

Supplemental Material

CBE—Life Sciences Education

Cameron *et al.*

Scientific Communication & Mentoring Survey for TRAINEES

ELIGIBILITY QUESTIONS:

1. Are you a doctoral student OR postdoctoral fellow with research as your primary focus in training (not clinical practice)?
 - a. Yes
 - b. No → INELIGIBLE

2. Are you over 18 years of age?
 - a. Yes
 - b. No → INELIGIBLE

3. Gender:
 - a. M
 - b. F

4. Are you Hispanic/Latino?
 - a. Yes
 - b. No

5. Regardless of your answer above, how would you describe your race/ethnicity?
 - a. American Indian or Alaska Native (including all Original Peoples of the Americas)
 - b. Asian-American (including Indian subcontinent and Philippines)
 - c. Black or African-American (including Africa and the Caribbean)
 - d. Native Hawaiian or other Pacific Islander
 - e. White
 - f. Other
 - g. More than one race

INFORMED CONSENT STATEMENT

Description of Study

The goal of this study is to learn how trainees develop skills in scientific communication. Mastery of written and oral communication skills is important for the career development of research trainees. Such skills include scientific writing, construction of manuscripts for publication, and oral communication skills, both rehearsed and unrehearsed. There are few resources and tools currently available to help trainees improve these skills. We want to learn more about the factors that may help or hinder the mastery of written and oral communication skills by research trainees.

I have read the description of the study, and I have decided to participate in the research project described here. I understand that I may refuse to answer any (or all) of the questions at this or any other time. I

understand that there is a possibility that I might be contacted in the future about this, but that I am free to refuse any further participation if I wish.

During the course of this study, the research team at The University of Texas MD Anderson Cancer Center (MD Anderson) will be collecting information about me that they may share with study monitors who check the accuracy of the information, individuals who put all the study information together in report form, and/or research collaborators from other institutions. By answering the questions, I am providing authorization for the research team to use and share my information at any time. If I do not want to authorize the use and disclosure of my information, I may choose not to answer these questions. There is no expiration date for the use of this information as stated in this authorization.

I may withdraw my authorization at any time, in writing, if my information can be used to identify me. For information on the Notice of Privacy Practices, please call 713-792-2933.

_____ INITIAL OR CHECK BOX

I. Personal Information

Please answer the following questions. If you are unsure of an answer, give your best estimate.

1. Age: _____

2. How many years have you lived in the US?
 - a. Over 15 years
 - b. 11-15 years
 - c. 6-10 years
 - d. 3-5 years
 - e. Less than 3 years

3. What country did you grow up in? _____

4. What is/was the discipline of your doctoral program? (microbiology, epidemiology, immunology, clinical psychology, etc.) _____

5. What is your current academic status?
 - a. PhD program
 - b. Postdoctoral fellowship
 - c. Other: _____

6. How long have you been in *your current* status?
 - a. Less than 1 year
 - b. 1 year
 - c. 2 years
 - d. 3 years
 - e. 4 years
 - f. 5 years
 - g. 6 years
 - h. More than 6 years

7. How much longer do you anticipate being in your current status? _____ Years

8. What is your highest completed level of training?

- a. Bachelor's degree or equivalent
- b. Master's degree or equivalent
- c. PhD
- d. MD
- e. Other: _____

9. How long have you worked with your current primary mentor (your assigned faculty PI)?

- a. 6 months or less
- b. 6-12 months
- c. 1-2 years
- d. 3-4 years
- e. Longer than 4 years

10. What is the academic rank of your current primary mentor?

- a. Assistant professor
- b. Associate professor
- c. Full professor
- d. I don't know
- e. Other

11. What is your mentor's primary language? _____

12. Do you and your mentor communicate regularly in a language other than English?

- a. Yes
- b. No

13. Rate the level of your current primary mentor's previous experience with mentoring doctoral students (directing dissertations):

- a. None
- b. Limited
- c. Some
- d. Extensive
- e. I don't know

14. Rate the level of your current primary mentor's previous experience with mentoring postdoctoral fellows:

- a. None
- b. Limited
- c. Some
- d. Extensive
- e. I don't know

15. Is your primary language English?

Yes (**If yes, skip to #16**)

No

- a. What is your primary language: _____
 - i. Do you speak this language at work?
 - A. Never
 - B. Not often
 - C. Often
 - D. Always
 - ii. Do you speak this language at home?
 - A. Never
 - B. Not often
 - C. Often
 - D. Always
 - iii. Do you think in this language?
 - A. Never
 - B. Not often
 - C. Often
 - D. Always
- b. Do you speak English at work?
 - A. Never
 - B. Not often
 - C. Often
 - D. Always
- c. Do you speak English at home?
 - A. Never
 - B. Not often
 - C. Often
 - D. Always

- d. Do you think in English?
 - A. Never
 - B. Not often
 - C. Often
 - D. Always
- e. Did you speak English before the age of 14?
 - A. Yes
 - B. No

16. If English is your primary language, would you say that you were raised speaking a regional or social dialect of English that is not typically used in the professional/academic setting?

