**Statistics Teaching Inventory: Online 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:

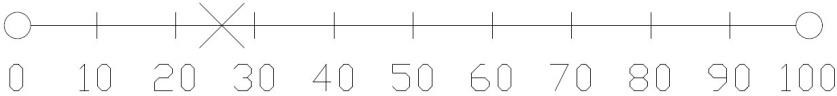


%

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 number line. (You need not do both.)

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

25%

OR

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:

 OR

100%

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**

1. Do you teach a class that is entirely (100%) face to face?

Yes  **Go to question 2a)**

#### No  Go to #3, then STI Hybrid version

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**

*Proceed to Part 2: Pedagogy*

### Part 2: Pedagogy

1. 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** |
| a1) The content was presented mostly through video or audio lectures. |  |  |  |  |
| a2) The content was presented mostly through readings (e.g., lecture notes, textbook, text materials, online content). |  |  |  |  |
| b) The instructor asked challenging questions that made me think. |  |  |  |  |
| c) The course frequently required students to work together. |  |  |  |  |
| d) The content was presented mostly through activities. |  |  |  |  |
| e) This course encouraged students to discover ideas on their own. |  |  |  |  |
| f) This course often used technology (e.g. web applets, statistical software) to help students understand concepts. |  |  |  |  |

### 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) |  |  |  |
| 2. Difficulties involved in getting good quality data |  |  |  |
| 3. The study of variability is at the core of statistics |  |  |  |
| 4. The need to select an appropriate model for making a statistical inference |  |  |  |
| 5. The process of selecting an  appropriate model for making a statistical inference |  |  |  |

**To what extent do you emphasize each of the following approaches to statistical inference in your course?**

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

10. Of all the data sets students see in this course, what portion of them are real data?



### Part 4: Technology

#### For this section, consider your entire course.

1. Other than hand calculators, do students use technology tools during the course?





1. 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*

1. 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%.)

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



1. 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:



%

1. Students’ ability to perform step-by-step calculations to compute answers to problems:



%

1. Students’ ability to critically examine statistics in the media:



%

1. Students’ ability to interpret results of a statistical analysis:



%

1. Students’ ability to reason correctly about important statistical concepts:

%

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



%

1. 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 (but not necessarily your actual teaching) 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. |  |  |  |  |  |
| 2. The topic of theoretical probability distributions (e.g., the binomial distribution) should be included in an  introductory statistics course. |  |  |  |  |  |
| 3. Students should learn how to read statistical tables of theoretical  distributions (e.g., t-table, F-table). |  |  |  |  |  |
| 4. Technology tools should be used to  illustrate most abstract statistical concepts. |  |  |  |  |  |
| 5. Students should learn the importance of using appropriate  methods for collecting data. |  |  |  |  |  |
| 6. Students should learn connections  between the quality/nature of the data and inferences that are made. |  |  |  |  |  |  |
| 7. Students should learn fewer topics in greater depth instead of learning  more topics in less depth. |  |  |  |  |  |
| 8. Lectures should be the primary way for students to learn statistical  content. |  |  |  |  |  |
| 9. Quizzes and exams should be used as the primary way to evaluate student learning. |  |  |  |  |  |
| 10. Alternative assessments (e.g., projects, presentations,) should be used to provide important information  about student learning. |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **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. |  |  |  |  |  |
| 12. Assessments should be used to provide formative feedback to students to improve their learning. |  |  |  |  |  |
| 13. Students should be assessed on their ability to complete an open-  ended statistical problem. |  |  |  |  |  |
| 14. Students should be assessed on their statistical literacy (e.g., ability to read a graph, understand common  statistical words, etc.). |  |  |  |  |  |
| 15. Students should analyze data primarily using technology. |  |  |  |  |  |
| 16. Statistics courses should be updated continually in light of developments such as new technology and common core curriculum  requirements. |  |  |  |  |  |
| 17. Statistics instructors should be actively engaged in the statistics  education community. |  |  |  |  |  |

**Part 7:** **Course Characteristics**

1. How many students are enrolled in one typical section of this course?

\_\_\_ students

1. Please indicate the mathematical prerequisite for this course:





1. Do you have teaching assistants who help with the course?

 3a) What is the role of the teaching assistant in the course? (Select all that apply):

 Facilitate discussions or activities

Grade assignments

Answer students’ questions

Other (please specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Identify any constraints that keep you from making changes that you would like to implement to improve your course. (Select all that apply):

Personal time constraints

Departmental or institutional constraints The teaching assistants you work with

Technology constraints (e.g., lack of computer lab, cost of software) Characteristics of students (ability, interest, etc.)

Limitations in terms of what can be done within the classroom management system Your own comfort level with the classroom management system

Other:

### Part 8: Additional Information

1. How would you classify the institution at which you teach statistics?



1. How would you classify the department in which you teach statistics?





1. Please classify your position:





1. How many years have you been teaching an introductory statistics course?

years

1. In your graduate coursework, how many courses did you take in theoretical statistics (e.g., mathematical statistics, probability)?





1. In your graduate coursework, how many courses did you take in applied statistics (i.e., involved the analysis of data)?





1. Please rate the amount of experience you have had in analyzing data outside of your coursework in statistics (e.g., in your own research, consulting, etc.).







1. Please rate your level of interaction with [www.causeweb.org](http://www.causeweb.org/) (the website for the Consortium of Advancement of Undergraduate Statistics Education):



1. 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) |  |  |  |  |
| *Journal of Statistics Education*(JSE) |  |  |  |  |
| *Teaching Statistics* |  |  |  |  |
| *Technology Innovations in Statistics Education*(TISE) |  |  |  |  |

1. 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) |  |  |  |  |
| *International Conference on Teaching Statistics*(ICOTS) |  |  |  |  |
| *Joint Statistical Meetings*  (JSM) Sections on  Statistics Education |  |  |  |  |  |
| Joint Mathematics Meetings(JMM) Sections  on Statistics Education |  |  |  |  |
| Other: |  |  |  |  |  |

#### 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.

1. Live or pre-recorded webinars (online seminars):

\_\_ 0

\_\_ 1-5

\_\_ 6-10

\_\_ More than 10

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **0** | **1** | **2** | **3** | **4** | **5 or more** |
| 12. Workshops |  |  |  |  |  |  |
| 13. Short courses/mini- courses |  |  |  |  |  |  |
| 14. Other: |  |  |  |  |  |  |

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:

Ne

Full Name: Institution: E-mail: