

Simple Protocol for Observing Undergraduate Teaching (SPROUT)

SPROUT is designed to give an objective measure of instructional practices in undergraduate STEM courses. It contains a series of dichotomous questions (yes or no) that note the presence or absence of certain occurrences. SPROUT also includes opportunities for the researcher to include qualitative evidence supporting the observation of instructional practices. This material is based upon work supported by the National Science Foundation under Grant Number 1256500.

I. BACKGROUND INFORMATION

Lecturer:	
Date of Observation:	
Start & End Time of Observation:	
Wave:	
Course Name:	
Course Code:	
Observer:	
Location:	
Current Total Enrollment:	
Approx. Attendance at Lecture:	
Seat Location of Observation:	

II. LESSON OVERVIEW

(a) Lesson Description:

Evidence:

(b) Describe Faculty-Student Interaction:

Evidence:

(c) Describe Peer Interactions (If Any):

Evidence:

(d) Describe Problem-Solving (If Any):

Evidence:

(e) Describe the resources used by the instructor and by the students (including technology):

Evidence:

III. TEACHING DIMENSIONS

(a) Teaching Methods

1. Lecture without Visuals:

	Yes		No
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Evidence:

2. Lecture with Pre-Made Visuals:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	
Evidence:					
3. Lecture with Handwritten Visuals:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	
Evidence:					
4. Lecturing with Demonstration of Topic or Phenomena:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	
Evidence:					
5. Interactive Lecture:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	
Evidence:					
a. If yes, how many instances?		<input style="width: 100%;" type="text"/>			
6. Deskwork:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	
Evidence:					
7. Groupwork:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	
Evidence:					
8. Student Presentation:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	
Evidence:					
9. Does the instructor solve problems in front of the class?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	
Evidence:					
10. Does the instructor warn the class about common mistakes/misconceptions?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	
Evidence:					

a. If yes, how many times?	
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(b) Pedagogical Moves Observed:

1. Illustration with the real world:

	Yes		No
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Evidence:

2. References prior course content:

	Yes		No
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Evidence:

3. Assessment:

	Yes		No
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Evidence:

4. Formative feedback (iClickers, handwritten, or definite show of hands):

	Yes		No
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Evidence:

a. If yes, did the instructor modify the lesson accordingly as a result of this feedback?

	Yes		No		N/A
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Evidence:

5. Does the instructor mention specifically what students need to know for the test or exam?

	Yes		No
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Evidence:

6. Does the instructor summarize the ideas presented in lecture?

	Yes		No
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Evidence:

(c) Instructor/Student Interactions Observed (Types of Q & A)

1. Instructor display question:

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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If yes, note which of the following types of student responses to instructor occurred:

	Fixed Values	
<input type="checkbox"/>	Yes	One Student Responds
<input type="checkbox"/>	Yes	Collectively Students Respond
<input type="checkbox"/>	Yes	No One Responds

Evidence:

2. Instructor open-ended question:

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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If yes, note which of the following types of student responses to instructor occurred:

	Fixed Values	
<input type="checkbox"/>	Yes	One Student Responds
<input type="checkbox"/>	Yes	Collectively Students Respond
<input type="checkbox"/>	Yes	No One Responds

Evidence:

3. Instructor checks for student understanding:

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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If yes, note which of the following types of student responses to instructor occurred:

	Fixed Values	
<input type="checkbox"/>	Yes	One Student Responds
<input type="checkbox"/>	Yes	Collectively Students Respond
<input type="checkbox"/>	Yes	No One Responds

Evidence:

4. Student corrects instructor:

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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Evidence:

5. Student administrative question:

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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Evidence:

6. Student classroom environmental question:

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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Evidence:

7. Student conceptual question:

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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Evidence:

(d) Observed Student Behavior at Two Time Points
(observers randomly)

After 20 Minutes

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

After 40 Minutes

1.

2.

3.

4.

5.

6.

7.

8.																													
9.																													
10.																													
(e) Instructional Technology																													
1. Book(s):	<table border="1" style="border-style: dashed; width: 100%;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> </tr> </table>		Yes		No																								
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2. Pointer:	<table border="1" style="border-style: dashed; width: 100%;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> </tr> </table>		Yes		No																								
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3. Chalk-board/White-board:	<table border="1" style="border-style: dashed; width: 100%;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> </tr> </table>		Yes		No																								
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4. Overhead:	<table border="1" style="border-style: dashed; width: 100%;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> </tr> </table>		Yes		No																								
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5. PowerPoint or Other Digital Slides:	<table border="1" style="border-style: dashed; width: 100%;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> </tr> </table>		Yes		No																								
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6. Clickers:	<table border="1" style="border-style: dashed; width: 100%;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">If yes:</td> </tr> <tr> <td style="width: 70%;">a. How many questions?</td> <td style="background-color: #cccccc;"></td> </tr> <tr> <td>b. What was the format of the questions? (Multiple Choice, True/False, or Both)</td> <td style="background-color: #cccccc;"></td> </tr> <tr> <td>c. What were the types of questions? (Content-Recall, Calculation Based, or Both)</td> <td style="background-color: #cccccc;"></td> </tr> <tr> <td>d. Were students given a second chance to answer the question?</td> <td style="text-align: center;"> <table border="1" style="border-style: dashed; width: 100%;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">N/A</td> </tr> </table> </td> </tr> <tr> <td>e. Were students encouraged to discuss the clicker question with their peers?</td> <td style="text-align: center;"> <table border="1" style="border-style: dashed; width: 100%;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">N/A</td> </tr> </table> </td> </tr> </table>		Yes		No	If yes:		a. How many questions?		b. What was the format of the questions? (Multiple Choice, True/False, or Both)		c. What were the types of questions? (Content-Recall, Calculation Based, or Both)		d. Were students given a second chance to answer the question?	<table border="1" style="border-style: dashed; width: 100%;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">N/A</td> </tr> </table>		Yes		No		N/A	e. Were students encouraged to discuss the clicker question with their peers?	<table border="1" style="border-style: dashed; width: 100%;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">N/A</td> </tr> </table>		Yes		No		N/A
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7. Demonstration Equipment:	<table border="1" style="border-style: dashed; width: 100%;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> </tr> </table>		Yes		No																								
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8. Movie, Documentary, Video Clips, or YouTube Video:	<table border="1" style="border-style: dashed; width: 100%;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> </tr> </table>		Yes		No																								
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9. Calculator:

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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10. Simulations:

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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11. Website:

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
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IV. SUMMARY COMMENTS

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