Statistics Teaching Inventory: Face-to-face form

Please answer each question carefully and candidly and respond to all the questions in reference to an introductory statistics course. Refer to one course that you currently teach or have recently taught.

Directions:

For questions with a radio button: Select only one answer. For questions with a checkbox: Select all that apply.

For some questions, you will be asked for a percentage: for example, the percentage of time that a certain activity happens in your class. You will see a number line, and a box, like these:



Please mark an X along the line corresponding to the percentage you would like to give, OR just write the percentage on the box to the right of the numberline. (You need not do both.)

For example, to enter 25%, you would mark:



To enter one of the endpoints (0 or 100), just place an X in the circle corresponding to the endpoint.

For example, to enter 100% you would mark:



If you are unsure of an exact percent, please enter an approximation.

Part 1: What type of class do you teach?

1. Do you teach	a class that is entirely (100%) online?
(Yes → Go to STI Online version
(○ No → Proceed to #2
2. Do you teach	n a class that is entirely (100%) face to face?
-	Ō Yes → <mark>Go to question 2a)</mark>
	No → Go to #3, then STI Hybrid version
2	2a) If yes, does your class use recitations or lab sessions led by someone else
(e.g. a teaching assistant)?
(Yes → Lecture/Recitation Version
(No → Regular face-to-face version
H	Proceed to Part 2: Pedagogy

Part 2: Pedagogy

Consider the total amount of time that you meet face-to-face with your students.

Approximately what percentage of this time is spent on each of the following? (Note: The percentages below should add up to 100%)

1. Students meeting together as a whole class (not in small groups) for lecture, discussion, or demonstration:



%

2. Students working in groups:



%

3. Students working individually on an activity:



%

4. Students taking an assessment:



%

5. Consider a student who was fully engaged in your course. To what extent do you think that **student** would agree or disagree with the following statements about this course?

	Strongly Disagree	Disagree	Agree	Strongly Agree
a) The content was presented mostly through the instructor's lectures.	0	0	0	0
b) The instructor asked challenging questions that made me think.	0	0	0	0
c) The course frequently required students to work together.	c	0	0	0
d) The content was presented mostly through activities.	c	0	0	0
e) This course encouraged students to discover ideas on their own.	c	0	0	0
f) This course often used technology (e.g. web applets, statistical software) to help students understand concepts.	0	C	c	0

Part 3: Curricular Emphasis

The following items will ask you about your curricular emphasis. Consider the entirety of your course as you complete this section.

To what extent are the following addressed in your course?

	Seldom or not at all	A few times	Repeatedly
1. The need to base decisions on evidence (data)	0	0	0
2. Difficulties involved in getting good quality data	0	0	0
3. The study of variability is at the core of statistics	0	0	0
4. The need to select an appropriate model for making a statistical inference	0	0	0
5. The process of selecting an appropriate model for making a statistical inference	C	0	c

To what extent do you emphasize each of the following approaches to <u>statistical inference</u> in your course?

	Not at all	To some extent	A major emphasis
6. Parametric methods (e.g. t-test, z-test)	0	0	0
7. Bayesian methods	0	0	0
8. Simulation/resampling (e.g. randomization, bootstrap methods)	0	0	c
9. Other (please describe):	0	0	0

10. Of all the data sets	s students see in this course, what portion of them are real data?
○ None	
C A few	
C About half	
○ Most of them	
C All of them	

Part 4: Technology

For this section, consider your entire course – time spent both in class and outside of class.

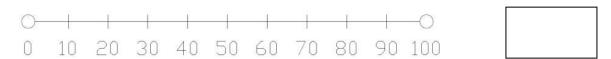
1. Other than hand calculators, do students use technology tools during the course?
○ Yes> skip to question #3
○ No ↓
2. What are your reasons for not using technology other than hand calculators in your course?
(Select all that apply.)
there is no computer technology available there are departmental constraints on technology use students are already provided with statistical output students use hand calculators to compute statistics using formulas Other: Skip to Part 5: Assessment
omp to tart or hosessment

3. In what settings do students work with each of these technology tools? (Select all that apply.)

	Delivery of course content	Activities and assignments (e.g. homework, projects)	Assessments (e.g. quizzes, exams)
a) Statistical analysis package (e.g. Minitab, SPSS, JMP,			
StatCrunch)			
b) Graphing calculator with built- in statistical functions			
c) Spreadsheet tools (e.g. Excel)			
d) Web Applets			
e) Conceptual software (e.g. TinkerPlots, Fathom)			
e) Other:			

Questions 4 and 5 ask you to consider how students use technology. In answering these questions, consider the total amount of time that students use technology. (These responses do not need to add up to 100%.)

4. What percentage of time that students spend using technology is designed to be spent **analyzing** data?



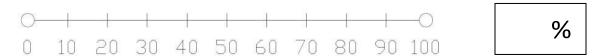
5. What percentage of time that students spend using technology is designed to be spent understanding statistical concepts?



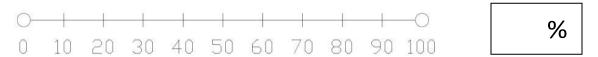
Part 5: Assessment

Consider your total set of assessments that count for a grade in your class. Approximately what percentage of the students' grade is dedicated to evaluating each of the following? (These percentages do not need to add up to 100%.)

1. Students' ability to use formulas to produce numerical summaries of a data set:



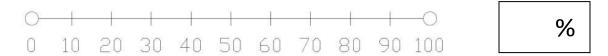
2. Students' ability to perform step-by-step calculations to compute answers to problems:



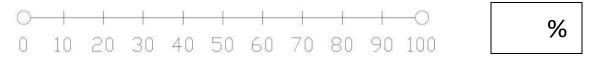
3. Students' ability to critically examine statistics in the media:



4. Students' ability to interpret results of a statistical analysis:



5. Students' ability to reason correctly about important statistical concepts:



6. Students' ability to successfully complete a statistical investigation (e.g., a course project):



7. Other (please describe):



11

Part 6: Beliefs

Please rate the extent to which you agree or disagree with each of the following statements as they reflect your beliefs (<u>but not necessarily your actual teaching</u>) regarding the teaching, learning, and assessment of introductory statistics:

	Strongly Disagree	Disagree	Agree	Strongly Agree	UNDECIDED
1. Rules of probability should be included in an introductory statistics course.	0	0	0	0	0
2. The topic of theoretical probability distributions (e.g., the binomial distribution) should be included in an introductory statistics course.	c	c	0	c	C
3. Students should learn how to read statistical tables of theoretical distributions (e.g., t-table, F-table).	0	0	0	0	C
4. Technology tools should be used to illustrate most abstract statistical concepts.	0	0	0	0	C
5. Students should learn the importance of using appropriate methods for collecting data.	0	0	0	C	C
6. Students should learn connections between the quality/nature of the data and inferences that are made.	0	0	0	0	0
7. Students should learn fewer topics in greater depth instead of learning more topics in less depth.	0	0	0	0	0
8. Lectures should be the primary way for students to learn statistical content.	0	0	0	0	C
9. Quizzes and exams should be used as the primary way to evaluate student learning.	C	0	0	0	0
10. Alternative assessments (e.g., projects, presentations,) should be used to provide important information about student learning.	0	C	0	0	0

	Strongly Disagree	Disagree	Agree	Strongly Agree	UNDECIDED
11. All assessments should be regularly reviewed to see that they are aligned with important student learning goals.	C	C	0	c	C
12. Assessments should be used to provide formative feedback to students to improve their learning.	C	0	C	C	0
13. Students should be assessed on their ability to complete an openended statistical problem.	0	0	0	0	0
14. Students should be assessed on their statistical literacy (e.g., ability to read a graph, understand common statistical words, etc.).	c	C	0	c	C
15. Students should analyze data primarily using technology.	0	0	0	0	0
16. Statistics courses should be updated continually in light of developments such as new technology and common core curriculum requirements.	C	C	C	0	C
17. Statistics instructors should be actively engaged in the statistics education community.	C	0	C	c	0

