/no format
T01-S01-T10-T02	2	S05 - Student answers teachers question	T03b - Teachers asks a question in short answer format
S05-T08-	2	S06 - Student answers question dry-erase rspns bd	T04a - Teachers asks

This graphic shows predominant patterns of four codes in sequence. The most common 4-code sequence is S-T-S-T, indicating a lot of back-and-forth between teacher and student. Students asked many questions; often, a student asked a question, the teacher responded, and then the same or another student asked another question.

Recommendation: It is nice to see that students were comfortable asking questions and engaging more deeply with the content. One recommendation would be to open up their questions to the rest of the class so students can help each other answer questions and see whether others know the answer or are wondering the same things.

TIMING EVIDENCE

Wait-Time Summary

Wait-Time Type	Total Events	Total Time	Average
Wait Time 1 (T-S)	31	02:17	00:04
Wait Time 2 (S-T)	29	01:03	00:02
Wait Time 3 (T-T)	20	01:19	00:03
Wait Time 4 (S-S)	7	00:21	00:03

The chart above shows 31 events of Wait Time 1, 29 events of Wait Time 2, 20 events of Wait Time 3, and 7 events of Wait Time 4.

The average Wait Time 1 was 4 seconds, indicating that, on average, 4 seconds elapsed between the teacher asking a question and the student responding. The average Wait Time 2 was 2 seconds, indicating that, on average, 2 seconds elapsed between a student speaking and the teacher responding.

Recommendations: How quickly students respond to teacher questions is outside the teacher's control unless the teacher asks them not to respond right away; however, how long the teacher waits to answer a question, acknowledge an answer, etc. is within the teacher's control. The recommendation is to withhold responding so quickly and allow more time to see whether the student adds more before repeating their answer and moving on.