# Collaborative Research: Supporting Pedagogical Innovation for a Generation of Transformation via Inquiry-Based Learning in Mathematics (SPIGOT)

## Cumulative Report: Workshops 1-4
## March 2016

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# Appendix: Survey Instruments, Final Versions

**This appendix and the full report are available at:**
**http://www.colorado.edu/eer/research/profdev.html**

# Pre-Workshop Survey

## Welcome!

**Dear workshop registrant,**
**Thank you for registering for the summer 2015 workshop on inquiry-based learning (IBL) at CalPoly.**

**These workshops are offered to mathematics instructors under a grant from the National Science Foundation. As part of that grant-funded project, we'd like to gather some information from you about your experiences and perspectives on teaching college mathematics. Data will be used (1) to evaluate the workshop's effectiveness, (2) to improve future versions of the workshop, and (3) to provide general advice to others seeking to support faculty in improving teaching and learning in college mathematics.**

**This survey asks about your teaching experiences and preferences, your learning objectives for students, your expectations and personal reasons for registering for this workshop, and your prior knowledge of inquiry-based learning. Please mark the answer that best matches your response to each question.**

**Your participation is voluntary. You may skip questions you do not wish to answer, or choose not to participate. Your answers are anonymous and will not be reported in any way that may identify you individually; they will be aggregated with responses by other workshop participants. The workshop facilitators will not know how you answered, but we will provide a summary of responses to the facilitators to assist them in planning the workshop.**

**By completing this survey, in part or in whole, you agree that we may use this data to understand and improve faculty development for mathematics instruction. The data will also be used to provide a report to our funding agency on the effectiveness of the workshops. You may be invited to participate in follow-up surveys or interviews, but completing this survey now does not obligate you to participate in the future.**

**Thank you for your candid responses! We very much appreciate your assistance. And please contact us with any questions.**

**Sandra Laursen, study director**
**Chuck Hayward, professional research assistant**

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**sandra.laursen@colorado.edu**
**chuck.hayward@colorado.edu**

## Your current career

1. What is your current career stage?

- ◯ tenure-track faculty position, untenured
- ◯ tenure-track faculty position, tenured
- ◯ non-tenure-track faculty position
- ◯ high school teacher
- ◯ graduate student

Other (please specify)

2. What is your institution type?

- ◯ two-year college
- ◯ four-year college
- ◯ masters-granting comprehensive university
- ◯ Ph.D.-granting research university

Other (please specify)

3. Is your institution designated as a minority-serving institution?

- ◯ yes
- ◯ no
- ◯ don't know

4. How much teaching experience do you have as a college instructor? (Do not include graduate school teaching or TA experience unless you are currently a graduate student.)

- ◯ <2 years
- ◯ 2-5 years
- ◯ 6-10 years
- ◯ 11-20 years
- ◯ >20 years

## Your teaching goals

**We would like to know some details about your plans for IBL following the workshop. When you answer the next three questions, please have a specific course in mind for which you are most likely to use IBL methods.**

5. Please tell us the name of the course you have in mind

6. Who would be the student audience for this course?

- ◯ mostly math majors
- ◯ mixed STEM majors (science, technology, engineering, mathematics)
- ◯ non-STEM majors
- ◯ pre-service teachers
- ◯ other

Other (please specify)

7. Who would be a typical student in this course:

◯ first-year ◯ sophomore ◯ junior or senior ◯ mixed class levels

## Your teaching goals

**Please keep the same course in mind for this question.**

8. Consider your goals for students in this course. How important is each of the following?

| | not very important | somewhat important | quite important | the most important |
|---|---|---|---|---|
| learning specific mathematical ideas | ○ | ○ | ○ | ○ |
| understanding mathematical concepts deeply | ○ | ○ | ○ | ○ |
| applying mathematics to other fields | ○ | ○ | ○ | ○ |
| applying mathematics to everyday life | ○ | ○ | ○ | ○ |
| understanding the nature of mathematics | ○ | ○ | ○ | ○ |
| understanding the role of proof in mathematics | ○ | ○ | ○ | ○ |
| thinking critically | ○ | ○ | ○ | ○ |
| developing skills in problem-solving | ○ | ○ | ○ | ○ |
| becoming more independent in problem-solving | ○ | ○ | ○ | ○ |
| gaining confidence in doing mathematics | ○ | ○ | ○ | ○ |
| communicating mathematics orally | ○ | ○ | ○ | ○ |
| communicating mathematics in writing | ○ | ○ | ○ | ○ |
| appreciating the beauty or significance of mathematical ideas | ○ | ○ | ○ | ○ |

Other (please specify)

## Your teaching practices

**Please keep the same course in mind for this question.**

9. Last time you taught this course, on average, how often did you use the following teaching methods during class? Please mark the answer that best matches your teaching practices.

| | Never | About once a month | About twice a month | Weekly | Every class |
|---|---|---|---|---|---|
| Instructor lecture | ○ | ○ | ○ | ○ | ○ |
| Instructor solving problems or examples on the board | ○ | ○ | ○ | ○ | ○ |
| Instructor asking conceptual questions to lead to generalization | ○ | ○ | ○ | ○ | ○ |
| Instructor-led whole class discussions | ○ | ○ | ○ | ○ | ○ |
| Student-led whole group discussions | ○ | ○ | ○ | ○ | ○ |
| Student small group discussions | ○ | ○ | ○ | ○ | ○ |
| Student collaborative work in small groups | ○ | ○ | ○ | ○ | ○ |
| Student individual problem-solving (in class) | ○ | ○ | ○ | ○ | ○ |
| Student individual writing (in class) | ○ | ○ | ○ | ○ | ○ |
| Student-led presentation of problems or proofs | ○ | ○ | ○ | ○ | ○ |
| Computer-assisted learning | ○ | ○ | ○ | ○ | ○ |

## Your perspectives on inquiry

10. How would you rate your current level of KNOWLEDGE of inquiry-based learning in mathematics education?

◯ None ◯ A little ◯ Some ◯ A lot

11. How would you rank your current level of SKILL in inquiry-based teaching?

◯ None ◯ A little ◯ Some ◯ A lot

12. To what extent do you believe inquiry-based strategies are an EFFECTIVE learning method?

◯ Don’t know ◯ Not very effective ◯ Somewhat effective ◯ Highly effective

13. How MOTIVATED do you feel to incorporate inquiry into your teaching methods?

◯ Not at all ◯ A little bit ◯ Somewhat motivated ◯ Highly motivated

14. How do you define inquiry-based learning at this time?

## Your expectations about IBL

15. What do you expect your students to gain from inquiry-based learning?

16. What do you expect to gain personally from employing IBL teaching methods?

17. What concerns you about using IBL methods in the classroom?

## Your expectations about IBL

18. Consider the following possible student outcomes from a college mathematics course. How would you expect these outcomes to be affected by the use of IBL methods?

| | negative effect | little or no effect | some positive effect | strong positive effect |
|---|---|---|---|---|
| learning specific mathematical ideas | ○ | ○ | ○ | ○ |
| understanding mathematical concepts deeply | ○ | ○ | ○ | ○ |
| applying mathematics to other fields | ○ | ○ | ○ | ○ |
| applying mathematics to everyday life | ○ | ○ | ○ | ○ |
| understanding the nature of mathematics | ○ | ○ | ○ | ○ |
| understanding the role of proof in mathematics | ○ | ○ | ○ | ○ |
| thinking critically | ○ | ○ | ○ | ○ |
| developing skills in problem-solving | ○ | ○ | ○ | ○ |
| becoming more independent in problem-solving | ○ | ○ | ○ | ○ |
| gaining confidence in doing mathematics | ○ | ○ | ○ | ○ |
| communicating mathematics orally | ○ | ○ | ○ | ○ |
| communicating mathematics in writing | ○ | ○ | ○ | ○ |
| appreciating the beauty or significance of mathematical ideas | ○ | ○ | ○ | ○ |

## MAA PREP Program questions

**This workshop is part of the MAA Professional Enhancement Programs (PREP). Responses to the four questions on this page & anonymous demographic information will be shared with the MAA PREP evaluator, Barbara Edwards, to help her evaluate the workshops they offer.**

19. Have you ever TAKEN a class that used inquiry-based learning (IBL) or the Moore Method? Please explain.

20. Have you ever TAUGHT a class using inquiry-based learning (IBL) or the Moore Method? Please explain.

21. What do you hope to gain by participating in this workshop?

22. Do you plan to use Inquiry-Based Learning in your teaching during the 2015-2016 academic year? Please explain.

## Demographic information

**These workshops are funded by the National Science Foundation, a federal agency that requires that data about participants be collected in a form that can be analyzed for differences by gender, race, ethnicity and citizenship status.**

23. Your gender

- ◯ Male
- ◯ Female

24. NSF requires race and ethnicity information for US citizens, US nationals, and permanent residents. Do any of these describe you?

- ◯ Yes
- ◯ No, none of these describe me

## Demographic information

25. Your ethnicity:

- ◯ Hispanic or latino
- ◯ Non-hispanic or latino
- ◯ Prefer not to answer

26. Your race (please check all that apply)

- ☐ American Indian or Alaskan Native
- ☐ Asian
- ☐ Black or African American
- ☐ Native Hawaiian or Pacific Islander
- ☐ White
- ☐ Prefer not to answer
- ☐ Other (please specify)

_____

## Survey matching code

**We will be conducting follow-up surveys of workshop participants. In order to match pre- and post-survey data, we need a stable and unique identifier for each respondent. This information will not be used for any other purpose.**

27. Please enter your birthdate:

| | MM | DD | YYYY |
|---|---|---|---|
| birthdate | | / / | |

* 28. What model car do you drive?

## Thank you!

**Thank you for completing the survey, and for your interest in the workshop.**

**At the workshop, you will be working in small groups to prepare materials for a class that you are interested in using IBL methods in. When you click 'Continue', you will automatically be directed to a new website to select the course in which you are most likely to implement IBL. This information along with your name is being collected by workshop organizers to help form working groups. Your name and course choice will not be linked in any way with the answers you have already provided in this survey.**

# Please click 'Continue' to select a course.

**Please contact the evaluation team with any questions about this survey:**

**Sandra Laursen, sandra.laursen@colorado.edu**
**Chuck Hayward. chuck.hayward@colorado.edu**

# Post-Workshop Survey

## Welcome!

**Dear workshop participant,**
**Congratulations on completing the workshop on inquiry-based learning (IBL) at CalPoly.**

**These workshops are offered to mathematics instructors under a grant from the National Science Foundation. As part of that grant-funded project, we'd like to gather some information from you about your experiences at the workshop and your perspectives on teaching college mathematics. Data will be used (1) to evaluate the workshop's effectiveness, (2) to improve future versions of the workshop, and (3) to provide general advice to others seeking to support faculty in improving teaching and learning in college mathematics.**

**This survey asks about your teaching experiences and preferences, your learning objectives for students, and your impressions of the IBL workshop you attended. Please mark the answer that best matches your response to each question.**

**Your participation is voluntary. You may skip questions you do not wish to answer, or choose not to participate. Your answers are anonymous and will not be reported in any way that may identify you individually; they will be aggregated with responses by other workshop participants. The workshop facilitators will not know how you answered, but we will provide a summary of responses to the facilitators to assist them in improving future workshops.**

**By completing this survey, in part or in whole, you agree that we may use this data to understand and improve faculty development for mathematics instruction. The data will also be used to provide a report to our funding agency on the effectiveness of the workshops. You may be invited to participate in follow-up surveys or interviews, but completing this survey now does not obligate you to participate in the future.**

**Thank you for your candid responses! We very much appreciate your assistance. And please contact us with any questions.**

**Sandra Laursen, study director**
**Chuck Hayward, professional research assistant**

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**chuck.hayward@colorado.edu**

## Your workshop experience

1. Compared to other professional development workshops that you have attended, please rate the OVERALL quality of this workshop.

◯ Poor ◯ Below average ◯ Fair or average ◯ Good ◯ Excellent

2. Please rate the LOGISTICS (food, facilities, timing, length, breaks, etc.).

◯ Poor ◯ Below average ◯ Fair or average ◯ Good ◯ Excellent

3. Please explain your rating.

## Your workshop experience

**Please focus now on your learning experience in the workshop, separately from the logistics issues already discussed.**

4. What one or two things were BEST about the workshop?

5. What one or two aspects of the workshop most need to be IMPROVED?

6. Please comment on any other aspects of your workshop experience.

## Your learning from the workshop

7. Using complete sentences, please summarize the main message you will take away from this workshop.

8. How would you rate your current level of KNOWLEDGE of inquiry-based learning in mathematics education?

◯ None ◯ A little ◯ Some ◯ A lot

9. How would you rank your current level of SKILL in inquiry-based teaching?

◯ None ◯ A little ◯ Some ◯ A lot

## Your learning from the workshop

10. To what extent do you believe inquiry-based strategies are an EFFECTIVE learning method?

◯ Don't know ◯ Not very effective ◯ Somewhat effective ◯ Highly effective

11. How MOTIVATED do you feel to incorporate inquiry into your teaching methods?

◯ Not at all ◯ A little bit ◯ Somewhat motivated ◯ Highly motivated

12. How do you define inquiry-based learning at this time?

## Your learning from the workshop

13. What do you expect your STUDENTS to gain from inquiry-based learning?

14. What do you expect to gain PERSONALLY from employing IBL teaching methods?

15. What concerns you about using IBL methods in the classroom?

## Your plans for IBL teaching

16. How likely is it that you will implement IBL methods in a mathematics course:

| | Not at all likely | Somewhat unlikely | Somewhat likely | Rather likely | Definitely |
|---|---|---|---|---|---|
| in the coming academic year? | ○ | ○ | ○ | ○ | ○ |
| if not this year, in a future year? | ○ | ○ | ○ | ○ | ○ |

17. Besides teaching a class using IBL methods, are there any OTHER ways in which you expect your future teaching will be informed by this workshop? Please explain.

## Your plans for IBL teaching

**Please select one course where you are MOST likely to implement IBL, and reply to the following questions with that specific course in mind.**

18. What is the name of the course you are MOST LIKELY to implement IBL in?

19. Student audience:

◯ mostly math majors ◯ mixed STEM majors (science, technology, engineering, mathematics) ◯ non-STEM majors

◯ pre-service teachers ◯ other

Other (please specify)

20. Typical class size:

◯ under 20 ◯ 20-35 ◯ 35-50 ◯ over 50

## Your plans for IBL teaching

**Please reply keeping in mind the same specific course where you are MOST likely to implement IBL (continued):**

21. Typical student:

◯ first-year ◯ sophomore ◯ junior or senior ◯ mixed class levels

22. Expected timing (approximate starting month and year of the academic term in which this course would start - e.g., 09/15/2011, 01/20/2012, etc.).

| | MM | DD | YYYY |
|---|---|---|---|
| Semester: | | / / | |

23. Please describe your current plans for this course in a few words:

## Your plans for IBL teaching

24. What kinds of support would help you most as you plan or implement IBL methods in the coming year? Please explain.

25. The workshop facilitators would like to offer help in the way that would be most likely to actually be useful to you. Please indicate the form of help that you would be most likely to draw upon.

| | not likely to participate | somewhat likely to participate | very likely to participate |
|---|---|---|---|
| Email listserv for exchanging ideas and getting advice from other workshop participants & facilitators | ○ | ○ | ○ |
| Email list for receiving articles, web links, and other resources from facilitators | ○ | ○ | ○ |
| Web-based discussion board or chat room | ○ | ○ | ○ |
| Occasional personal phone call or e-mail from facilitators | ○ | ○ | ○ |

Other (please explain)

## Survey matching code

**We will be conducting follow-up surveys of workshop participants. In order to match pre- and post-survey data, we need a stable and unique identifier for each respondent. This information will not be used for any other purpose.**

26. Please enter your birthdate:

| | MM | DD | YYYY |
|---|---|---|---|
| birthdate | | / / | |

* 27. What model car do you drive?

## Thank you!

**Thank you for completing the survey, and for your contributions to making this workshop a success!**

**Please contact the evaluation team with any questions about this survey:**

**Sandra Laursen, sandra.laursen@colorado.edu**
**Chuck Hayward, chuck.hayward@colorado.edu**

# Follow-Up Survey

## Welcome!

**Dear workshop graduate,**

**In July 2015, you participated in a workshop on inquiry-based learning (IBL) in mathematics at CalPoly. We would like to hear from you about your experience, whether or not you have taught using IBL methods since the workshop.**

**At the workshop, we asked for your immediate impressions of the workshop and what you learned. Now we would like to know whether you have implemented IBL in any of your own courses and hear about your experiences with it. We are asking you to reflect on the courses you completed this past academic year (2015-2016), not the courses you may currently be teaching. This survey asks about your learning objectives for students, your teaching practices, and your knowledge of inquiry-based learning.**

**If you implemented IBL approaches in any of your courses since the workshop, we will also ask about your experiences in doing that. If you did not implement IBL techniques, we would like to know more about why you did not. Please mark the answer that best matches your response to each question.**

**Your participation is voluntary. You may skip questions you do not wish to answer, or choose not to participate. Your answers are anonymous and will not be reported in any way that may identify you individually; they will be aggregated with responses by other workshop participants.**

**By completing this survey, in part or in whole, you agree that we may use this data to understand and improve faculty development for mathematics instruction. The data will also be used to provide a report to our funding agency on the effectiveness of the workshops. You may be invited to participate in a follow-up interview, but completing this survey now does not obligate you to participate in the future.**

**Thank you for your candid responses! We very much appreciate your assistance. And please contact us with any questions.**

**Chuck Hayward, professional research assistant**
**Sandra Laursen, study director**

**Ethnography & Evaluation Research**
**University of Colorado Boulder**
**www.colorado.edu/eer**

**chuck.hayward@colorado.edu**

## Your current career

**First, we'd like to know a bit about your professional situation.**

1. Your career stage:

- ◯ tenure-track faculty position, untenured
- ◯ tenure-track faculty position, tenured
- ◯ non-tenure-track faculty position
- ◯ high school teacher
- ◯ graduate student

Other (please specify)

2. Institution type:

- ◯ two-year college
- ◯ four-year college
- ◯ masters-granting comprehensive university
- ◯ Ph.D.-granting research university

Other (please specify)

3. Have you changed positions since you attended the IBL workshop at CalPoly in July 2015?

- ◯ Yes
- ◯ No

If yes, please explain

## Your teaching background

4. Your teaching experience as a college instructor. (Do not include graduate school teaching or TA experience unless you are currently a graduate student.)

- ◯ <2 years
- ◯ 2-5 years
- ◯ 6-10 years
- ◯ 11-20 years
- ◯ >20 years

5. Have you implemented an IBL course since the workshop in July 2015 (during academic year 2015-2016)?

- ◯ No
- ◯ Not a full-IBL course, but have applied some IBL approaches
- ◯ Yes, one full-IBL course
- ◯ Yes, more than one full-IBL course

## IBL Impact

6. How many total courses have you used IBL methods in (either partially or fully) since the workshop in July 2015?

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5 or more

7. How many *total* students have you taught using IBL methods since the workshop (please estimate)?

## IBL course implemented

8. For the next few questions, please select ONE course that you taught using IBL methods. If you implemented IBL in more than one course, please pick the more IBL-intensive course. What is the name of this course?

9. During which semester/quarter did you implement this course?

- [ ] Fall 2015
- [ ] Winter 2016
- [ ] Spring 2016

10. Who was the student audience in this IBL class you taught?

- ( ) mostly math majors
- ( ) mixed STEM majors (science, technology, engineering, mathematics)
- ( ) non-STEM majors
- ( ) pre-service teachers
- ( ) other

Other (please specify)

11. Class size:

- ( ) under 20
- ( ) 20-35
- ( ) 35-50
- ( ) over 50

12. Typical student:

- ( ) first-year
- ( ) sophomore
- ( ) junior or senior
- ( ) mixed class levels

## Your teaching goals

**Please continue to answer in regards to the ONE specific IBL course.**

13. Consider your goals for students in your IBL course ([Q8]). How important were each of the following?

| | not very important | somewhat important | quite important | the most important |
|---|---|---|---|---|
| learning specific mathematical ideas | ○ | ○ | ○ | ○ |
| understanding mathematical concepts deeply | ○ | ○ | ○ | ○ |
| applying mathematics to other fields | ○ | ○ | ○ | ○ |
| applying mathematics to everyday life | ○ | ○ | ○ | ○ |
| understanding the nature of mathematics | ○ | ○ | ○ | ○ |
| understanding the role of proof in mathematics | ○ | ○ | ○ | ○ |
| thinking critically | ○ | ○ | ○ | ○ |
| developing skills in problem-solving | ○ | ○ | ○ | ○ |
| becoming more independent in problem-solving | ○ | ○ | ○ | ○ |
| gaining confidence in doing mathematics | ○ | ○ | ○ | ○ |
| communicating mathematics orally | ○ | ○ | ○ | ○ |
| communicating mathematics in writing | ○ | ○ | ○ | ○ |
| appreciating the beauty or significance of mathematical ideas | ○ | ○ | ○ | ○ |

Other (please specify)

## Your teaching practices

**Please continue to answer in regards to the ONE specific IBL course.**

14. When you taught this course ([Q8]), on average, how often did you use the following teaching methods during class? Please mark the answer that best matches your teaching practices.

| | Never | About once a month | About twice a month | Weekly | Every class |
|---|---|---|---|---|---|
| Instructor lecture | ○ | ○ | ○ | ○ | ○ |
| Instructor solving problems or examples on the board | ○ | ○ | ○ | ○ | ○ |
| Instructor asking conceptual questions to lead to generalization | ○ | ○ | ○ | ○ | ○ |
| Instructor-led whole class discussions | ○ | ○ | ○ | ○ | ○ |
| Student-led whole group discussions | ○ | ○ | ○ | ○ | ○ |
| Student small group discussions | ○ | ○ | ○ | ○ | ○ |
| Student collaborative work in small groups | ○ | ○ | ○ | ○ | ○ |
| Student individual problem-solving (in class) | ○ | ○ | ○ | ○ | ○ |
| Student individual writing (in class) | ○ | ○ | ○ | ○ | ○ |
| Student-led presentation of problems or proofs | ○ | ○ | ○ | ○ | ○ |
| Computer-assisted learning | ○ | ○ | ○ | ○ | ○ |

## Student outcomes of IBL

15. How were the following student outcomes affected by the use of IBL methods?

| | negative effect | little or no effect | some positive effect | strong positive effect |
|---|---|---|---|---|
| learning specific mathematical ideas | ○ | ○ | ○ | ○ |
| understanding mathematical concepts deeply | ○ | ○ | ○ | ○ |
| applying mathematics to other fields | ○ | ○ | ○ | ○ |
| applying mathematics to everyday life | ○ | ○ | ○ | ○ |
| understanding the nature of mathematics | ○ | ○ | ○ | ○ |
| understanding the role of proof in mathematics | ○ | ○ | ○ | ○ |
| thinking critically | ○ | ○ | ○ | ○ |
| developing skills in problem-solving | ○ | ○ | ○ | ○ |
| becoming more independent in problem-solving | ○ | ○ | ○ | ○ |
| gaining confidence in doing mathematics | ○ | ○ | ○ | ○ |
| communicating mathematics orally | ○ | ○ | ○ | ○ |
| communicating mathematics in writing | ○ | ○ | ○ | ○ |
| appreciating the beauty or significance of mathematical ideas | ○ | ○ | ○ | ○ |

16. Overall, what do you see as the greatest benefits to your students of inquiry-based learning?

17. What concerns you most about what students may NOT gain from inquiry-based learning?

## Instructor outcomes of IBL

18. What did you gain personally from employing IBL teaching methods?

19. What problems have you encountered with using IBL methods in the classroom?

## Resources you used

20. Looking back, what aspect of the workshop in July 2015 was most useful for your IBL implementation?

21. At the workshop, you had time to develop materials for an upcoming course. Please describe how you have (or have not) used those materials since the workshop.

22. Consider different resources that the organizers of the workshop made available to you. Please rate them on how helpful they were.

| | No help | A little help | Moderate help | Much help | Great help | Not applicable |
|---|---|---|---|---|---|---|
| Email listserv for exchanging ideas and getting advice from other workshop participants & facilitators | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| Email list for receiving articles, web links, and other resources from facilitators | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| Occasional personal phone call or e-mail from facilitators | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |

23. Do you keep in touch with any other workshop participants?

- ◯ Yes, fairly often
- ◯ Yes, once in a while
- ◯ No

## Resources, continued

24. Please share any other resources that were helpful to you in implementing your IBL course - workshops, conferences, books, and so on.

25. What other resources would be useful to support your IBL teaching?

## Challenges to implementing IBL

26. If you did not implement IBL in any courses this year, please tell us why.

27. Do you expect to implement IBL in a course in the future?

- ◯ yes, definitely
- ◯ maybe
- ◯ no

## Resources you used

28. Looking back, what aspect of the workshop in July 2015 was most useful for your IBL implementation?

29. At the workshop, you had time to develop materials for an upcoming course. Please describe how you have (or have not) used those materials since the workshop.

30. Consider different resources that the organizers of the workshop made available to you. Please rate them on how helpful they were.

| | No help | A little help | Moderate help | Much help | Great help | Not applicable |
|---|---|---|---|---|---|---|
| Email listserv for exchanging ideas and getting advice from other workshop participants & facilitators | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| Email list for receiving articles, web links, and other resources from facilitators | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| Occasional personal phone call or e-mail from facilitators | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |

31. Do you keep in touch with any other workshop participants?

- ◯ Yes, fairly often
- ◯ Yes, once in a while
- ◯ No

## Your perspectives on inquiry

32. How would you rate your current level of KNOWLEDGE of inquiry-based learning in mathematics education?

◯ None ◯ A little ◯ Some ◯ A lot

33. How would you rank your current level of SKILL in inquiry-based teaching?

◯ None ◯ A little ◯ Some ◯ A lot

34. To what extent do you believe inquiry-based strategies are an EFFECTIVE learning method?

◯ Don't know ◯ Not very effective ◯ Somewhat effective ◯ Highly effective

35. How MOTIVATED do you feel to incorporate inquiry into your teaching methods?

◯ Not at all ◯ A little bit ◯ Somewhat motivated ◯ Highly motivated

36. How do you define inquiry-based learning at this time?

## Institutional Context

37. Please tell about the support at your institution for IBL teaching from the following colleagues:

| | not at all supportive | mostly not supportive | mixed or moderate support | mostly supportive |
|---|---|---|---|---|
| Your colleagues in the department | ○ | ○ | ○ | ○ |
| Your department head or chair | ○ | ○ | ○ | ○ |
| Your dean or provost | ○ | ○ | ○ | ○ |
| Your colleagues outside the department | ○ | ○ | ○ | ○ |

38. Please describe ways in which your department or institution has or has not supported your IBL teaching interests.

39. Have you shared any of your IBL-related knowledge from the workshop with other colleagues?

- ○ Yes, with colleagues in my own department
- ○ Yes, with math colleagues outside my own department
- ○ Not yet, but I plan to
- ○ No

Please explain

## IBL Events

40. Have you participated in any IBL-related events since the workshop? Please check all that apply.

| | *Attended* | *Presented* |
|---|---|---|
| No IBL-related events | ☐ | ☐ |
| IBL-related sessions at MathFest, Washington DC, August 2015 | ☐ | ☐ |
| "Expanding IBL Throughout Higher Ed": EAF 3-hour event at MathFest, Columbus OH, August 2016 | ☐ | ☐ |
| IBL booth at MathFest, Columbus OH, August 2016 | ☐ | ☐ |
| Other IBL-related sessions or events at MathFest, Columbus OH, August 2016 | ☐ | ☐ |
| IBL-related sessions at JMM, Seattle January 2016 | ☐ | ☐ |
| IBL-related sessions at MAA Section Meeting | ☐ | ☐ |
| Other IBL Workshops or meetings (please specify) | ☐ | ☐ |

Please explain your "other" answer.

41. Have you used any forms of IBL support since the workshop? Please check all that apply.

- ☐ None
- ☐ Applied for AIBL mini-grant
- ☐ Received AIBL mini-grant
- ☐ Participated in AIBL mentor program
- ☐ AIBL Visiting Speaker's Bureau
- ☐ Read post-workshop e-mail listserv
- ☐ Contributed to post-workshop e-mail listserv
- ☐ Used notes from JIBLM
- ☐ Submitted notes to JIBLM
- ☐ Other

Please explain your "other" answer.

42. In the future, what forms of IBL support do youplan to use, if any? Please check all that apply.

- [ ] None
- [ ] Apply for AIBL mini-grant
- [ ] Participate in AIBL mentor program
- [ ] AIBL Visiting Speaker's Bureau
- [ ] Read post-workshop e-mail listserv
- [ ] Contribute to post-workshop e-mail listserv
- [ ] Attend a Legacy of R.L. Moore Conference
- [ ] Attend IBL-related sessions at JMM
- [ ] Attend IBL-related sessions at MathFest
- [ ] Attend IBL-related sessions at an MAA Section Meeting
- [ ] Use notes from JIBLM
- [ ] Submit notes to JIBLM
- [ ] Other

Please explain your "other" answer.

## Demographic information

**These workshops are funded by the National Science Foundation, a federal agency that requires that data about participants be collected in a form that can be analyzed for differences by gender, race, ethnicity and citizenship status.**

43. How do you describe your gender?

- ◯ Male
- ◯ Female
- ◯ Prefer not to answer
- ◯ Other (please specify)

44. NSF asks US citizens, US nationals, and permanent residents to report race and ethnicity information. Do any of these (US citizen, US national, or permanent resident) describe you?

- ◯ Yes
- ◯ No

## Demographic information

45. Your ethnicity:

- ◯ Hispanic or Latino
- ◯ Non-Hispanic or non-Latino
- ◯ Prefer not to answer

46. Your race (please check all that apply)

- ☐ American Indian or Alaskan Native
- ☐ Asian
- ☐ Black or African American
- ☐ Native Hawaiian or Pacific Islander
- ☐ White
- ☐ Prefer not to answer
- ☐ Other (please specify)

## Survey matching

**In order to match your responses with earlier pre- and post-survey data, we need a stable and unique identifier for each respondent. This information will not be used for any other purpose.**

* 47. Please enter your birthdate:

| | MM | DD | YYYY |
|---|---|---|---|
| birthdate | | / / | |

* 48. What model car do you drive? (If it has changed since attending the workshop in June 2014, please indicate the car you drove at that time).

49. We may conduct phone interviews with some workshop graduates. Would you be willing to participate if invited?

- ◯ Yes
- ◯ No

## Contact Information

**Since you indicated that you are willing to participate in an interview, we need to know who you are! When you click the link below, a new window will open so that you can provide your contact information. Your responses to this survey will remain anonymous. They will not be linked with your contact information.**

**Click to provide contact information for interview.**

Thank you!

**Thank you for completing the survey.**

**Please contact the evaluation team with any questions about this survey:**

**Chuck Hayward, chuck.hayward@colorado.edu**
**Sandra Laursen, sandra.laursen@colorado.edu**