Part 7: Course Characteristics

1. How many student	ts are enrolled in one typical section of this course?
students	
2. Please indicate the	mathematical prerequisite for this course:
Calculus	
College algebra	
C High school algebra	
○ None	
Other:	

3. Do	you have teaching assistants who help with the course?
C Yes	3a) What is the role of the teaching assistant in the course? (Select all that apply):
O No	Facilitate discussions or activities
	Grade assignments
	Answer students' questions
	Other (please specify):
im Pe Do Th Te Cl Li	entify any constraints that keep you from making changes that you would like to implement to aprove your course. (Select all that apply): ersonal time constraints epartmental or institutional constraints ne teaching assistants you work with echnology constraints (e.g., lack of computer lab, cost of software) naracteristics of students (ability, interest, etc.) mitations in terms of what can be done within the classroom management system our own comfort level with the classroom management system ther:
Part 8	8: Additional Information
1. Ho	w would you classify the institution at which you teach statistics?
C Fou	ur-year college
O Hig	h school
○ Tw	o-year college
O Uni	versity (grant advanced degrees)
Oth	ner:

2. How would you classify the department in which you teach statistics?
© Business
© Educational Psychology/Educational Statistics
© Mathematics
Mathematics Education
C Psychology
C Sociology
○ Statistics
Other:
3. Please classify your position:
C Adjunct Faculty/Instructional Staff (Part Time)
C Adjunct Faculty/Instructional Staff/Non-Tenure Track Faculty (Full Time)
C Faculty (Tenure Track)
C Faculty (Tenured)
C Graduate Student
C High School Teacher
© Other:
4. How many years have you been teaching an introductory statistics course? years

5. In your graduate comathematical statistics	oursework, how many courses did you take in theoretical statistics (e.g., s, probability)?
○ None	
○1	
○ 2	
○3	
○ 4	
○ 5 or more	
6. In your graduate co involved the analysis o	ursework, how many courses did you take in applied statistics(i.e., of data)?
○ None	
○1	
○ 2	
○3	
○4	
○ 5 or more	
	ount of experience you have had in analyzing data outside of your ss (e.g., in your own research, consulting, etc.).
C No experience	
C Very little experience	e e
C Some experience	
C A lot of experience	

8. Please rate your level of interaction with www.causeweb.org (the website for the Consortium of Advancement of Undergraduate Statistics Education):
C I've never heard of it
O I am aware of it, but never used it
O I've used it every once in awhile
O I've used it frequently

9. Please rate the level of your interaction with each of the following statistics education journals:

	I've never heard of it	I'm aware of this journal, but never read it	I've read the journal a few times	I've read the journal frequently	
Statistics Education Research Journal(SERJ)	0	0	0	0	
Journal of Statistics Education(JSE)	0	0	0	0	
Teaching Statistics	0	0	0	0	
Technology Innovations in Statistics Education(TISE)	0	0	0	0	

10. Each of the following conferences has sections on statistics education. To what extent has your participation in each of the following impacted the way you teach statistics?

Conference	Never participated	No impact	Small impact	Large impact
U.S. Conference on Teaching Statistics(USCOTS)	0	0	0	0
International Conference on Teaching Statistics(ICOTS)	0	0	0	C
Joint Statistical Meetings (JSM) Sections on Statistics Education	0	0	C	0
Joint Mathematics Meetings(JMM) Sections on Statistics Education	0	0	C	0
Other:	0	0	0	0

For items 11-14, please indicate the number of professional development opportunities in which you have participated during the last 2 years to improve your teaching of statistics.

11. Live or pre-recorde	ed webinars (online seminars):
0	
1-5	
6-10	
More than 10	

	0	1	2	3	4	5 or more
12. Workshops	0	0	0	0	0	0
13. Short courses/minicourses	0	0	0	0	c	0
14. Other:	0	0	0	0	0	0

STI Face-to-face form

15. Please provide any additional comments in the space below.
While all responses will remain confidential, we would appreciate some information about you. Please fill out the following:
Full Name:
Institution:
E-mail: