

# 2012 National Survey of Geoscience Teaching Practices

Thank you for your help in improving the state of undergraduate geoscience instruction!

This study is being supported by a grant from the National Science Foundation (#1022844) in order to better understand the trends in teaching of undergraduate geosciences.

All your responses will be kept confidential. The survey should take between 15-20 minutes to complete. If you cannot complete the survey in a single session, your responses will be saved and you may return to the survey by clicking on the link sent in your email.

## Background

First, we have some questions about you and your teaching.

Q1 Which of the following best describes your disciplinary focus?

Choose one of the following answers

- (1) Geology or Geophysics
- (2) Oceanography or Marine Sciences
- (3) Atmospheric Science or Meteorology
- (4) Other, please specify:

Q2 Which of the following best describes your current position?

Choose one of the following answers

- (1) Professor
- (2) Associate Professor
- (3) Assistant Professor
- (4) Instructor or Lecturer
- (5) Adjunct Professor or Visiting Professor
- (6) Other, please specify:

Q3 What is the highest degree level that you have completed?

Choose one of the following answers

- (1) Masters
- (2) PhD or doctorate
- (3) Other, please specify:

Q4 What was the year of your highest degree?

Please insert the 4-digit year:

*(4-digit number)*

Q5 How many years have you taught at the college or university level?  
*Please do not include any experiences as a graduate teaching assistant.*

*(2-digit number)*  
*Only numbers may be entered in this field*

Q6 In the past academic term, how many hours per week did you spend teaching in class and/or lab?

*(2-digit number)*  
*Only numbers may be entered in this field*

Q7 In the past academic term, how many unique courses did you teach?

If you taught multiple sections of a course, please count that course only once. For example, if you taught two sections of Earth Sciences 101 and one section of Climate Change 101, indicate that you taught two different courses.

*(2-digit number)*  
*Only numbers may be entered in this field*

Q8 In the last academic school year (Fall 2011 – Summer 2012), did you teach any geoscience courses for undergraduates?

Choose one of the following answers

- (1) No, I did not teach any courses at all ***[SKIP to Q31 – page 15]***
- (2) No, I taught only graduate-level geoscience courses ***[SKIP to Q31 – page 15]***
- (3) Yes, I taught one or more undergraduate geoscience courses

***[Appears only if respondent indicates not teaching courses or teaching graduate courses only]***

While you did not teach any undergraduate courses in the last academic school year, we'd like to ask you about your research background and ways you continue to develop your teaching.

Please click the "Next" button to continue.

Q9 What type of undergraduate geoscience courses did you teach?

Choose one of the following answers

- (1) Introductory courses ***[SKIP to Q10.1A]***
- (2) Courses for majors ***[SKIP to Q10.2A – page 9]***
- (3) Both introductory and major courses ***[Randomize SKIP to either Q10.1A OR Q10.2A]***

## Introductory course

Now we would like for you to think about the most recent introductory geosciences course that you taught. If you taught two or more courses simultaneously, please pick one and answer the following questions about that course.

Q10.1A What is the name of the most recent introductory geoscience course that you taught?  
*(Open-ended)*

Q11.1 How many students were in your most recent introductory course?

*(3-digit number)*  
*Only numbers may be entered in this field*

Q12.1 Which of the following best describes your course?

Choose one of the following answers

- (1) Lecture only
- (2) Lecture with a separate lab section
- (3) Lecture with a separate discussion section
- (4) Lecture with both a separate lab and discussion section
- (5) Lecture with an integrated lab and discussion section
- (6) None of the above

Q13.1 How many hours per week outside of class and lab time do you expect students to spend on this course?

*(2-digit number)*  
*Only numbers may be entered in this field*

Q14.1 What percent of out-of-class and lab time do you expect students to spend on the following activities?

The sum of your responses must add up to 100.

*Only numbers may be entered in these fields*  
*(3-digit number)*

- Q14A.1: Preparing for class (e.g. reading the textbook, watching pre-recorded lectures, reviewing powerpoints, completing a knowledge survey, etc.) **[SKIP to Q15.1]**  
Q14B.1: Practicing what students learned from the previous class **[SKIP to Q15.1]**  
Q14C.1: Working on out-of-class assignments **[SKIP to Q15.1]**  
Q14D.1: Some other activity

Q14.10ther: In the question above, you have indicated that you expect students to spend out-of-class time on "Some other activity". Please specify the other activity here:  
*(Open-ended)*

Q15.1 In the "lecture portion" of your introductory course, please estimate the percentage of class time spent on student activities, questions, and discussion.

Your response must be between 0 and 100.

*(3-digit number)*

*Only numbers may be entered in this field*

Q16.1 In the "lecture portion" of your introductory course, please indicate how frequently you used the following teaching strategies:

*(1) Never (2) Once or twice (3) Several times (4) Weekly (5) Nearly every class*

Q16A.1: Traditional lecture

Q16B.1: Lecture with demonstration

Q16C.1: Lecture in which questions posed by instructor are answered by individual students (e.g. professor calls on individual students)

Q16D.1: Lecture in which questions posed by instructor are answered simultaneously by the entire class (e.g. students vote using cards or electronic response systems)

Q16E.1: Small group discussion or think-pair-share

Q16F.1: Whole-class discussions

Q16G.1: In-class exercises

## **Introductory course: Course activities & student behaviors**

Q17.1 In your most recent introductory course, did your students:

Check all that apply

Q17A.1: Complete a guided data analysis activity

Q17B.1: Collect their own data and analyzed them to solve a problem

Q17C.1: Address a problem of national or global interest

Q17D.1: Work on a problem of interest to the local community

Q17E.1: Address a problem that required bringing together geoscience knowledge with knowledge from another discipline.

Q17F.1: None of the above

Q18.1 In your most recent introductory course, how often did your students:

*(1) Never (2) Once or twice (3) Three or more times*

Q18A.1: Read the primary literature

Q18B.1: Use algebraic equations

Q18C.1: Conduct statistical analyses

Q18D.1: Use skills learned in a calculus course

Q18E.1: Work with data visualizations used by geoscience researchers

Q18F.1: Make field observations

Q18G.1: Make a geologic map

Q18H.1: Work with geospatial data

Q19.1 Do you ask students in your class to:

Check all that apply

Q19A.1 Synthesize content/concepts

Q19B.1 Reflect on the effectiveness of their study skills or time management strategies

Q19C.1 Use knowledge or skills developed in previous courses or learning experiences

Q19D.1 Reflect on their success in learning a concept or skill during the course

Q19E.1 Reflect on the strategies they used to solve a problem as part of the course

Q19F.1 None of the above

Q20.1 In your course, how prominent were the following types of student behavior?

Please rate on a scale of "Not prominent at all," where an observer would rarely or never see students doing this, to "Very prominent," where an observer to any class would see this demonstrated.

*(0) Not prominent at all (1) Occasionally prominent (2) Somewhat prominent (3) Very prominent*

Q20A.1 Students explored concepts before receiving instruction on this topic

Q20B.1 Students discussed ideas, problems, or course content with one another

Q20C.1 Students learned about a concept represented in different ways using different media

Q20D.1 Students impacted the direction of the class

Q21.1 Which of the following, if any, did you use to address systems thinking?

Check all that apply

Q21A.1 I did not address systems thinking in my course

Q21B.1 Examples of Earth system behavior

Q21C.1 Analogies to familiar systems behavior

Q21D.1 Computer models of generic system behavior

Q21E.1 Computer models of geoscience systems

Q21F.1 Physical models

Q21G.1 Analysis of observational data

Q21H.1 Analysis of model data

Q21I.1 None of the above

Q22.1 In your most recent introductory course, did you assess:

Check all that apply

Q22A.1: Student preparedness for upcoming classroom instruction

Q22B.1: Mastery of central geoscience concepts

Q22C.1: Mastery of key geoscience skills (e.g. map making; reading phase diagrams)

Q22D.1: Students' ability to solve problems using geoscience concepts and skills

Q22E.1: Mastery of fundamental scientific concepts that extend beyond geoscience

Q22F.1: Development of geoscience habits of mind

Q22G.1: Development of communication skills

Q22H.1: Understanding of all major topics covered in the course

Q22I.1: Depth of understanding in one of several foci of the courses

Q22J.1: Students' ability to independently learn additional geoscience content

Q22K.1: Students' ability to use concepts from the course in new situations

Q22L.1: None of the above.

## Introductory course: Course goals and design

Q23.1 In setting goals for your most recent introductory course, how important were each of the following?

*(0) Not addressed in this course (1) Minor part of this course (2) Somewhat important part (3) An important part of this course (4) Most important part of this course*

Q23A.1: Developing interpersonal skills including the ability to work in groups

Q23B.1: Increasing student awareness of the utility of geoscience in addressing important problems

Q23C.1: Providing authentic experiences that simulate or emulate professional activities

Q23D.1: Increasing student interest in a career related to the Earth or environment

Q23E.1: Motivating students to take action addressing environmental or resource challenges

Q24.1 In your most recent introductory course, please indicate the types of strategies dealing with student attitudes, motivations, and comfort that you believe had the largest impact on student learning?

Check all that apply

Q24A.1: I do not believe that student attitudes, motivations, and comfort have an impact on student learning

Q24B.1: Designing activities that motivate my students

Q24C.1: Providing opportunities for low-stakes practice before high-stakes assignments, activities, or exams

Q24D.1: Including activities that allow students to get to know one another

Q24E.1: Using group projects, field work, or other activities that promote teamwork and collaborative learning

Q24F.1: Including content that is relevant to students' experience

Q24G.1: Fostering a comfortable learning environment

Q24H.1: None of the above

Q24I.1: Other, please specify:

Q25.1 When you are designing a new activity, which of the following do you routinely do?

Check all that apply

Q25A.1: Talk with my colleagues about how they teach this topic

Q25B.1: Discuss new ideas with students

Q25C.1: Look on the web to see what activities others have developed on this topic

Q25D.1: Look for activities in texts, lab manuals, or instructor guides

Q25E.1: Look first to see what data are available

Q25F.1: Brainstorm ideas before looking to see what is available

Q25G.1: Read education research papers about the methods I am considering

Q25H.1: Look for ideas from campus learning and teaching center

Q25I.1: None of the above

## Introductory course: Course changes

Q26.1 Have you made any changes in the content that you teach in your introductory course within the past two years?

(1) No **[SKIP to Q28.1]**

(2) Yes

Q27.1 Which of the following content changes did you make in your introductory course in the past two years?

Check all that apply

Q27A.1: Updated content with latest research findings

Q27B.1: Changed textbook

Q27C.1: Reorganized the topics covered

Q27D.1: Included recent geological events covered in the general media

Q27E.1: Increased emphasis on a specific area

Q27F.1: Added new content area

Q27G.1: Increased emphasis on environmental issues

Q27H.1: Added content linking geoscience to societal issues

Q27I.1: Added content drawn from another discipline

Q27J.1: Other, please specify:

Q27K.1: None of the above

Q28.1 Have you made any changes in the teaching methods used in your introductory course within the past two years?

(0) No **[SKIP to Q30.1]**

(1) Yes

Q29.1 Which of the following changes in teaching methods did you make in your introductory course in the past two years?

Check all that apply

Q29A.1: Spent less time lecturing

Q29B.1: Employed more demonstrations during lectures

Q29C.1: Increased questioning of students during lectures

Q29D.1: Added group work or small group activities

Q29E.1: Added long term projects

Q29F.1: Increased time spent on field trips

Q29G.1: Revised lab activities

Q29H.1: Spent more time on class discussions or small group discussions

Q29I.1: Changed assessment tools or strategies

Q29J.1: Increased out-of-class work preparing for class

Q29K.1: Increased out-of-class work utilizing knowledge/skills taught in class

Q29L.1: Increased time students spent working or discussing with one another

Q29M.1: Increased time spent by students reflecting and synthesizing

Q29N.1: Other, please specify:

Q29O.1: None of the above

Q30.1 Reflect on the last time you made a substantive revision to a course. Which of the following statements most closely approximates your motivation for making this change?

Check all that apply

Q30A.1: The previous time I taught the course, it did not go well

Q30B.1: I adopted a new philosophy for my teaching

Q30C.1: The content needed to be updated

Q30D.1: I received a great new idea from a colleague, a publication, or the web that I developed for my course

Q30E.1: I found a data set or software tool that opened up new teaching possibilities

Q30F.1: I found the ideal activity for use in my class on a website or in a publication and adopted it wholesale

Q30G.1: A grant provided the resources to make the revisions

Q30H.1: A change in the content was mandated by my department or institution

Q30I.1: New facilities (e.g. computers, analytical equipment, or classroom space provided new opportunities for teaching)

Q30J.1: I had a leave that gave me time to work on my course

Q30K.1: I attended a workshop or other professional development opportunity that inspired me to make changes

Q30L.1: None of the above

## Major course

Now we would like for you to think about the most recent geosciences course for undergraduate majors that you taught. If you taught two or more courses simultaneously, please pick one and answer the following questions about that course.

Q10.2A What is the name of the most recent geoscience course for majors that you taught?  
*(Open-ended)*

Q10.2B Which of the following best describes the subject area of the most recent course for undergraduate majors that you taught?

Choose one of the following answers

- (1) Climate change
- (2) Atmospheric science
- (3) Energy resources
- (4) Geochemistry
- (5) Geomorphology/Surface processes
- (6) Geophysics
- (7) Hydrogeology
- (8) Marine geoscience
- (9) Mineralogy
- (10) Paleontology
- (11) Petrology
- (12) Planetary geosciences
- (13) Sedimentary/Stratigraphy
- (14) Structural geology/Tectonics
- (15) Sustainable development
- (16) Other, please specify

Q11.2 How many students were in your most recent majors course?

*(3-digit number)*

*Only numbers may be entered in this field*

Q12.2 Which of the following best describes your course?

Choose one of the following answers

- (1) Lecture only
- (2) Lecture with a separate lab section
- (3) Lecture with a separate discussion section
- (4) Lecture with both a separate lab and discussion section
- (5) Lecture with an integrated lab and discussion section
- (6) None of the above

Q13.2 How many hours per week outside of class and lab time do you expect students to spend on this course?

*(2-digit number)*

*Only numbers may be entered in this field*

Q14.2 What percent of out-of-class and lab time do you expect students to spend on the following activities?

The sum of your responses must add up to 100.

*Only numbers may be entered in these fields*

*(3-digit number)*

Q14A.2: Preparing for class (e.g. reading the textbook, watching pre-recorded lectures, reviewing powerpoints, completing a knowledge survey, etc.) **[SKIP to Q15.2]**

Q14B.2: Practicing what students learned from the previous class **[SKIP to Q15.2]**

Q14C.2: Working on out-of-class assignments **[SKIP to Q15.2]**

Q14D.2: Some other activity

Q14.2Other: In the question above, you have indicated that you expect students to spend out-of-class time on "Some other activity". Please specify the other activity here:

*(Open-ended)*

Q15.2 In the "lecture portion" of your majors course, please estimate the percentage of class time spent on student activities, questions, and discussion.

Your response must be between 0 and 100.

*(3-digit number)*

*Only numbers may be entered in this field*

Q16.2 In the "lecture portion" of your majors course, please indicate how frequently you used the following teaching strategies:

*(1) Never (2) Once or twice (3) Several times (4) Weekly (5) Nearly every class*

Q16A.2: Traditional lecture

Q16B.2: Lecture with demonstration

Q16C.2: Lecture in which questions posed by instructor are answered by individual students (e.g. professor calls on individual students)

Q16D.2: Lecture in which questions posed by instructor are answered simultaneously by the entire class (e.g. students vote using cards or electronic response systems)

Q16E.2: Small group discussion or think-pair-share

Q16F.2: Whole-class discussions

Q16G.2: In-class exercises

## **Major course: Course activities & student behaviors**

Q17.2 In your most recent majors course, did your students:

Check all that apply

Q17A.2: Complete a guided data analysis activity

Q17B.2: Collect their own data and analyzed them to solve a problem

Q17C.2: Address a problem of national or global interest

Q17D.2: Work on a problem of interest to the local community

Q17E.2: Address a problem that required bringing together geoscience knowledge with knowledge from another discipline.

Q17F.2: None of the above

Q18.2 In your most recent majors course, how often did your students:

*(1) Never (2) Once or twice (3) Three or more times*

Q18A.2: Read the primary literature

Q18B.2: Use algebraic equations

Q18C.2: Conduct statistical analyses

Q18D.2: Use skills learned in a calculus course

Q18E.2: Work with data visualizations used by geoscience researchers

Q18F.2: Make field observations

Q18G.2: Make a geologic map

Q18H.2: Work with geospatial data

Q19.2 Do you ask students in your class to:

Check all that apply

Q19A.2 Synthesize content/concepts

Q19B.2 Reflect on the effectiveness of their study skills or time management strategies

Q19C.2 Use knowledge or skills developed in previous courses or learning experiences

Q19D.2 Reflect on their success in learning a concept or skill during the course

Q19E.2 Reflect on the strategies they used to solve a problem as part of the course

Q19F.2 None of the above

Q20.2 In your course, how prominent were the following types of student behavior?

Please rate on a scale of "Not prominent at all," where an observer would rarely or never see students doing this, to "Very prominent," where an observer to any class would see this demonstrated.

*(0) Not prominent at all (1) Occasionally prominent (2) Somewhat prominent (3) Very prominent*

Q20A.2 Students explored concepts before receiving instruction on this topic

Q20B.2 Students discussed ideas, problems, or course content with one another

Q20C.2 Students learned about a concept represented in different ways using different media

Q20D.2 Students impacted the direction of the class

Q21.2 Which of the following, if any, did you use to address systems thinking?

Check all that apply

Q21A.2 I did not address systems thinking in my course

Q21B.2 Examples of Earth system behavior

Q21C.2 Analogies to familiar systems behavior

Q21D.2 Computer models of generic system behavior

Q21E.2 Computer models of geoscience systems

Q21F.2 Physical models

Q21G.2 Analysis of observational data

Q21H.2 Analysis of model data

Q21I.2 None of the above

Q22.2 In your most recent majors course, did you assess:

Check all that apply

- Q22A.2: Student preparedness for upcoming classroom instruction
- Q22B.2: Mastery of central geoscience concepts
- Q22C.2: Mastery of key geoscience skills (e.g. map making; reading phase diagrams)
- Q22D.2: Students' ability to solve problems using geoscience concepts and skills
- Q22E.2: Mastery of fundamental scientific concepts that extend beyond geoscience
- Q22F.2: Development of geoscience habits of mind
- Q22G.2: Development of communication skills
- Q22H.2: Understanding of all major topics covered in the course
- Q22I.2: Depth of understanding in one of several foci of the courses
- Q22J.2: Students' ability to independently learn additional geoscience content
- Q22K.2: Students' ability to use concepts from the course in new situations
- Q22L.2: None of the above.

### Major course: Course goals and design

Q23.2 In setting goals for your most recent majors course, how important were each of the following?

*(0) Not addressed in this course (1) Minor part of this course (2) Somewhat important part (3) An important part of this course (4) Most important part of this course*

- Q23A.2: Developing interpersonal skills including the ability to work in groups
- Q23B.2: Increasing student awareness of the utility of geoscience in addressing important problems
- Q23C.2: Providing authentic experiences that simulate or emulate professional activities
- Q23D.2: Increasing student interest in a career related to the Earth or environment
- Q23E.2: Motivating students to take action addressing environmental or resource challenges

Q24.2 In your most recent majors course, please indicate the types of strategies dealing with student attitudes, motivations, and comfort that you believe had the largest impact on student learning?

Check all that apply

- Q24A.2: I do not believe that student attitudes, motivations, and comfort have an impact on student learning
- Q24B.2: Designing activities that motivate my students
- Q24C.2: Providing opportunities for low-stakes practice before high-stakes assignments, activities, or exams
- Q24D.2: Including activities that allow students to get to know one another
- Q24E.2: Using group projects, field work, or other activities that promote teamwork and collaborative learning
- Q24F.2: Including content that is relevant to students' experience
- Q24G.2: Fostering a comfortable learning environment
- Q24H.2: None of the above
- Q24I.2: Other, please specify:

Q25.2 When you are designing a new activity, which of the following do you routinely do?

Check all that apply

Q25A.2: Talk with my colleagues about how they teach this topic

Q25B.2: Discuss new ideas with students

Q25C.2: Look on the web to see what activities others have developed on this topic

Q25D.2: Look for activities in texts, lab manuals, or instructor guides

Q25E.2: Look first to see what data are available

Q25F.2: Brainstorm ideas before looking to see what is available

Q25G.2: Read education research papers about the methods I am considering

Q25H.2: Look for ideas from campus learning and teaching center

Q25I.2: None of the above

### Major course: Course changes

Q26.2 Have you made any changes in the content that you teach in your course for majors within the past two years?

(1) No **[SKIP to Q28.2]**

(2) Yes

Q27.2 Which of the following content changes did you make in your course for majors in the past two years?

Check all that apply

Q27A.2: Updated content with latest research findings

Q27B.2: Changed textbook

Q27C.2: Reorganized the topics covered

Q27D.2: Included recent geological events covered in the general media

Q27E.2: Increased emphasis on a specific area

Q27F.2: Added new content area

Q27G.2: Increased emphasis on environmental issues

Q27H.2: Added content linking geoscience to societal issues

Q27I.2: Added content drawn from another discipline

Q27J.2: Other, please specify:

Q27K.2: None of the above

Q28.2 Have you made any changes in the teaching methods used in your course for majors within the past two years?

(0) No **[SKIP to Q30.2]**

(1) Yes

Q29.2 Which of the following changes in teaching methods did you make in your course for majors in the past two years?

Check all that apply

- Q29A.2: Spent less time lecturing
- Q29B.2: Employed more demonstrations during lectures
- Q29C.2: Increased questioning of students during lectures
- Q29D.2: Added group work or small group activities
- Q29E.2: Added long term projects
- Q29F.2: Increased time spent on field trips
- Q29G.2: Revised lab activities
- Q29H.2: Spent more time on class discussions or small group discussions
- Q29I.2: Changed assessment tools or strategies
- Q29J.2: Increased out-of-class work preparing for class
- Q29K.2: Increased out-of-class work utilizing knowledge/skills taught in class
- Q29L.2: Increased time students spent working or discussing with one another
- Q29M.2: Increased time spent by students reflecting and synthesizing
- Q29N.2: Other, please specify:
- Q29O.2: None of the above

Q30.2 Reflect on the last time you made a substantive revision to a course. Which of the following statements most closely approximates your motivation for making this change?

Check all that apply

- Q30A.2: The previous time I taught the course, it did not go well
- Q30B.2: I adopted a new philosophy for my teaching
- Q30C.2: The content needed to be updated
- Q30D.2: I received a great new idea from a colleague, a publication, or the web that I developed for my course
- Q30E.2: I found a data set or software tool that opened up new teaching possibilities
- Q30F.2: I found the ideal activity for use in my class on a website or in a publication and adopted it wholesale
- Q30G.2: A grant provided the resources to make the revisions
- Q30H.2: A change in the content was mandated by my department or institution
- Q30I.2: New facilities (e.g. computers, analytical equipment, or classroom space provided new opportunities for teaching)
- Q30J.2: I had a leave that gave me time to work on my course
- Q30K.2: I attended a workshop or other professional development opportunity that inspired me to make changes
- Q30L.2: None of the above

## Professional development

Next, we would like to know more about how you stay up-to-date and develop your geoscience teaching practices.

Q31 Which of the following have you done to stay current in geoscience content that is beyond the scope of your research?

Check all that apply

- Q31A: Communicate with colleagues
- Q31B: Attend talks, poster sessions, or presentations
- Q31C: Read journal articles
- Q31D: Search the internet
- Q31E: Other, please specify:
- Q31F: None of the above

Q32 How often did you talk or correspond with your colleagues about course content over the past two years?

Choose one of the following answers

- (1) Never
- (2) Once or twice per term
- (3) Several times per term
- (4) Weekly
- (5) Nearly every day

Q33 How do you learn about new teaching methods?

Check all that apply

- Q33A: Professional meetings or workshops
- Q33B: Publications
- Q33C: Discussions with other faculty members in my department
- Q33D: Discussions with other colleagues on campus
- Q33E: Discussions with colleagues in other institutions
- Q33F: Online resources
- Q33G: My own research
- Q33H: Learning and Teaching Center
- Q33I: None of the above

Q34 Approximately how many talks on teaching methods, other topics related to science education, or geoscience education have you attended in the past two years at professional meetings, on campus, or at other venues?

Choose one of the following answers

- (0) None
- (1) 1 or 2
- (2) 3 or 4
- (3) 5 or 6
- (4) 7 or 8
- (5) 9 or 10
- (6) 11 or more

Q35 How many workshops related to improving your teaching did you attend in the past two years?

Choose one of the following answers

- (0) None
- (1) 1
- (2) 2
- (3) 3
- (4) 4
- (5) 5 or more

Q36 Do you frequently communicate with your colleagues about the following?

Check all that apply

- Q36A: New ideas in pedagogy
- Q36B: How to assess student learning
- Q36C: How well we are preparing students for careers
- Q36D: How well we are preparing students for life on a finite planet
- Q36E: None of the above

Q37 How often did you talk or correspond with your colleagues about your teaching over the past two years?

Choose one of the following answers

- (1) Never
- (2) Once or twice per term
- (3) Several times per term
- (4) Weekly
- (5) Nearly every day

Q38 Have you ever used the Cutting Edge website?

- (0) No
- (1) Yes

Q39 How has the use of online resources positively impacted your teaching within the past two years?

Check all that apply

- Q39A: The use of online resources has not positively impacted my teaching within the past two years
- Q39B: Increased the variety of methods that I use
- Q39C: Increased my skill with a particular teaching method
- Q39D: Increased my confidence as a teacher
- Q39E: Increased my ability to assess student learning
- Q39F: Increased the topics that I address in my course
- Q39G: Increased my knowledge of a particular topic
- Q39H: Increased my ability to connect my teaching to societal issues
- Q39I: Increased my ability to integrate disciplinary skills and content from outside the geosciences
- Q39J: Other, please specify
- Q39K: None of the above

## Contributions to the field

In this last section, we would like to know more about your research participation in geoscience teaching.

Q40 At how many meetings have you presented your scientific research within the past two years?

Choose one of the following answers

- (0) None
- (1) 1
- (2) 2
- (3) 3
- (4) 4
- (5) 5
- (6) 6
- (7) 7 or more

Q41 How many articles about your research have you published in the past two years?

Choose one of the following answers

- (0) None
- (1) 1
- (2) 2
- (3) 3
- (4) 4
- (5) 5
- (6) 6
- (7) 7 or more

Q42 Have you presented research on teaching methods or student learning at meetings within the past two years?

- (0) No
- (1) Yes

Q43 How many articles have you published about educational topics within the past two years?

Choose one of the following answers

- (0) None **[SKIP to Q49]**
- (1) 1
- (2) 2
- (3) 3
- (4) 4
- (5) 5
- (6) 6
- (7) 7 or more

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Q44 Of these articles, how many describe:  
*Only numbers may be entered in these fields*

*(1-digit number for A & B)*

*(2-digit number for C)*

Q48A: Your research on teaching methods or student learning

Q48B: Your classroom or curriculum innovations

Q48C: Other

Q45 Which of the following ways have you shared or published materials from your courses in the last two years?

Check all that apply

Q49A: In my department

Q49B: Posted online

Q49C: Talks at meetings or at workshops

Q49D: Published in journals

Q49E: None of the above

### **Additional comments**

Q46 Do you have any additional comments you would like to make about your teaching practices? If so, please use the space below.

*(Open-ended)*

### ***[Thank you screen]***

Thank you so much for your participation! We greatly appreciate your time and help in contributing to the knowledge of geoscience teaching practices!