

Appendix C

ASSESSMENT OF THE NATIONAL SCIENCE FOUNDATION'S UNDERGRADUATE FACULTY ENHANCEMENT PROGRAM PARTICIPANT TELEPHONE SURVEY INSTRUMENT

Hello. My name is _____. I'm calling on behalf of SRI International.

SRI is conducting a survey for the National Science Foundation as part of an evaluation of NSF's Undergraduate Faculty Enhancement Program. It is my understanding that you attended a UFE workshop about [title of workshop] held by [PI NAME] in the [month] of 199[6 or 7]. Is that correct?

IF R ANSWERS 'NO':

PROBE FOR CORRECT INFORMATION. ASK: Did you attend any workshop about [title of workshop] during [season/year]?

IF R STILL ANSWERS 'NO' SAY: I'm sorry, my information must be incorrect. Thank you very much. AND END THE CALL.

IF R ANSWERS 'YES':

This survey is being conducted for the National Science Foundation as part of its efforts to learn about professional development for undergraduate faculty. The survey is soliciting responses from a sample of faculty who participated in UFE workshops during 1996 and 1997. The study is designed to collect information about the participant's experiences in UFE workshops and the impact of the workshops on their teaching and other activities, and about the indirect impact of the workshops on undergraduate student achievement.

The results of the survey will assist the National Science Foundation in assessing the effectiveness of its programs that support undergraduate education, will be used to consider modifications to current programs, and will inform and facilitate reporting as part of the Government Performance and Results Act. Any information that would permit identification of individual respondents will be held in strict confidence. Your response is voluntary and failure to provide some or all of the requested information will not in any way adversely affect you.

The interview will take about 20 minutes. If you have further questions concerning privacy or burden of this survey, I will be happy to discuss those now or at the end of the interview. [IF R ASKS FOR MORE INFORMATION, GO TO ① ON NEXT PAGE.]

Can we proceed with the interview now?

Yes → BEGIN SURVEY WITH SECTION A ON PAGE 4.

No → ASK: When would be a good time?

IF R GIVES ALTERNATIVE TIME, SAY That would be fine. Shall we call you at this same number?

IF R ANSWERS 'NO' GET ALTERNATE NUMBER.

IF R INDICATES THAT SHE OR HE IS VERY BUSY OR OTHERWISE REFUSES, TRY TO GET R TO PARTICIPATE WITH THE FOLLOWING LANGUAGE:

I understand that [TAILOR RESPONSE TO WHAT R SAID], but I hope you will be able to find the time because we are hoping to get a *complete and unbiased* picture of the UFE program and its impacts by interviewing a random sample of workshop participants. Is there a time within the next couple weeks that you could find 20 minutes?

IF R SAYS 'YES' EITHER GO TO SECTION A ON NEXT PAGE, OR GET ALTERNATE TIME.

IF R SAYS NO, SAY That's fine. Thank you for your time. Good bye.

①

IF R HAS ASKED FOR MORE INFORMATION REGARDING PRIVACY OR BURDEN, READ THE FOLLOWING:

The information requested on this survey is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information from this data collection will be retained as part of the Privacy Act System of Records in accordance with the Privacy Act of 1974. Data submitted will be used in accordance with the criteria established by NSF for monitoring research and education grants, and in response to Public Law 99-383 and 24 USC 1885c. The information requested may be disclosed to qualified researchers and contractors in order to coordinate programs and to a Federal agency, court or party in a court or Federal administrative proceeding if the government is a party. Information may be added to and maintained by the Education and Training System of Records 63 Federal Register 264, 272 (January 5, 1998).

Submission of information is voluntary. Public burden for this collection of information is estimated to average .33 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden to: Suzanne Plimpton, Reports Clearance Officer, Systems and Services Branch, Division of Administrative Services, National Science Foundation, Arlington, VA 22230. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a current valid OMB control number. The OMB number for this survey is 3145-0136.

SECTION A. DESCRIPTION AND EVALUATION OF WORKSHOP AND FOLLOW-UP ACTIVITIES

To classify projects by type, and to give context to later variables.

A1. First, I'm going to read a list of focus areas of workshops. Please tell me which of these were the major areas of focus of the UFE workshop you attended. Did the workshop you attended focus primarily on content or subject matter, teaching methods, lab techniques, new technologies, and/or issues regarding females and/or minority students? [CIRCLE ALL THAT APPLY]

- a. Content or subject matter [IF R ANSWERS CONTENT OR SUBJECT MATTER, ASK] →
- b. Did that include incorporating and synthesizing interdisciplinary content? 1 YES 0 NO
- c. Teaching methods
- d. Lab techniques
- e. New technologies
- f. Issues regarding females and/or minority students

Now, I'd like to ask you about activities you did before, during, and after the workshop.

To describe participants' experiences in workshops and follow-up activities. Explanatory for outcomes.

A2. I'm going to read a list of possible activities you might have done **before** the workshop, and I'd like you to tell me whether or not you did each one. [READ LIST. CIRCLE ONE ANSWER IN EACH ROW.]

	YES	NO	DK
a. Did you read any background material, textbooks, or lab manuals?	1	0	9
b. Did you complete any questionnaires to assess your skill level, interests, teaching responsibilities, or objectives?	1	0	9
c. Did you identify a course you wanted to develop or other ways you anticipated incorporating project information at your home institution?	1	0	9
d. Did you prepare a project or problem to work on during the workshop?	1	0	9
e. Did you do any other types of activities [before the workshop]? _____	1	0	9

A3. Now I'm going to read a list of some types of materials that can be used in courses, and I'd like you to tell me whether you worked on developing each of them at the workshop [IF R ASKS, ANSWER regardless of whether you worked on them during workshop sessions or outside of workshop sessions. READ LIST. CIRCLE ONE ANSWER IN EACH ROW.]

	YES	NO	DK
a. Textbooks	1	0	9
b. Lecture notes or other handouts	1	0	9
c. Problem sets, project descriptions, or lab exercises	1	0	9
d. Other activities _____	1	0	9

[ASK A4 ONLY IF R ANSWERED 'YES' TO ONE OR MORE ITEMS IN A3.]

A4. By the close of the workshop, had you completed these materials so that they could actually be used, or did you need to do more work before they could be used? [READ WHATEVER ITEM(S) R ANSWERED 'YES' TO IN QA3. CIRCLE '9' FOR ANY ITEMS R DID NOT ANSWER 'YES' TO IN QA3.]

	Completed	Needed more work	N/A
a. Textbook(s)	1	2	9
b. Lecture notes or other handouts	1	2	9
c. Problem sets, project descriptions, or lab exercises	1	2	9
d. Other activities _____	1	2	9

A5. During the workshop, did you give any presentations or practice lessons during the workshop

0 No

1 Yes → A5a. How many? _____

A6. This next question concerns **follow-up activities**. I'm going to read a list of types of follow-up activities in which you may have participated **after the workshop**, and I'd like you to tell me whether you participated in each type of activity. [READ ITEMS. CIRCLE ONE ANSWER IN EACH ROW.]

	YES	NO	DK
a. Did you participate in one or more formal follow-up sessions at scheduled times?	1	0	9
b. Did you participate in one or more informal group get-togethers?	1	0	9
c. Did you review or site test any materials or products developed as part of the workshop?	1	0	9
d. Did you receive any technical assistance from the PI or other project staff? [IF R ASKS, THIS REFERS ONLY TO TECHNICAL ASSISTANCE REGARDING ISSUES RELATED TO THE WORKSHOP]	1	0	9

A7. After the workshop...	YES	NO	DK
a. Did you communicate with the PI and/or other participants by telephone?	1	0	9
b. Did you communicate with the PI and/or other participants by e-mail??	1	0	9

[ASK A8 ONLY IF R ANSWERED 'YES' TO A7a OR A7b.]

- A8. Was this communication ongoing or sporadic? [CIRCLE ONE ANSWER]
- 1 Ongoing
 - 2 Sporadic
 - 9 Don't recall

SECTION B. IMPACT

What Participant Learned

A13

- B1. Next, I'm going to read a list of some types of knowledge and skills. For each item, I'd like you to tell me whether the workshop gave you little or none of that type of skill or knowledge, some of that skill or knowledge, or a lot of that skill or knowledge. [READ ITEMS. CIRCLE ONE ANSWER IN EACH ROW.]

To what extent did the workshop give you...	Little or none	Some	A lot	N/A
a. Increased content knowledge?	1	2	3	9
b. New or more in-depth perspectives on teaching and learning?	1	2	3	9
c. New or improved skills in teaching?	1	2	3	9
d. New or improved experimental or lab techniques?	1	2	3	9
e. New or improved technological skills	1	2	3	9
f. New or more in-depth knowledge of issues regarding females and minority students	1	2	3	9
g. New information about other resources for use in teaching	1	2	3	9
h. New contacts with colleagues from other institutions	1	2	3	9
i. Increased motivation or stimulation for teaching excellence	1	2	3	9

[IF R ANSWERED 1 OR 9 TO ALL ITEMS B1a-B1i ASK QB2, IF NOT SKIP TO QB3.]

A13

B2. Did you get any benefit out of the workshop?

1 Yes → B2a. Please describe:

0 No → B2b. Why not?

[IF R GOT NO BENEFIT OUT OF THE WORKSHOP (B2=0), SKIP TO SECTION D.]

Participants' evaluation of worth of various aspects of workshop. Explanatory for outcomes.

B3. I am going to read a list of workshop features, and I'd like you to tell me how much of a contribution each of the following made to what you got out of the workshop. Please indicate whether each item I read made no contribution to what you got out of the workshop, a small contribution, a moderate contribution, or a great contribution. If the workshop did not include a feature, please indicate that. [READ LIST. CIRCLE ONE ANSWER IN EACH ROW.]

	Little or no Contribution	A moderate	A Great	N/A
a. Preparation prior to the workshop	1	2	3	9
b. Content of the lectures or seminars	1	2	3	9
c. Study materials used during the session	1	2	3	9
d. The experience of developing products or materials at the workshop	1	2	3	9
e. Other hands-on learning activities, such as laboratories or computer work	1	2	3	9
f. Materials from the workshop that you took back to your institution	1	2	3	9
g. Presentations or practice lessons that you gave	1	2	3	9
h. Interactions with the instructors (both structured and unstructured)	1	2	3	9
i. Discussions of how participants would incorporate what was learned in the workshop into their own courses.	1	2	3	9
j. Informal interactions with other participants	1	2	3	9
k. Field trips	1	2	3	9
l. Follow-up activities [formal or informal]	1	2	3	9

Impact on Curriculum and/or Courses

B4. As a result of the UFE workshop ...[READ ITEMS. CIRCLE ONE ANSWER IN EACH ROW.]

		YES	NO	DK
A6	a. Did you develop or redesign a major or a program of studies?	1	0	9
A1-A4	b. Did you develop one or more new courses? (THIS CAN INCLUDE CURRICULUM OR MATERIALS THAT YOU DEVELOPED DURING THE WORKSHOP REFERRED TO IN A3.)	1	0	9
A1-A4	c. Did you revise one or more existing courses? (THIS CAN INCLUDE THE CURRICULUM OR MATERIALS THAT YOU DEVELOPED DURING THE WORKSHOP REFERRED TO IN A3)	1	0	9
A1-A4	d. Did you develop one or more proposals requesting permission or funding to revise or develop courses?	1	0	9

IF R ANSWERED NO TO B4b AND B4c, SKIP TO B19.

D1-D4

B5. All in all, how many courses did you develop and/or revise? _____

A8

B6. Did you develop or revise [this course/these courses] in collaboration with one or more colleagues? [CIRCLE ONE ANSWER.]

1 Yes

0 No

A5, E6

IF R DEVELOPED MORE THAN ONE COURSE, ASK B7A; IF R DEVELOPED/REVISED ONLY ONE COURSE, ASK B7B.

B7a How many of the courses that you [developed/or/revise] were interdisciplinary? ____

B7b. Was the course that you [developed/revise] interdisciplinary?

1 Yes

0 No

F1

B8. Did [this course/these courses] receive formal departmental and/or program approval? [CIRCLE ONE ANSWER.]

1 Yes

2 Some did and some did not

0 No

B9. Now, I'd like to ask you to be more specific about the types of changes you made in your course(s) as a result of your participation in the UFE workshop.

		In how many courses?	How important was this change to the course(s)? Was it... (1) of little or no importance (2) of moderate importance (3) of major importance
A1	b. Did you introduce new content that you learned at the UFE workshop?	1 Yes → 0 No	___ → 1 2 3
A1	a. Did you change the content to focus on key issues or "big ideas?"	1 Yes → 0 No	___ → 1 2 3
A3	c. Did you introduce new experimental techniques or lab techniques that you learned at the UFE workshop?	1 Yes → 0 No	___ → 1 2 3
A4	d. Did you introduce new equipment, materials or computer software that you learned at the UFE workshop?	1 Yes → 0 No	___ → 1 2 3
A2	e. Did you change teaching methods in any other way?	1 Yes → 0 No	___ → 1 2 3

A1

A1

A3

A4

A2

A1-A4

B10. Please describe in your own words the changes you made to your classes as a result of your participation in the UFE workshop. [INTV: THIS INCLUDES DESCRIPTION OF NEW CLASSES.]

A7, A14

B11. Have you taught one or more of the courses you [developed/(or)/revised] as a result of your participation in the UFE workshop. [CIRCLE ONE ANSWER]
 1 Yes → CONTINUE WITH Q B12.
 0 No → SKIP TO Q. B19

CONTINUE WITH B12 IF R DEVELOPED/REVISED > 1 COURSE. SKIP TO B13 IF R DEVELOPED/REVISED 1 COURSE

A7, A14

B12. How many? ____

E5

B13. Have you team taught [this course/any of these courses]?

- 1 Yes
- 0 No

B1-B4 (B14a)

B14. a. In all, approximately how many students have completed [this course/these courses]? _____

b. Approximately what percentage of these students are female? _____% [IF R NEEDS PROMPTING, SAY: Please give your best estimate.]

C1-C4 (B14b, B14c)

c. Approximately what percentage of these students are from underrepresented groups? _____% [IF R NEEDS PROMPTING, SAY Please give us your best estimate]

Sustained effects

B15. If you have taught this course more than once since participating in the UFE workshop, how did what you did as a result of your participation in the UFE workshop change over time? (INTV PROMPT: FOR EXAMPLE, DID YOU INCREASE OR DECREASE WHAT YOU DID? DID IT BECOME MORE KEY?)

F2

B16. [Is the course/Are these courses] still being offered?

- 1 Yes
- 0 No →

B16a. Why not?

Barriers to sustained effects.

Impact on Students

B17. I'm going to read a list of various types of knowledge and skills. For each item I read, I'd like you to compare the average level of knowledge and skills of students who completed the courses you developed or modified as a result of your participation in the UFE workshop with the knowledge and skills of students who completed similar courses you taught previously. If there is no valid basis for comparison, please indicate that. [INTV: FIRST ASK WHETHER BETTER/WORSE, OR ABOUT THE SAME. THEN, IF R ANSWERS BETTER OR WORSE, ASK "SUBSTANTIALLY, OR SOMEWHAT..."]

1=Substantially worse
 2=Somewhat worse
 3=No difference
 4=Somewhat better
 5=Substantially better
 9=No valid comparison possible

B9

B10
 B11
 B12

B13
 B14
 B15
 B16

B9-B16, C9-C16

a. In-depth knowledge of subject area	1	2	3	4	5	9
b. Problem-solving skills	1	2	3	4	5	9
c. Communication skills	1	2	3	4	5	9
d. Ability to apply new knowledge	1	2	3	4	5	9
e. Critical thinking skills	1	2	3	4	5	9
f. Ability to collaborate with others	1	2	3	4	5	9
g. Ability to use advanced technology	1	2	3	4	5	9
h. Understanding of the scientific method	1	2	3	4	5	9

B18. Please describe in your own words, the impact of the changes you made as a result of your participation in the UFE on your students?

Impact on Non-Classroom Activities

B19. [FOR EACH ITEM, CIRCLE ONE ANSWER IN EACH COLUMN.]

A11, A15

A10, E4

E2

A9, A15

G1

G1

G1

I'm going to read some activities in which faculty sometimes engage. I'd like to know whether you have engaged in these activities since returning from the UFE project you attended, regardless of their relationship to that faculty project.		How much influence did your participation in the UFE workshop have on your engaging in this activity?			
		None	A little	Moderate	Great
a. Have you participated in any further professional development activities or workshops designed to change the content of courses or to improve instruction?	1 Yes → 0 No	1	2	3	4
b. Have you begun any new communication or continued existing communication with experts in one or more SMET disciplines.	1 Yes → 0 No	1	2	3	4
c. Have you established any new research or teaching collaborations with colleagues	1 Yes → 0 No	1	2	3	4
d. Have you attended any professional meetings, seminars, or workshops	1 Yes → 0 No	1	2	3	4
e. Have you submitted one or more articles to professional journals	1 Yes → 0 No	1	2	3	4
f. Have you delivered one or more papers at a professional meeting	1 Yes → 0 No	1	2	3	4
g. Have you made one or more presentations to local campuses or community organizations	1 Yes → 0 No	1	2	3	4

B20. Has your participation at the UFE workshop had any impact on you, your courses, or your labs, other than the things we've just covered,?

0 No

1 Yes →

B20a. Please tell me about these impacts.

Impact on Broader Community

B21. Have you shared any information or skills you learned in the UFE workshop with colleagues either in your institution or in other institutions ... [READ LIST. CIRCLE ONE ANSWER IN EACH ROW.]

G2
G1
G3
G4

	YES	NO	DK
a. Through informal discussions with one or more colleagues?	1	0	9
b. Through presentations to one or more colleagues?			
c. Through observation of your class or laboratory by one or more colleagues?	1	0	9
d. Through participation in any department or campus committees on curricular change and/or reform?	1	0	9
e. Through any other activities? (specify), _____	1	0	9

[IF NO ITEMS IN B20 ARE CIRCLED, SKIP TO QC2.]

B22. To the best of your knowledge, as a result of what you learned at the UFE workshop, ...[READ LIST. CIRCLE ONE ANSWER IN EACH ROW.]

G5
G5
G6

	YES	NO	DK
a. Have any of your colleagues modified the content of a course or laboratory?	1	0	9
b. Have any of your colleagues developed a new course or laboratory?	1	0	9
c. Have any of your colleagues attended any UFE workshops?	1	0	9
d. Have any of your colleagues made any other changes? (specify) _____	1	0	9

SECTION C. BARRIERS TO IMPLEMENTATION

IF R DID NOT DO ANYTHING IN HIS/HER COURSES (NONE OF B4 ANSWERS = 1), SKIP TO C2. OTHERWISE ASK C1.

Explanatory

- C1. We're interested knowing whether you encountered any barriers to implementing what you learned at the UFE workshop. In answering, please include any type of barrier you may have experienced. For instance, barriers might include that you have not taught any courses that relate to the workshop since your participation, that heavy teaching demands have not allowed you to complete revisions of a course, or that you were not able to obtain equipment you needed. Did you encounter any barriers to implementing what you learned at the UFE workshop? [CIRCLE ONE ANSWER.]

0 No

1 Yes →

C1a. Please tell me about these barriers.

Explanatory

- C2. When you attended the UFE workshop, did you intend to develop any new courses or modify any existing courses? [CIRCLE ONE ANSWER.]

0 No →

C2a. What were your principal reasons for attending the workshop?

1 Yes →

C2b. Can you tell me the reasons you did not do this after the workshop?

SECTION D. DEMOGRAPHIC INFORMATION

- D1. At the time you participated in the UFE project, how many years had you been on the faculty of the institution where you were teaching at that time? _____years
- D2. Which of the following best describes the college/university where you were employed when you attended the UFE project? [READ LIST. CIRCLE ONE ANSWER.]
- 1 Two-year college
 - 2 Four year college
 - 3 Comprehensive university
 - 4 Doctoral institution
 - 5 Other (specify) _____
- D3. Was the institution where you were employed when you participated in the UFE project a tribal college or an historical black college or university? [CIRCLE ONE ANSWER.]
- 1 Tribal college
 - 2 Historical black college or university
 - 3 None of the above
- D3. What was your tenure status at the time you participated in the UFE project? [CIRCLE ONE ANSWER.]
- 1 Not applicable: no tenure system at college/university
 - 2 Not applicable: no tenure system for my position
 - 3 Not on tenure track
 - 4 On tenure track but not tenured
 - 5 Tenured
- D4. Which of the following best describes your academic rank at your college/university? [CIRCLE ONE ANSWER.]
- 1 Not applicable: no ranks system at college/university
 - 2 Not applicable: no ranks for my position
 - 3 Professor
 - 4 Associate Professor
 - 5 Assistant Professor
 - 6 Instructor
 - 7 Lecturer
 - 8 Other (Specify) _____

D5. What discipline (that is, major field) were you teaching at your institution when you attended the faculty project? [INTV: CIRCLE ALL DISCIPLINES GIVEN BY R; PROMPT AS NECESSARY]

- 1 Astronomy
- 2 Chemistry
- 3 Computer Science
- 4 Engineering
- 5 Geosciences
- 6 Life Sciences
- 7 Mathematics
- 8 Physics
- 9 Social Science
- 10 Non-SMET discipline

D6. INTV: IS R MALE OR FEMALE? [CIRCLE ONE ANSWER]

- 1 Male
- 2 Female

D7. What is your date of birth? Month_____ Day_____ Year_____

D7. Are you Hispanic or Latino or NOT Hispanic or Latino? [CIRCLE ONE ANSWER.]

- 1 Hispanic or Latino
- 0 Not Hispanic or Latino
- 9 DK or Refused

D8. I'm going to read a list of race categories. Please choose one or more categories that best indicate you race. (INT: READ LIST. CIRCLE ALL THAT APPLY)

(9 REFUSED)

- 1 American Indian or Alaska Native
- 2 Asian
- 3 Black or African American
- 4 Native Hawaiian
- 5 Native Hawaiian or Other Pacific Islander
- 6 White

D9. What was your citizenship when you participated in the UFE project? Were you a U.S. Citizen or national, a permanent resident, or another type of non-US Citizen (that is, a temporary resident)? [CIRCLE ONE ANSWER.]

- 1 U.S. Citizen or national
- 2 Permanent resident
- 3 Other non-U.S. Citizen (that is, temporary resident)
- 9 Refused

D10. Do you have a hearing impairment, visual impairment, a mobility/orthopedic impairment, and/or some other type of disability? [CIRCLE ALL THAT APPLY.]

- 1 Hearing impairment
- 2 Visual impairment
- 3 Mobility/Orthopedic Impairment
- 4 Other (specify) _____
- 5 None
- 9 Refused

INTV Those are all of my questions. Would you like to add any other comments regarding your experiences at the UFE workshop or the impact of the UFE program on your teaching or your students' learning?

INTV: END INTERVIEW BY SAYING: Thank you very much for completing this interview. DESCRIBE WHERE STUDY FINDINGS WILL BE POSTED.