Yes, I was

No, I was not

English is not my primary language

- a. If yes, describe (i.e, southern rural English, heavily accented dialect of a particular city, dialect or vernacular specific to an ethnic group): _____

Comments: _____

17. Thinking of your mother or the woman who raised you (stepmother, grandmother, etc.), is or was she Hispanic?

- a. Yes
- b. No
- c. Does not apply; was not raised with a female parent or guardian (skip to 20)

18. What is her race/ethnicity?

- a. American Indian or Alaska Native (including all Original Peoples of the Americas)
- b. Asian-American (including Indian subcontinent and Philippines)
- c. Black or African-American (including Africa and the Caribbean)
- d. Native Hawaiian or other Pacific Islander
- e. White
- f. Other
- g. More than one race

19. Highest educational level attained by your mother or the woman who raised you:

- a. High school diploma or less
- b. Some college
- c. College degree
- d. Advanced or professional degree

20. Thinking of your father or the man who raised you (stepfather, grandfather, etc.), is or was he Hispanic?

- a. Yes
- b. No
- c. Does not apply; was not raised with a male parent or guardian (skip to 23)

21. What is his race/ethnicity:

- a. American Indian or Alaska Native (including all Original Peoples of the Americas)
- b. Asian-American (including Indian subcontinent and Philippines)
- c. Black or African-American (including Africa and the Caribbean)
- d. Native Hawaiian or other Pacific Islander
- e. White
- f. Other
- g. More than one race

22. Highest educational level attained by your father or the man who raised you:

- a. High school diploma or less
- b. Some college
- c. College degree
- d. Advanced or professional degree

23. What, if any, training have you had in scientific communication? Select all that apply.

- a. None
- b. For-credit courses in writing
- c. Short workshops in public speaking
- d. Short writing workshops
- e. Individualized help from a public speaking expert
- f. Individualized help from a writing expert
- g. Other: _____

24. Have you ever written a scientific abstract? Yes No

25. Have you ever written a section of a research article intended for publication? Yes No

26. Have you ever written a full draft of a research article intended for publication? Yes No

27. Have you ever presented at a journal club meeting? Yes No

28. Have you ever created a scientific research poster? Yes No

29. Have you ever presented a scientific research poster? Yes No

30. Have you ever given an oral presentation at a scientific meeting (include panel presentation or full individual presentation)? Yes No

II. Self-Efficacy for Scientific Communication

| | |
|--|--|
| <i>Please rate your degree of confidence, even if you have never done it yet, in your ability to:</i> | 1 No confidence 2 Small amount of confidence 3 Moderate amount of confidence 4 A lot of confidence 5 Complete confidence |
| <u>GENERAL SCIENTIFIC COMMUNICATION QUESTIONS</u> | |
| 1. Excel in scientific writing tasks, e.g., abstracts, manuscripts (i.e., your writing is usually accepted by your mentor with few corrections). | 1 2 3 4 5 |
| 2. Deal with a lack of mentor support in scientific writing. | 1 2 3 4 5 |
| 3. Deal with fear of disappointing your mentor. | 1 2 3 4 5 |
| 4. Obtain emotional support and encouragement from friends and family when you feel discouraged about your written or oral communication skills. | 1 2 3 4 5 |
| 5. Overcome procrastination, e.g., delaying working on writing assignments or preparing oral presentations when I should be working on them. | 1 2 3 4 5 |
| <u>WRITING QUESTIONS</u> | |
| 6. Complete a writing task in the time allowed. | 1 2 3 4 5 |
| 7. Write and submit an abstract to a scientific meeting. | 1 2 3 4 5 |
| 8. Write a first draft by yourself of a manuscript intended for publication. | 1 2 3 4 5 |
| 9. Write using correct grammar. | 1 2 3 4 5 |
| 10. Manage any anxiety you may have about your writing ability. | 1 2 3 4 5 |
| 11. Use the expected scientific style when writing. | 1 2 3 4 5 |
| 12. Continue to revise a manuscript multiple times after receiving negative feedback from your mentor or reviewers. | 1 2 3 4 5 |
| 13. Need only minimal help because my writing skills are strong enough. | 1 2 3 4 5 |

| | |
|--|---|
| <p><i>Please rate your degree of confidence, even if you have never done it yet, in your ability to:</i></p> | <p>1 No confidence 2 Small amount of confidence 3 Moderate amount of confidence 4 A lot of confidence 5 Complete confidence</p> |
| <p><u>PRESENTING QUESTIONS</u></p> | |
| <p>14. Excel in giving scientific presentations (i.e., you usually receive high praise for your presentations from your mentor or the audience).</p> | <p>1 2 3 4 5</p> |
| <p>15. Give a scientific talk to a lay audience (e.g. high school students, cancer patients).</p> | <p>1 2 3 4 5</p> |
| <p>16. Give an oral presentation at a scientific meeting.</p> | <p>1 2 3 4 5</p> |
| <p>17. Require little to no assistance with my speaking and presenting skills.</p> | <p>1 2 3 4 5</p> |
| <p><u>SPEAKING QUESTIONS</u></p> | |
| <p>18. Defend your point of view convincingly in a scientific discussion, in spite of a negative response from others</p> | <p>1 2 3 4 5</p> |
| <p>19. Effectively answer questions from the audience at a scientific meeting.</p> | <p>1 2 3 4 5</p> |
| <p>20. Speak using correct grammar without rehearsing.</p> | <p>1 2 3 4 5</p> |
| <p>21. Manage worries you may have about your pronunciation, accent, vocabulary, grammar, or style of speaking.</p> | <p>1 2 3 4 5</p> |
| <p>22. Ask a question or add a comment during a meeting or discussion in your own lab or research group.</p> | <p>1 2 3 4 5</p> |
| <p>23. Ask a question in front of the audience after a presentation at a national scientific meeting.</p> | <p>1 2 3 4 5</p> |
| <p>24. Use the expected scientific style when speaking.</p> | <p>1 2 3 4 5</p> |
| <p>25. Excel in making contributions to scientific discussions with colleagues (i.e., you are active in most discussions and your contributions are persuasive to others).</p> | <p>1 2 3 4 5</p> |
| <p>26. Handle any fears you may have about presenting your work orally.</p> | <p>1 2 3 4 5</p> |
| <p>27. Introduce yourself and your research concisely and effectively to other professionals.</p> | <p>1 2 3 4 5</p> |

III. Anticipated Outcomes

Please rate how strongly you agree or disagree with the following statements regarding outcomes that you believe will result from excelling in scientific writing and speaking.

| My work to achieve high performance in scientific writing and speaking will... | 1 Strongly Disagree 2 Disagree 3 Neither Disagree nor Agree 4 Agree 5 Strongly Agree |
|---|--|
| 1. Allow me to obtain a highly desirable academic faculty position. | 1 2 3 4 5 |
| 2. Make me feel good about myself. | 1 2 3 4 5 |
| 3. Cause me to lose sleep. | 1 2 3 4 5 |
| 4. Improve my mood. | 1 2 3 4 5 |
| 5. Lead to chronic stress, anxiety, and worry in my life. | 1 2 3 4 5 |
| 6. Be necessary for me to be recognized as an expert in my research area. | 1 2 3 4 5 |
| 7. Cause my physical health to become poor. | 1 2 3 4 5 |
| 8. Inspire me to do great work. | 1 2 3 4 5 |
| 9. Be critically important for me to become a successful independent investigator. | 1 2 3 4 5 |
| 10. Make me feel confident and secure about my future career. | 1 2 3 4 5 |
| 11. Make me less patient with others. | 1 2 3 4 5 |
| 12. Be necessary for me to obtain a highly desirable job outside of academics (e.g., industry job). | 1 2 3 4 5 |
| 13. Make me less physically active (e.g., exercise less, sit more). | 1 2 3 4 5 |
| 14. Cause me to be highly critical of myself. | 1 2 3 4 5 |

| My work to achieve high performance in scientific writing and speaking will... | 1 Strongly Disagree 2 Disagree 3 Neither Disagree nor Agree 4 Agree 5 Strongly Agree |
|---|--|
| 15. Deprive me of time with family and friends. | 1 2 3 4 5 |
| 16. Make me more tired. | 1 2 3 4 5 |
| 17. Improve my work endurance and ability to concentrate. | 1 2 3 4 5 |
| 18. Turn me into a workaholic (i.e., someone addicted to work). | 1 2 3 4 5 |
| 19. Make me become angry and frustrated. | 1 2 3 4 5 |
| 20. Energize me. | 1 2 3 4 5 |

IV. Interest in Scientific Writing & Speaking

| | |
|--|---|
| <p>Indicate your degree of interest in performing the following tasks during your <i>current</i> training period (i.e., <i>this</i> PhD program or <i>this</i> postdoc).</p> | <p>1 Strongly Disagree 2 Disagree 3 Neither Disagree nor Agree 4 Agree 5 Strongly Agree</p> |
| <p>A. Writing Tasks – I am interested in:</p> | |
| <p>1. Writing first-author manuscripts for submission to journals.</p> | <p>1 2 3 4 5</p> |
| <p>2. Writing manuscripts with other authors.</p> | <p>1 2 3 4 5</p> |
| <p>3. Writing and submitting abstracts to scientific meetings.</p> | <p>1 2 3 4 5</p> |
| <p>4. Creating a scientific research poster of my work.</p> | <p>1 2 3 4 5</p> |
| <p>B. Speaking Tasks – I am interested in:</p> | |
| <p>1. Giving an impressive oral presentation at a national scientific meeting.</p> | <p>1 2 3 4 5</p> |
| <p>2. Presenting my poster to a seated audience at a scientific meeting.</p> | <p>1 2 3 4 5</p> |
| <p>3. Presenting a summary and leading the discussion of an article for “journal club”.</p> | <p>1 2 3 4 5</p> |
| <p>4. Asking questions of a presenter at a scientific meeting.</p> | <p>1 2 3 4 5</p> |
| <p>5. Actively participating in group scientific discussions.</p> | <p>1 2 3 4 5</p> |
| <p>6. Making an outstanding impression introducing myself and my research to various individuals.</p> | <p>1 2 3 4 5</p> |
| <p>7. Being able to express my ideas eloquently to a variety of audiences.</p> | <p>1 2 3 4 5</p> |
| <p>8. Explaining my poster during a poster session during a scientific meeting.</p> | <p>1 2 3 4 5</p> |

V. Fellowship Goals

| | |
|--|---|
| <p>Indicate your level of intention to complete the following goals during your <i>current</i> training period (i.e., <i>this</i> PhD program or <i>this</i> postdoc).</p> | <p>1 Strongly Disagree 2 Disagree 3 Neither Disagree nor Agree 4 Agree 5 Strongly Agree</p> |
| <p>A. Writing Goals – I intend to:</p> | |
| <p>1. Prepare by myself a full first draft of a first-author manuscript.</p> | <p>1 2 3 4 5</p> |
| <p>2. Prepare by myself an abstract for a scientific meeting.</p> | <p>1 2 3 4 5</p> |
| <p>3. Write a portion of a manuscript with other authors.</p> | <p>1 2 3 4 5</p> |
| <p>4. Create a scientific research poster of my work.</p> | <p>1 2 3 4 5</p> |
| <p>B. Oral Presentation Goals – I intend to:</p> | |
| <p>1. Give a presentation at a national scientific meeting.</p> | <p>1 2 3 4 5</p> |
| <p>2. Give a presentation to my department.</p> | <p>1 2 3 4 5</p> |
| <p>3. Give a “journal club” presentation.</p> | <p>1 2 3 4 5</p> |
| <p>4. Present my poster to a seated audience at a scientific meeting.</p> | <p>1 2 3 4 5</p> |
| <p>C. General Speaking Goals – I intend to:</p> | |
| <p>1. Actively participate in a lab or research team meeting.</p> | <p>1 2 3 4 5</p> |
| <p>2. Ask a speaker a question during their presentation at my institution or at a scientific meeting.</p> | <p>1 2 3 4 5</p> |
| <p>3. Explain my research to a group of experts.</p> | <p>1 2 3 4 5</p> |
| <p>4. Explain my research to a lay audience (i.e., non-expert audience).</p> | <p>1 2 3 4 5</p> |

VI. Benefits & Costs of Mentor-Trainee Relationship - General

| Thinking of your current primary mentor, please rate your agreement with the following statements regarding the costs and benefits of being in a mentoring relationship. | 1 Strongly Disagree 2 Disagree 3 Neither Disagree nor Agree 4 Agree 5 Strongly Agree |
|--|--|
| 1. It enhances my present or future reputation in the field. | 1 2 3 4 5 |
| 2. It focuses only on projects of benefit to my mentor. | 1 2 3 4 5 |
| 3. I receive poor or irrelevant advice and guidance. | 1 2 3 4 5 |
| 4. It helps me transition to the next career stage. | 1 2 3 4 5 |
| 5. It drains too much time away from other work I have to do. | 1 2 3 4 5 |
| 6. I receive a strong letter of support or recommendation. | 1 2 3 4 5 |
| 7. It limits rather than enhances my development. | 1 2 3 4 5 |
| 8. Interactions with my mentor are more trouble than they are worth. | 1 2 3 4 5 |
| 9. It helps me develop strong writing skills. | 1 2 3 4 5 |
| 10. The mentoring relationship is an energy drain. | 1 2 3 4 5 |
| 11. I can't leave the lab or office to attend professional activities (e.g., seminars, workshops, guest speakers). | 1 2 3 4 5 |
| 12. It helps me develop strong speaking/presenting skills. | 1 2 3 4 5 |
| 13. It inhibits me from developing my own professional style. | 1 2 3 4 5 |
| 14. It enhances my confidence as a scientist. | 1 2 3 4 5 |
| 15. It forces me to develop a narrow, limited view of the field. | 1 2 3 4 5 |
| 16. My mentor sponsors me to attend professional development activities (e.g., public speaking, time management). | 1 2 3 4 5 |
| 17. It reduces my confidence and increases fear of failure. | 1 2 3 4 5 |

VII. General Mentoring Practices

| <i>Thinking of your CURRENT PRIMARY Mentor, to what extent does he or she engage in the following behaviors:</i> | 1 Never 2 Rarely 3 Sometimes 4 Often 5 Always |
|---|---|
| 1. Introduces me to important people in the field. | 1 2 3 4 5 |
| 2. Successfully addresses diversity issues. | 1 2 3 4 5 |
| 3. Demonstrates respect for me as an individual. | 1 2 3 4 5 |
| 4. Considers how his/her own values might impact me. | 1 2 3 4 5 |
| 5. Gives me suggestions on career advancement and planning. | 1 2 3 4 5 |
| 6. Encourages me to try new ways of doing things. | 1 2 3 4 5 |
| 7. Helps me develop strategies to advance research productivity. | 1 2 3 4 5 |
| 8. Provides me with especially challenging assignments to strengthen my skills. | 1 2 3 4 5 |
| 9. Serves as a good example for work/life balance. | 1 2 3 4 5 |
| 10. Considers his/her own cultural background and mine during mentoring interactions | 1 2 3 4 5 |
| 11. Provides me with adequate knowledge and training on the academic/scientific aspects of conducting research. | 1 2 3 4 5 |
| 12. Discusses my concerns regarding such issues as feelings of competence, commitment to advancement, relationships with peers and superiors, or work/family conflicts. | 1 2 3 4 5 |
| 13. Shares personal experiences as an alternative perspective to problems I may have. | 1 2 3 4 5 |
| 14. Gives me suggestions and instruction regarding technical skills (e.g., statistical, computer, lab, data management). | 1 2 3 4 5 |
| 15. Models ethical research practices. | 1 2 3 4 5 |
| 16. Demonstrates his/her value and respect for cultural differences. | 1 2 3 4 5 |
| 17. Pays for training in research methods if I need it. | 1 2 3 4 5 |
| 18. Helps me develop strategies for developing resilience (i.e., the ability to recover from disappointments or problems). | 1 2 3 4 5 |

VIII. Mentoring Practices – Specific to Scientific Communication

| <i>Thinking of your CURRENT PRIMARY Mentor, to what extent does he or she engage in the following behaviors:</i> | 1 Never 2 Rarely 3 Sometimes 4 Often 5 Always |
|---|---|
| <u>GENERAL SCIENTIFIC COMMUNICATION QUESTIONS</u> | |
| 1. Demonstrates professional integrity in scientific communications (e.g., avoided plagiarism). | 1 2 3 4 5 |
| 2. Provides articles, books, websites, educational CDs, or other materials to me for skill development in scientific communication. | 1 2 3 4 5 |
| 3. Motivates me to improve in writing and speaking. | 1 2 3 4 5 |
| 4. Answers my questions about writing and speaking satisfactorily (e.g., timely response, clear & comprehensive). | 1 2 3 4 5 |
| 5. Challenges me to extend their abilities in writing and speaking by doing more on my own. | 1 2 3 4 5 |
| 6. Provides me with specific goals in writing and speaking. | 1 2 3 4 5 |
| 7. Allows me time to improve writing and speaking skills (e.g., time away from the lab to take a course). | 1 2 3 4 5 |
| 8. Demonstrates excellence in their own scientific writing and knowledge. | 1 2 3 4 5 |
| 9. Encourages me to participate in seminars, workshops or other activities to improve scientific communication skills. | 1 2 3 4 5 |
| 10. Pays or offer to pay for me to get help improving skills in scientific communication. | 1 2 3 4 5 |
| 11. Shows sensitivity to any fears and shortcomings I may have regarding writing and speaking. | 1 2 3 4 5 |
| <u>WRITING QUESTIONS</u> | |
| 12. Gives me confidence regarding my skills in scientific writing. | 1 2 3 4 5 |
| 13. Provides constructive and useful critiques of my writing. | 1 2 3 4 5 |
| 14. Rewrites entire sections of my writing projects. | 1 2 3 4 5 |

| <i>Thinking of your CURRENT PRIMARY Mentor, to what extent does he or she engage in the following behaviors:</i> | 1 Never 2 Rarely 3 Sometimes 4 Often 5 Always |
|---|---|
| 15. Accurately assesses my abilities related to writing. | 1 2 3 4 5 |
| 16. Provides me with access to an editor, writing teacher, or other writing coach. | 1 2 3 4 5 |
| 17. Helps me manage my time better for writing productivity. | 1 2 3 4 5 |
| 18. Gives me writing examples of high quality products to use as models (e.g., well-written article, research abstract, poster, grant application). | 1 2 3 4 5 |
| <u>PRESENTING QUESTIONS</u> | |
| 19. Sets aside time to rehearse my oral presentations. | 1 2 3 4 5 |
| 20. Accurately assesses my abilities related to oral presentations. | 1 2 3 4 5 |
| 21. Demonstrates superior skill in giving oral presentations and speaking. | 1 2 3 4 5 |
| 22. Helps me plan my oral presentations. | 1 2 3 4 5 |
| <u>SPEAKING QUESTIONS</u> | |
| 23. Gives me useful feedback on general speaking skills (e.g. grammar, vocabulary, pronunciation). | 1 2 3 4 5 |
| 24. Corrects my language during discussions or conversation. | 1 2 3 4 5 |
| 25. Gives me confidence regarding my ability to participate actively in scientific discussions. | 1 2 3 4 5 |
| 26. Accurately assesses my abilities related to general speaking (e.g., grammar, vocabulary, pronunciation). | 1 2 3 4 5 |

IX. General Mentoring Style

| <p><i>Please indicate your agreement with the following statements about your primary mentor:</i></p> <p><i>My primary mentor:</i></p> | <p>1 Strongly Disagree 2 Disagree 3 Neither Disagree nor Agree 4 Agree 5 Strongly Agree</p> |
|--|---|
| 1. Has established routines/rules for me. | 1 2 3 4 5 |
| 2. Does not mind if I drop by his/her office without making an appointment or checking with them first. | 1 2 3 4 5 |
| 3. Allows me to work at my own pace. | 1 2 3 4 5 |
| 4. Closely monitors me and my work. | 1 2 3 4 5 |
| 5. Lets me know that he/she is open to my viewpoints. | 1 2 3 4 5 |
| 6. Persists in working with me, even if I learn slowly or make mistakes. | 1 2 3 4 5 |
| 7. Demands high quality in my research performance. | 1 2 3 4 5 |
| 8. Actively works to create a good relationship with me. | 1 2 3 4 5 |
| 9. Insists that I get work done in a timely manner. | 1 2 3 4 5 |
| 10. Allows me to incorporate my research ideas and interests into his/her research activities. | 1 2 3 4 5 |
| 11. Expects me to ask for help if I need it. | 1 2 3 4 5 |
| 12. Withdraws support and praise for me, when he/she thinks I don't try hard enough. | 1 2 3 4 5 |
| 13. Expects updates from me on projects and activities, so he/she does not have to ask for them. | 1 2 3 4 5 |
| 14. Adjusts his/her training strategies to my individual needs. | 1 2 3 4 5 |
| 15. Expects me to pursue knowledge and training on my own. | 1 2 3 4 5 |

| <p><i>Please indicate your agreement with the following statements about your primary mentor:</i></p> <p><i>My primary mentor:</i></p> | <p>1 Strongly Disagree 2 Disagree 3 Neither Disagree nor Agree 4 Agree 5 Strongly Agree</p> |
|--|---|
| 16. Shows me that he/she cares about me not only when it comes to work. | 1 2 3 4 5 |
| 17. Often suggests resources for helping me with skill development (lab skills, software, writing and speaking, etc.). | 1 2 3 4 5 |
| 18. Has low tolerance if I do not stay on task. | 1 2 3 4 5 |
| 19. Addresses me directly about academic or research problems I might have. | 1 2 3 4 5 |
| 20. Has low tolerance if I constantly disagree with his/her suggestions. | 1 2 3 4 5 |
| 21. Often says encouraging words to me. | 1 2 3 4 5 |

X. Mentoring Style - Specific to Scientific Communication

| | |
|--|---|
| <p><i>Please indicate your agreement with the following statements about your primary mentor:</i></p> <p><i>My primary mentor:</i></p> | <p>1 Strongly Disagree 2 Disagree 3 Neither Disagree nor Agree 4 Agree 5 Strongly Agree</p> |
| <p><u>GENERAL SCIENTIFIC COMMUNICATION QUESTIONS</u></p> | |
| <p>1. Often suggests appropriate resources for improving my writing and speaking skills</p> | <p>1 2 3 4 5</p> |
| <p>2. Is consistently available to discuss scientific writing or oral presentation issues.</p> | <p>1 2 3 4 5</p> |
| <p><u>WRITING QUESTIONS</u></p> | |
| <p>3. Expects a quick turnaround on important written products.</p> | <p>1 2 3 4 5</p> |
| <p>4. Adjusts his/her writing training strategies to my individual needs.</p> | <p>1 2 3 4 5</p> |
| <p>5. Often praises me on my writing ability and performance.</p> | <p>1 2 3 4 5</p> |
| <p>6. Structures writing assignments so I know what I am expected to accomplish.</p> | <p>1 2 3 4 5</p> |
| <p>7. Persists in working with me, even if I write slowly and poorly.</p> | <p>1 2 3 4 5</p> |
| <p>8. Withdraws support and praise for me, if I do not satisfactorily improve in my writing.</p> | <p>1 2 3 4 5</p> |
| <p>9. Expects me to write clear, high quality papers and abstracts.</p> | <p>1 2 3 4 5</p> |
| <p>10. Closely monitors my writing.</p> | <p>1 2 3 4 5</p> |
| <p>11. Expects me to become a productive, respected writer.</p> | <p>1 2 3 4 5</p> |
| <p>12. Confronts me about writing problems I may have.</p> | <p>1 2 3 4 5</p> |
| <p>13. Spends time going over his/her comments and edits to make sure that I understand them.</p> | <p>1 2 3 4 5</p> |

| | |
|--|---|
| <p><i>Please indicate your agreement with the following statements about your primary mentor:</i></p> <p><i>My primary mentor:</i></p> | <p>1 Strongly Disagree 2 Disagree 3 Neither Disagree nor Agree 4 Agree 5 Strongly Agree</p> |
| <p><u>PRESENTING QUESTIONS</u></p> | |
| <p>14. Has low tolerance for me, if I do not give outstanding oral presentations.</p> | <p>1 2 3 4 5</p> |
| <p>15. Gives very thorough feedback on my oral presentations.</p> | <p>1 2 3 4 5</p> |
| <p>16. Often praises me on my oral presentation skills.</p> | <p>1 2 3 4 5</p> |
| <p>17. Patiently continues to work with me, even if my oral skills and presentations are far below the norm.</p> | <p>1 2 3 4 5</p> |
| <p>18. Lets me know immediately when my oral presentations are poor or inadequate.</p> | <p>1 2 3 4 5</p> |
| <p>19. Expects intensive rehearsals for my oral presentations.</p> | <p>1 2 3 4 5</p> |
| <p><u>SPEAKING QUESTIONS</u></p> | |
| <p>20. Withholds encouragement and praise for me, if I show little progress in orally communicating my research.</p> | <p>1 2 3 4 5</p> |
| <p>21. Frequently offers help to me in my speech or pronunciation.</p> | <p>1 2 3 4 5</p> |

XI. Mentor-Trainee Interaction Time

| <i>Please estimate the amount of contact you have interacting with your mentor, in general:</i> | Number |
|---|---|
| 1. Total hours per week you spend having <u>one-on-one</u> interactions together, whether scheduled or spontaneous, long or short. | a. 0 < to < 1 hours b. 1 to 2.9 hours c. 3 to 4.9 hours d. > 5 hours |
| 2. Total hours per week you spend having <u>group</u> meetings together | a. 0 < to < 1 hours b. 1 to 2.9 hours c. 3 to 4.9 hours d. > 5 hours |
| 3. How often do you have one-on-one meetings that are scheduled in advance? | a. Never b. Rarely c. Sometimes d. Frequently e. Always |
| 4. Total MINUTES per DAY you spend <u>emailing</u> with your mentor. | |
| 5. How many <u>total hours per week</u> (including weekends) do you spend working (i.e., total of lab, office, or at home)? | |
| 6. I work more hours per week than my mentor expects. | a. Strongly Agree b. Agree c. Neither Agree nor Disagree d. Disagree e. Strongly Disagree |

Comments: _____

XII. Trainee Behaviors

| <p><i>Please rate how strongly you agree or disagree with the following statements (Provide only one answer or rating).</i></p> | <p>1 Never 2 Rarely 3 Sometimes 4 Often 5 Always</p> |
|---|--|
| <p>1. If my mentor edits my writing drafts, I accept all of their edits without question.</p> | <p>1 2 3 4 5</p> <p><input type="checkbox"/> My mentor doesn't edit my writing.</p> |
| <p>2. If my mentor advises me to take classes in writing, I take classes in writing.</p> | <p>1 2 3 4 5</p> <p><input type="checkbox"/> My mentor doesn't advise me to take writing classes</p> |
| <p>3. If my mentor asks me to rehearse my presentation, I do.</p> | <p>1 2 3 4 5</p> <p><input type="checkbox"/> My mentor doesn't ask me to rehearse my presentations with him/her.</p> |
| <p>4. If my mentor recommends that I rehearse my presentation with other people, I always follow that advice.</p> | <p>1 2 3 4 5</p> <p><input type="checkbox"/> My mentor doesn't ask me to rehearse my presentations with others.</p> |
| <p>5. If my mentor recommends that I take English classes, I definitely do that.</p> | <p>1 2 3 4 5</p> <p><input type="checkbox"/> My mentor doesn't recommend that I take English classes.</p> |
| <p>6. I seek out my mentor's advice on my writing at all times and try to learn from their advice.</p> | <p>1 2 3 4 5</p> <p><input type="checkbox"/> My mentor doesn't give advice on writing.</p> |
| <p>7. If my mentor makes suggestions regarding my pronunciation, I follow their advice to work hard on my pronunciation.</p> | <p>1 2 3 4 5</p> <p><input type="checkbox"/> My mentor doesn't give me advice about my pronunciation.</p> |
| <p>8. If my mentor makes suggestions regarding my grammar, spelling, and any other mechanics of writing or speaking, I follow my mentor's advice.</p> | <p>1 2 3 4 5</p> <p><input type="checkbox"/> My mentor doesn't give me advice about my grammar, spelling, etc.</p> |

XIII. Performance Outcomes - Number of Writing and Oral Presentation Tasks Completed by Trainee

| Thinking about your <i>current</i> training period (i.e., <i>this</i> PhD program or <i>this</i> postdoc), indicate the number of writing and speaking tasks you have completed. If you are unsure, provide your best estimate. | Number completed |
|---|------------------|
| 1. Prepared by myself a full first draft of a first-author manuscript (does not have to have been submitted) | |
| 2. Prepared by myself an abstract for a scientific meeting (does not have to have been submitted) | |
| 3. Written a portion of a manuscript with other authors (does not have to have been submitted) | |
| 4. Given a presentation at a national scientific meeting | |
| 5. Given a presentation within my department | |
| 6. Given a “journal club” presentation | |
| 7. Actively participated in a lab or research team meeting | |
| 8. Asked a speaker a question during their presentation at my institution or at a scientific meeting | |
| 9. Explained my research to a group of experts | |
| 10. Explained my research to a lay audience (i.e., non-expert audience) | |
| 11. Presented my poster formally to a seated audience at a scientific meeting | |
| 12. Explained my poster informally at a scientific meeting | |

XIV. Intention

| Please rate your intentions regarding your professional career plans, as of today: | 1 Strongly Disagree 2 Disagree 3 Neither Disagree nor Agree 4 Agree 5 Strongly Agree |
|--|--|
| 1. I intend to pursue the next-step position in research (e.g., post-doc, junior faculty position). | 1 2 3 4 5 |
| 2. I intend to pursue an academic, research career as a Principal Investigator, leading my own research. | 1 2 3 4 5 |
| 3. I intend to pursue an academic, research career, <u>but not</u> as a Principal Investigator. | 1 2 3 4 5 |
| 4. I intend to pursue a research career outside of academics (e.g., industry job). | 1 2 3 4 5 |

XV. Additional Comments – Please include any additional comments you would like to make in the space below: