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**Mentor Training**

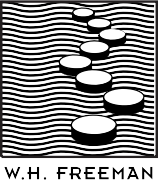
**for Social Science Researchers**

Stephanie A. Robert and Pamela S. Asquith

Adapted from the

**W.H. Freeman *Entering Mentoring* Series**

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**Preface**

**Mentoring: Learned, Not Taught**

**Mentoring principles, not practices, are universal**

Effective mentoring can be learned, but not taught. Most faculty learn to mentor by experimenting and analyzing success and failure, and many say that the process of developing an effective method of mentoring takes years, which is a reflection of the unique qualities, needs, and challenges presented by each mentee. A skilled mentor is guided by a reflective philosophy that directs examination of the mentee’s changing needs and how best to address them, creating fluidity in the relationship. No book can prescribe a single ‘right’ approach, but systematic analysis and discussion of mentoring generates a method for tackling the knotty challenges inherent in the job.

The goal of the curriculum outlined in this book is toaccelerate the process of becoming an effective research mentor.The approach described provides mentors with an intellectual framework, an opportunity to experiment with various methods, and a forum in which to solve mentoring dilemmas with the help of their peers. The mentor training process expands each mentor’s knowledge through secondhand exposure to the experiences of the entire group, enabling participants to engage with as many mentoring experiences as each of them would typically handle in a decade. This process in turn enhances their readiness to work with diverse mentees and anticipate new situations. At the completion of the training, mentors will have articulated their own approach to mentoring and have a toolbox of strategies to draw upon when confronted with mentoring challenges.

Although no one can provide formulas, practices, or behaviors that will work in every mentoring situation, certain principles guide good mentoring. The principles that shape this curriculum are founded on research that has revealed how people learn and has identified the essential elements of environments shown to be most conducive to learning, productivity, and creativity.

**Mentoring diversity, not sameness, is essential**

An individual’s performance in any endeavor is the product of a complex interaction involving innate ability, experience, confidence, education, and the nature of the performance environment. Professional mentors can directly influence their mentees’ performance by creating an environment that is conducive to achieving excellence and that fosters confidence, even in stressful situations. Setbacks are a source of stress that everyone experiences, and the mentee’s response can be modulated by a mentor’s intervention. A mentor’s goal is to promote a mentee’s growth and achievement. People build resilience and self-reliance through positive reinforcement coupled with the expectation of excellence. The most important message a mentor can send is faith in the mentee, a willingness to embrace diversity, and an eagerness to continually improve as a mentor. A theme implicit in this book’s curriculum is that mentors may facilitate growth best when they work collaboratively with their mentees to continually reexamine and adjust to their individual needs. This process, followed by the mentee producing high-quality research, will generate self-sustaining confidence for both.

Another aspect of creating an environment that is conducive to learning is being open to other ways of doing research and seeing the world, including the world of academia. The next generation of researchers will be more diverse than the last. Working with people who are different from ourselves can at times be frustrating and baffling, though also enlightening and deeply rewarding as we learn from one another. When given the opportunity to work with mentees from different backgrounds and with distinct perspectives, who may not share the characteristics we value most in ourselves, we may struggle to imagine them fitting the academic mold. We are often surprised by the success of those who don’t immediately fit in, and find that they may be the very people that bring a key new perspective or insight. Being a good mentor requires accommodating styles that differ from our own, thereby enhancing the diversity and the vibrancy of the scientific community.

*Christine Pfund Jo Handelsman*

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**Foreword**

When we facilitate mentor training with faculty in the social sciences, we often ask participants to think back to when they started their academic careers after they earned their degree (e.g., as a new assistant professor or research scientist). We ask them to raise their hands if they believe they had received strong *research training* by that point. Most of them raise their hands. Then we ask if they had received strong *teaching training* by that point. Fewer raise their hands. Finally, we ask if they had received strong *mentor training* by that point. Either nobody or very few raise their hands. Although few faculty have received any training on mentoring, much of our time as faculty is spent in mentoring roles with a range of students, postdocs, and junior faculty.

This curriculum for social science research mentors is one of a number of curricula adapted from “Mentor Training for Clinical and Translational Researchers” (Pfund et al. 2012. *New York, NY: WH Freeman and Co* pp.1-121) which is part of the *Entering Mentorin*g Series edited by Christine Pfund and Jo Handelsman. The “Mentor Training for Clinical and Translational Researchers” has been tested in a randomized controlled trial, and results demonstrate that improvements in mentoring behaviors and quality were reported by both mentors and mentees in the group that received training as compared to the control (Pfund et al 2014. Training mentors of clinical and translational research scholars: a randomized controlled trial. *Academic Medicine. 89*(5), p.774). We were both trained as facilitators of that curriculum and have come to believe that participating in training on research mentorship can improve both the outcomes and experiences of our mentees, and our own enjoyment and confidence in our roles as mentors. As social scientists ourselves, we believed it could be useful to adapt for the social sciences.

As with other curricular adaptations in the *Entering Mentoring* Series, the approach and core mentoring competencies addressed in the original curriculum are retained in this social science version. The difference is that we have adapted many of the case studies, examples, and discussion questions to be more relevant for the types of issues, challenges, and environments that social science research mentors and mentees face.

In addition to adapting this training to be relevant for social scientists, we also made adaptations that would specifically allow for conversations about how to mentor *interdisciplinary* mentees and about challenges associated with *multiple-mentor* models. The academic world has been changing in a number of ways. Research mentors in the social sciences are increasingly mentoring mentees who may not work exactly in the mentor’s area. Research mentoring in general is also moving away from a model where a student/postdoc/junior faculty has one research mentor to one where a mentee may have multiple mentors. Both of these trends may lead to a new generation of scholars with an array of interdisciplinary skills and competencies. But it also raises challenges in how to effectively mentor in interdisciplinary environments and/or in team mentoring.

We hope you will find that this training is fun and interesting to participate in, and that it leads to positive changes in both the experiences of mentors in their mentoring work, and the outcomes for their mentees.

Stephanie Robert and Pamela Asquith

**Acknowledgements**

The Research Mentor Training Seminar, *Entering Mentoring*, was originally developed by the Wisconsin Program for Scientific Teaching with support from the Howard Hughes Medical Institute Professors Program (PI: Jo Handelsman; Handelsman, J., Pfund, C., Miller Lauffer, S., and Pribbenow, CM. 2005. *Entering Mentoring: A Seminar to Train a New Generation of Scientists*. Madison, WI: University of Wisconsin Press. 141 pp.). The work was adapted for use across the natural and behavioral sciences, engineering, and mathematic disciplines with funding from the National Science Foundation (Grant # 0717731; PI: Christine Pfund) and implemented through the Center for the Integration of Research, Teaching, and Learning (CIRTL), its Delta Program in Research, Teaching, and Learning and the Institute for Biology Education at the University of Wisconsin-Madison. A revised curriculum *Mentor Training for Clinical and Translational Researchers* was adapted under the leadership of Christine Pfund. From this curriculum, three other specialized curricula were adapted for biomedical researchers, clinical and behavioral researchers and community-engaged researchers, respectively with funding from two Administrative Supplements to the UW-Madison Clinical and Translational Science Award NIH/NCATS (Grant# UL1RR025011-03S2; and UL1RR025011-05S1; PI: Marc Drezner). This most recent adaptation *Mentor Training for Social Science Researchers* has been supported by funding from the Robert Wood Johnson Foundation Health & Society Scholars Program at the UW-Madison and the National Research Mentoring Network (U54GM119023).

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**Curriculum Overview**

**Curriculum Overview**

**Content, Audience, Format, Implementation, and Assessment**

**Content**

The content of each session in this curriculum is designed to address the key concerns and challenges identified by research mentors. The topics include:

* Maintaining Effective Communication
* Aligning Expectations
* Addressing Equity and Inclusion
* Promoting Mentee Research Self–Efficacy
* Fostering Independence
* Promoting Professional Development

Each of these topics is critical for mentoring; although these divisions are, at some level, artificial and overlapping, focusing on one topic in each session allows mentors to delve more deeply into each. In addition to general content about research mentoring, all of the case studies and some of the discussion questions draw specific attention to the unique circumstances and challenges related to mentoring scholars working in the diverse areas of social science and interdisciplinary research. Session leaders who use these training materials are encouraged to read through all of the materials ahead of time so they can highlight linkages between topics throughout the training. Additional materials for the topic areas above as well as other topics such as ethics are available at: [http://cimerproject.org/](%20http://cimerproject.org/).

**Audience**

This curriculum was adapted for those who wish to implement mentorship development programs for academic research mentors in the social sciences. While the individual activities included in the curriculum may focus on a specific type of research, or a specific aspect of a mentoring relationship, the curriculum as a whole is designed to include activities relevant to a broad range of mentors across diverse areas of research and varied stages of their mentoring relationships. These curricular materials, as well as others that target the mentors of biomedical researchers, clinical and behavioral researchers and community-engaged researchers, are available at <http://cimerproject.org>.

**Format**

The structure of this research mentor training program is based on the experience of faculty and staff who implemented the *Entering Mentoring* curriculum at the University of Wisconsin-Madison. These facilitators have learned that the best results come from keeping an open discussion format to allow for participants’ diverse experiences to be integrated into the training. Simply asking the mentors a few guiding questions typically leads to vigorous discussion. The case studies and reading materials can provide a tangible starting point, and the mentors often move quickly from the hypothetical examples to their own experiences with trainees and students. In fact, facilitators are encouraged to use the mentoring situations expressed by participants in place of the provided case studies, when appropriate. The training is most effective with mentors who are currently working with one or more mentees. The short duration of such training intensifies the urgency of dealing successfully with challenges that arise. Likewise, frequent contact with trainees provides mentors opportunities to immediately implement ideas generated by the discussions. You may want to encourage participants to reflect on any changes they have made in their mentoring practices at the start of each training session.

**Implementation: Facilitating Research Mentor Training**

Facilitating research mentor training is not the same as teaching it. Your role as facilitator is to enable participants to take ownership of their own learning by helping them engage in self-reflection and shared discovery to maximize learning. Your role in the group is to build a community of mentors learning together toward the common goal of becoming more effective in their mentoring relationships. Your role in the group is to help others to work through their thoughts and ideas; it is not your role to be the expert on mentoring. As a facilitator you may also walk a fine line between facilitator and participant—but remember that group members will look to you for guidance and structure. Your own experiences and ideas should enhance the discussion, but not dominate and become the primary focus of the discussion.

Being an effective facilitator is the key to helping the research mentors meet the learning objectives and become more successful mentors. To assist you in and strengthen your own facilitation abilities, we have included a brief facilitator guide in the next section that contains additional information, tips, and tools for facilitation.

**Implementation: Using this Guidebook to Facilitate Weekly Sessions**

This guidebook contains facilitator instructions and materials for each of the sessions outlined in the sample syllabus. Each session is organized as follows:

1. Introduction

2. Learning objectives

3. “Overview of Activities” table

4. Facilitation guide, including recommended session length, materials needed, objectives in detail, and post-session assignments

5. Activities, case studies, handouts, readings, and mentoring tools

Facilitators should prepare for each session by copying the learning objectives, case studies, worksheets, mentoring tools, and readings for each mentor in the group. Alternatively, all the materials can be copied at the start of the sessions and distributed at the first meeting or posted on a website. The specific themes and objectives for each session are included at the beginning of the materials. Facilitators might consider asking participants to review the themes and learning objectives at the beginning of each session, or to review them after a few weeks to check their progress.

Guiding discussion questions and notes for group facilitators are also included in each session plan. Time estimates for activities and facilitated discussions for each session are indicated in parentheses and can be adjusted at the facilitator’s discretion. The facilitator notes provide directive signposts to support the facilitation process as described below:

ACTIVITY Participants are to engage in some process on their own, in small groups, or as a large group.

TELL Information that follows needs to be shared with the whole group.

ASK A specific question needs to be put to the group.

NOTE Some particular issue or content needs to be emphasized.

DO Action item for facilitator

DISCUSS A broader discussion, usually supported by guiding questions, needs to occur. Sometimes more discussion questions are provided than can reasonably be addressed in the time allotted for the activity or group discussion, but the questions suggested for the case studies in this training are based on the experiences of past facilitators.

**Additional Suggestions for Facilitation and Adaptation**

The training outlined in this guidebook was first implemented in three 3-hour sessions with social science faculty from a range of disciplines (see Sample Agendas of how these sessions can be structured, pp. 141-144 in the Appendix). **Time allotted in the Sample Agenda for a few activities may differ slightly from the curriculum presented here, as it was necessary to build in a 5-10 minute break during each 3-hour session.** The modules can also be combined to fit into one long day or in multiple shorter 1.5-hour sessions. You should use the time estimates as reasonable estimates for the amount of time it takes to complete the activities listed.

Depending on the size of the group participating in the training, you can adapt whether you do small group discussions before processing the discussion as a large group, or have more full-group discussions. With a small training group (less than 15 people), you will always want to do some pairing or small group work, but you can also do more work as a large group, as most will still be able to participate in full group discussions. When working with a large group, however, you will almost always want the group to break into pairs/triads/small groups so that everyone gets to participate. Less time will be spent processing as one large group.

Each section includes additional activities that are not a part of the proposed schedule. You should examine those activities to see if any of them seem more relevant for your group than the core activities built into the proposed schedule. Also, sometimes you will have a group with very experienced mentors and sometimes you will work with new or future mentors. There are a few places in this training where we make recommendations for corresponding modifications. Our training was with more advanced mentors, so you may want to pay attention to our suggested modifications if you work with a group of new or future mentors. In general, you should use more case studies with newer mentors whereas seasoned mentors can call upon their own experiences more readily to provide examples to talk about.

The case studies in this training depict mentees who are at the graduate, postdoctoral, or junior faculty level. You can choose the case studies that best fit your audience of mentors, and/or you can slightly change them to represent the level of mentee that your mentors focus on.

***Assessment of Research Mentor Training***

Following the research mentor training session(s), you might consider asking participants to complete a survey based on their experience. The survey that has been developed for this purpose can be used to collect feedback on the research mentor training sessions themselves, on your skills as a facilitator, and to assess the knowledge and skill gains of your participants upon completion of the training. We recommend using a survey that includes the Mentoring Competency Assessment (MCA), which can be found at <http://cimerproject.org/>.

**Curriculum Outline:**

**Competencies and Learning Objectives**

**Introduction to Mentor Training**

***Learning Objectives for Introduction***

Mentors will have the knowledge and skills to:

1. Learn about other mentors in the group to begin building a learning community
2. Reflect on group dynamics and ways to make the group functional
3. Establish ground rules for participation

**Maintaining Effective Communication**

***Learning Objectives for Communication***

Mentors will have the knowledge and skills to:

1. Provide constructive feedback
2. Communicate effectively across diverse dimensions including various backgrounds, disciplines, generations, ethnicities, positions of power, etc.
3. Identify different communication styles
4. Engage in active listening
5. Use multiple strategies for improving communication (in person, at a distance, across multiple mentors, and within proper personal boundaries)

**Aligning Expectations**

***Learning Objectives for Expectations***

Mentors will have the knowledge and skills to:

1. Effectively establish mutual expectations for the mentoring relationship
2. Clearly communicate expectations for the mentoring relationship
3. Align mentee and mentor expectations
4. Consider how personal and professional differences may influence expectations, including differences across disciplines when working in multidisciplinary teams

**Addressing Equity and Inclusion**

***Learning Objectives for Equity and Inclusion***

Mentors will have the knowledge and skills to:

1. Improve and expand understanding of equity and inclusion, and how diversity influences mentor-mentee interactions
2. Recognize the potential impact that conscious and unconscious assumptions, preconceptions, biases, and prejudices bring to the mentor-mentee relationship and reflect on how to manage them
3. Identify concrete strategies for learning about, recognizing, and addressing issues of equity and inclusion in order to engage in conversations about diversity with mentees and foster a sense of belonging

**Promoting Mentee Research Self-Efficacy**

***Learning Objectives for Self-Efficacy***

Mentors will have the knowledge and skills to:

1. Define and articulate what self-efficacy is and its four sources
2. Identify signs of self-efficacy in relation to research related tasks
3. Articulate their role in fostering mentees’ research self-efficacy
4. Practice strategies for building mentees’ research self-efficacy

**Fostering Independence**

***Learning Objectives for Independence***

Mentors will have the knowledge and skills to:

1. Define independence, its core elements, and how those elements change over the course of a mentoring relationship
2. Employ various strategies to build their mentee confidence, establish trust, and foster independence
3. Identify the benefits and challenges of fostering independence, including the sometimes conflicting goals of fostering independence and achieving grant-funded research objectives

**Promoting Professional Development**

***Learning Objectives for Professional Development***

Mentors will have the knowledge and skills to:

1. Identify the roles mentors play in the overall professional development of their mentees
2. Develop a strategy for guiding professional development using a written

format

1. Initiate and sustain periodic conversations with mentees on professional goals and

career development objectives and strategies

1. Engage in open dialogue on balancing the competing demands, needs,

and interests of mentors and mentees, e.g., research productivity, grant funding, creativity and independence, career preference decisions, non-research activities, personal development, work-family balance etc.

**Articulating Your Mentoring Philosophy and Plan**

***Learning Objectives for Articulating Your Mentoring Philosophy and Plan***

Mentors will have the knowledge and skills to:

1. Reflect on the mentor-training experience
2. Reflect on any behavioral or philosophical changes they intend to make across the mentoring competencies
3. Articulate an approach for working with new mentees in the future

Sample Mentor Training Schedule

*Each session is 3 hours (See Appendix for a more detailed agenda).*It was necessary to build in a 5-10 minute break during each 3-hour session. As noted throughout the curriculum, these can be optional.

|  |  |
| --- | --- |
| **Sessions** | **Topics** |
| **Session 1** | Introductions (45 min)  Maintaining Effective Communication (135 min) |
| **Session 2** | Aligning Expectations (70 min)  Addressing Equity and Inclusion (65 min)  Promoting Mentee Research Self-Efficacy (45 min) |
| **Session 3** | Fostering Independence (60 min)  Promoting Professional Development (85 min)  Articulating Your Mentoring Philosophy and Plan  (30 min)  Workshop Wrap Up (5 min) |

**Introduction to Facilitation**

**Roles of Facilitators**

The following materials were designed to assist you in your role as facilitator of the research mentor training curriculum. Specifically, these materials will help you guide the mentors as they work through their thoughts and ideas and engage in self-reflection and shared discovery. Importantly, your role is not to teach others how to mentor, but rather to guide them**.** As a facilitator, your role is to:

* **Make it safe:** Take time to tell the group members that the research mentor training sessions are a safe place to be honest about their ideas and feelings. Everyone’s ideas are worth hearing.
* **Keep it constructive and positive:** Remind members of your group to keep things positive and constructive. Ask the group how they want to deal with negativity and pointless venting. Remind them the training is about working together to learn, not complaining about the current situation or discounting the ideas of others in the interest of a personal agenda.
* **Make the discussion functional:** At the start of each session, explain the goals of the session to the group. Try to keep the group on task without rushing them. If the conversation begins to move beyond the main topic, bring the discussion back to the main theme of the session.
* **Give members of the group functional roles and responsibilities:** Assign or ask for volunteers to take notes, keep track of time, and report to the larger group at the end of the session. Functional roles help keep participants engaged.
* **Give all participants a voice**: In a group, there are likely to be issues of intimidation and power dynamics that can play out in ways that allow certain members of the group to dominate while others remain silent. At the start of the conversation, mention that the group is mixed by design, and point out that a diversity of perspectives is an essential part of the process. Remind group members to respect all levels of experience. It’s important that everyone’s voice is heard.

**General Notes on Facilitating a Group**

Each group will take on its own feel and personality based on the people in the group, the facilitator’s approach, and a host of external factors beyond your control. It helps if you adopt a no-fault clause stating that if a group is not working well, it is through no fault of a single individual, but rather a combination of circumstances. It’s hard to not take it personally if a group doesn’t function well, but remember, you are just one part of the whole dynamic.

It also helps if you are able to release your expectations for how a meeting or group should go, and instead focus on core aspects of the process. Your role as facilitator is to be intentional and explicit, while remaining flexible and not overly prescriptive. You can only do so much as a facilitator – to a large extent it is up to the participants to take ownership of their own learning especially since this training is designed for adults who have advanced degrees. Individual ownership, self-reflection, and shared discovery and learning will promote the deepest learning for this particular type of program.

As challenging but normal group dynamics surface, the group will look to you to fix problems. But part of your role is to help others see that they are also responsible for fixing problems. You can help them realize this by holding on tightly to the following core ideas of group dynamics (and periodically reminding the team of them):

* Respectful interactions (listening, non-judging, non-dominating, genuine questioning, etc.) are essential.
* Relevant tangents that tie back to a central topic, issue, or question are fine, but don’t let them derail the central purpose of the discussion.
* You need to keep moving ahead, but there is no need to push the schedule if the group needs time to reflect or slow down (if you slow down or skip something, you can anticipate participants will feel they are behind or missing out, so reassure them this is normal and the initial schedule is only a guide and there will be time to revisit topics if needed).
* If you try something and it doesn’t go well, don’t abandon it right away. Step back and think about what went wrong, talk to the group, learn from it, and try it again. It often takes a time or two to get the group warmed up to something new.
* Discomfort and silence are ok, but with a clearly stated context and purpose. Silence may seem like a waste of time in meetings, but it gives people a chance to think, digest, and reflect. Allow for a few silent breaks before, during, and at the end of each meeting.
* Make it easy, rewarding, and fun for people to participate, and encourage others to do the same for each other. Simple things like friendly reminders of meetings; providing coffee, tea, or snacks; and follow-up calls to check in with someone if they miss a meeting all send the message that you care and want to make it easy for individuals to participate.

Adapted from the Creating a Collaborative Learning Guidebook, Center for the Integration of Research, Teaching, and Learning: <http://www.cirtl.net/files/Guidebook_CreatingACollaborativeLearningEnvironment.pdf> (Accessed April 3, 2014)

**Group Dynamics:**

**Suggestions for How to Handle Challenges**

**What do I do when no one talks?**

* Have everyone write an idea or answer to a question on a piece of paper and toss it in the middle of the table. Each participant then draws a piece of paper from the center of the table (excluding their own) and reads it out loud. All ideas are read out loud before discussion begins.
* Have participants discuss a topic in pairs for three to five minutes before reconvening as an entire group
* Ask the group: “This topic seems challenging for us…why do you think that is?”

**What do I do when one person is dominating the conversation?**

* Use a talking stone to guide the discussion. Participants may only talk when holding the stone. Each person in the group is given a chance to speak before anyone else can have a second turn with the stone. Participants may pass if they choose not to talk. Importantly, each person holding the stone should share their own ideas and resist responding to someone else’s ideas. Generally, once everyone has a chance to speak, the group can move into open discussion without the stone.
* Use the Constructive/Destructive Group Behaviors Exercise. Participants choose their most constructive and destructive group behavior from a list (see following page). Each person writes the two behaviors on the back of their table tent. Then participants share their choice with the group and explain why they selected those behaviors. This exercise also helps provide the group with a vocabulary so they may name these behaviors as they later note them in themselves and others. It provides a light hearted and nonthreatening way that they can help each other stay on track.
* Acknowledge the contributions of the person dominating the conversation but then say that you would like to hear another's view or thoughts before moving on. Try to be comfortable with silence until another person speaks up.

**What do I do when the group members direct all their questions and comments to me, instead of their fellow group members?**

* Each time a group member talks to you, move your eye contact to someone else in the group to help the speaker direct their attention elsewhere.
* Ask the participants for help in resolving one of yourmentoring challenges. For example, ask them for advice on how to deal with an apathetic mentee. This helps the group members stop looking to you for the rightanswers and redirects the problem-solving and discussion focus to the entire group.

**What do I do when a certain person never talks?**

* Have a different participant initiate each day’s discussion so that different people have the chance to speak first.
* Assign participants in the group different roles in a scenario or case study and ask them to consider the case from a certain perspective. Ask the participants to discuss the case in the larger group from the various perspectives. For example, some participants could consider the perspective of the mentee, while others consider the perspective of the mentor.
* Try smaller group discussions (two to three participants per group) as individuals may feel more comfortable talking in smaller groups or without certain other individuals present.

**What do I do when the group gets off topic?**

* Have everyone write the ideas they want to share on a given topic for three minutes. This short writing time will help participants collect their ideas and decide what thoughts they would most like to share with the group so they can focus on that point.
* Ask someone to take notes and recap the discussion at the halfway and end points of the session to keep the conversation focused. Remind participants of the day’s topic or a question that we asked.

Adapted from Branchaw, J., Pfund, C., and Rediske, R. 2010. *Entering Research: A Facilitator’s Manual Workshops for Students Beginning Research in Science.* WH Freeman and Company.

**Introduction to Mentor Training**

**Introduction to Mentor Training**

**Introduction**

Establishing group dynamics and laying the ground rules are perhaps two of the most important steps to launch a successful mentor training program. Once established, these parameters help ensure mentors engage in shared learning of ways to become more effective mentors.

**Learning Objectives**

Mentors will have the knowledge and skills to:

1. Learn about other mentors in the group and begin building a learning community
2. Reflect on group dynamics and ways to make the group functional
3. Establish ground rules for participation

**Overview of Activities for Introduction to Mentor Training:** Please note core activities for this introductory session should be chosen by the facilitator from either the list of options provided or their own experience.

|  |  |  |
| --- | --- | --- |
|  | **Learning Objectives** | **Core Activities will be chosen by individual facilitators.** Example activities are included below. |
| **1** | Learn about other mentors in the group and begin building a learning community | Introductory activities (Activity #1)) |
| **2** | Reflect on group dynamics and ways to make the group functional | Building Constructive Group Behaviors (Activity #2) |
| **3** | Establish ground rules for participation | Establish Ground Rules for Participation (Activity #3) |

**Facilitation Guide**

**Recommended Session for Introduction to Mentor Training (45 minutes)**

* **Materials Needed for the Session**
  + Table tents and markers
  + Chalkboard, whiteboard, or flip chart
  + Handouts:
    - Introduction and learning objectives for Introduction to Mentor Training (page 25)
    - Copies of the *Constructive/Destructive Behaviors* list (page 29)
    - Additional materials as needed based on the introductory activities selected (e.g., Visual Explorer)

TELL: Remind participants that they are demonstrating a special commitment to mentoring by taking time from their busy schedules to improve their mentoring skills. Mention that over 90% of prior participants have reported research mentor training to be a valuable use of their time and that they found the time to discuss issues with peers as one of the most valuable aspects of training. Note that while case studies are provided as discussion catalysts throughout the training, participants should always be encouraged to bring their own experiences and challenges to the group for discussion. (see <http://cimerproject.org/#/research/existing-research> for references on the effectiveness of mentor training)

* **Introductions (10 min)**
* TELL: Review the agenda for the day. Review the introduction and learning objectives for the session. Either provide a definition or two about “mentor” and/or “mentoring”, or discuss what mentorship means at the end of Activity #1.
* NOTE: “Advisor” and “advising” are used frequently in the social sciences. It may be helpful to clarify how participants define the role of advisor and how it compares and contrasts with the definition of a research mentor.

Below are two sources that define the characteristics of a mentoring relationship in general; the second speaks specifically to the role of a research mentor.

Mentoring is a **collaborative learning relationship** that proceeds through purposeful stages over time and has the primary goal of helping mentees acquire the essential competencies needed for success in their chosen career (NRMNet.net).

“The best mentors are advisors, coaches, counselors and supporters all at the same time. They are experienced scientists who guide your research, but also challenge you to develop your independence. A good mentor will help you define your research goals, and then support you in your quest to achieve them. He or she will share knowledge, provide encouragement, and hopefully inspire you. In addition to promoting your research, your mentor should help you to develop your career goals and construct a scientific network. Above all, your mentor should be someone you trust to always keep your best interest in mind.”

From: Office of Intramural Training & Education, National Institutes of Health. <https://www.training.nih.gov/mentoring_guidelines>

* **Objective 1: Learn about other mentors in the group (20 min)**

ASK: Invite participants to engage in the activity below, choose an alternative activity from page 30 or use one from your own experience.

**ACTIVITY #1: Visual Explorer\***

Spread thirty or more pictures around the room. Participants choose a visual representation in response to a question or statement, such as “Choose a picture that represents a thought, feeling, or experience you have had around mentoring – positive or negative.” Participants take turns introducing themselves and discussing their picture choice. (~2 min to select, 1.5 min per participant to share.)

* NOTE: In lieu of purchasing the *Visual Explorer*, pictures can be obtained from packets of postcards, pages from a magazine, or printed images from websites. Alternatively, participants can be asked to find an image on their own and bring it into the session. The length of this activity will be based on the number of participants. If you have a large group, you may not have time for everyone to share in the full group. You can consider shorter introductions or introductions just at tables.

**\***Adapted from Paulus, C.J., Horth, D.M. and Drath, W.H. (1999) *Visual Explorer: a tool for making shared sense of complexity. Center for Creative Leadership Press.* <http://www.ccl.org/leadership/index.aspx>.

* **Objective 2: Reflect on group dynamics and ways to make the group functional (10 min)**
  + ACTIVITY #2: Building Constructive Group Dynamics
* ASK: Have each participant choose their single most constructive and destructive group behavior from the list on page 29. Ask participants to write their selections on the back of their table tent. Participants then explain their choices to the larger group.
  + - NOTE: This exercise helps provide the group with a vocabulary so they may name these behaviors as they later observe them in themselves and others. It provides a light-hearted and nonthreatening way that they can help each other stay on track and provides a nice segue to discussing communication.
* **Objective 3: Establish ground rules for participation (5 min)**
  + ACTIVITY #3: Establishing ground rules (5 min)
    - TELL: Supply the participants with ground rules and ask them if they have any others to suggest.
    - Examples of ground rules:
      * Confidentiality
      * Committing to one’s own learning – being open and taking risks
      * Avoiding destructive group behaviors
      * Facilitating the learning of others through constructive group behaviors
      * Participants should arrive on time
      * Facilitators should start and stop on time

**Constructive and Destructive Group Behaviors**

Constructive Group Behaviors

*Cooperating*: Is interested in the views and perspectives of other group members and willing to adapt for the good of the group.

*Clarifying*: Makes issues clear for the group by listening, summarizing, and focusing discussions.

*Inspiring*: Enlivens the group, encourages participation and progress.

*Harmonizing*: Encourages group cohesion and collaboration. For example, uses humor as relief after a particularly difficult discussion.

*Risk Taking*: Is willing to risk possible personal loss or embarrassment for success of the overall group or project.

*Process Checking*: Questions the group on process issues such as agenda, time frames, discussion topics, decision methods, use of information, etc.

Destructive Group Behaviors

*Dominating*: Uses most of the meeting time to express personal views and opinions. Tries to take control by use of power, time, etc.

*Rushing*: Encourages the group to move on before task is complete. Gets tired of listening to others and working with the group.

*Withdrawing*: Removes self from discussions or decision making. Refuses to participate.

*Discounting*: Disregards or minimizes group or individual ideas or suggestions. Severe discounting behavior includes insults, which are often in the form of jokes.

*Digressing*: Rambles, tells stories, and takes group away from primary purpose.

*Blocking*: Impedes group progress by obstructing all ideas and suggestions. "That will never work because…"

Adapted from Brunt (1993). Facilitation Skills for Quality Improvement.

*Quality Enhancement Strategies*. 1008 Fish Hatchery Road. Madison WI 53715

**Alternative Introductory Activities for Objective 1:**

**Ways to Help Participants Get to Know One Another**

**1. Who are You?**

Participants add fun information about themselves to the four corners of their nametags. Some examples include:

Hometown

Favorite food

Favorite TV show

Hobby

Favorite kind of music

Number of people in their family (How each person defines family can be very interesting!)

**2. Interviews**

Participants interview the person next to them and vice versa, and then introduce one another to the entire group.

**3. Truth or Lie?**

Everyone tells two truths and one lie, and then the group guesses the lie for each person.

**4. Significant Mentor**

Participants think of a previous mentor they have had who influenced (positively or negatively) their own research career or mentoring practices. Each person briefly shares one thing they learned from that mentor.

**5. Memorable Moments**

Participants share something memorable about themselves.

**Maintaining Effective Communication**

**Maintaining Effective Communication**

**Introduction**

Good communication is a key element of any relationship and a mentoring relationship is no exception. As research mentors, it is not enough to say that we know good communication when we see it. Rather, it is critical that mentors reflect upon and identify characteristics of effective communication and take time to practice communication skills in the session and with their mentees.

**Learning Objectives**

Mentors will have the knowledge and skills to:

* 1. Provide constructive feedback
  2. Communicate effectively across diverse dimensions including varied backgrounds, disciplines, generations, ethnicities, positions of power, etc.
  3. Identify different communication styles
  4. Engage in active listening
  5. Use multiple strategies for improving communication (in person, at a distance, across multiple mentors, and within proper personal boundaries)

**Overview of Activities for the Communication Session:** Please note that a core activity is listed for each learning objective. We encourage you to engage the mentors in this activity. There is a list of additional activities that can be used if there is extra time in the session or the core activity is not working well for your group.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Learning Objectives** | **Core Activities** | **Additional Activities** |
| **1** | Provide Constructive Feedback | Mentors read and discuss Case #1: *Giving Constructive Feedback* (Activity #1) | Mentors read about interpersonal communication and discuss implications for their practice (Activity #4) |
| **2** | Communicate effectively across diverse dimensions | Mentors continue discussion about Case #1, focusing on the discussion questions #1-4 for Objective #2 | Mentors read and discuss Case #2: *Saying No* (Activity #5) |
| **3** | Identify different communication styles | Mentors take a communication styles test and discuss their results in pairs (Activity #2) | Mentors generate a list of different communication styles and discuss styles they feel most and least comfortable with (Activity #6) |
| **4** | Engage in active listening | Mentors work in groups to share current mentoring challenges and practice active listening (Activity #3) | Mentors role play a scripted conversation between mentor and mentee and practice active listening (Activity #7) |
| **5** | Use multiple strategies for improving communication | Mentors discuss what they learned from Activity #3 and share specific strategies for improving communication between mentors and mentees | Mentors create a list of barriers to good communication with mentees and share strategies for overcoming such barriers (Activity #8) |

**Facilitation Guide**

**Recommended Session on Maintaining Effective Communication (135 minutes)**

**Materials Needed for the Session:**

* + Table tents and markers
  + Chalkboard, whiteboard, or flip chart
  + Handouts:
    - Copies of introduction and learning objectives for *Maintaining Effective Communication* (page 33)
    - Copies of CommunicationCase Study #1: *Giving Constructive Feedback*, and the additional case if desired (pages 38 and 39)
    - Copies of a Communication Styles Test (see page 36)
    - Copies of *Building a Relationship with a Mentee.* (This reading can also be sent to mentors to review in advance.) (pages 41-44)
* **Introduction** **(5 min):** 
  + TELL: Review the introduction and learning objectives for the session.
* **Objectives 1 and 2: Provide constructive feedback and communicate effectively across diverse dimensions** **(30 min)**
  + ACTIVITY #1: Case Study
    - Distribute *Communication* Case #1: *Giving Constructive Feedback*. Introduce the case and either let participants read the case individually for two to three minutes (5 min)
    - (Objective 1) DISCUSS (15 min) with entire group: You may want to record the ideas generated in this discussion on a white board or flip chart. Use the guiding questions following the case study.
    - (Objective 2) DISCUSS (10 min) with the group: You may want to record the ideas generated in this discussion on a white board or flip chart. Guide the discussion using the following questions.

1. Discuss the role of trust in this interaction.
2. How would your own response be affected if your mentee’s cultural background was different from your own (race, ethnicity, national origin, religion, etc.)?
3. How might a difference in gender affect communication in this case?
4. What if English was the mentee’s second language and speaking fluently was a challenge? Would you handle the situation differently? Does it matter that the mentor’s first language is not English?

* **Objective 3: Identifying different communication styles (30 min)**
  + ACTIVITY #2: Communication Styles Test (7 min)**:**
  + TELL:Mentors should individually complete a communication styles test and calculate their score
  + NOTE: Suggestion to facilitators: complete the communication styles test in advance of facilitating it to help you field questions on the instructions and to share the example of your experience with the activity.
  + TELL: As you engage in the following activity, think about the way you communicate with your current mentees.
  + DISCUSS (10 min)**:** Mentors discuss their results in pairs/triads and compare results. Questions to guide their discussion can include (you may wish to write these questions on a whiteboard or flipchart):
    - 1. To what extent did or didn’t the test validate what you know about yourself?
      2. What did you learn?
  + DISCUSS (13 min) with entire group additional questions regarding communication styles:
    - 1. How can you determine your mentee’s communication style? Is it worth knowing?
      2. What are strategies for communicating across different styles?
      3. Do you think you account for the fact that your mentees may have different preferred communication styles?
      4. In what other situations could you apply this type of assessment?
* NOTE: We acknowledge that all such tests are at some level oversimplifications, but can be an effective starting point for reflection and discussion. As a facilitator, you may want to provide a specific example of how your results helped you reflect on your communication with mentees.
* **Objectives 4 and 5: Engage in active listening and use multiple strategies for improving communication (60 min)**
* ACTIVITY #3: *Building a Relationship with a Mentee* and active listening/feedback
* TELL: Read Building a Relationship with a Mentee (5 min)
* TELL: After you read it, take a 10 minute break. As you take your break, think about a current communication challenge you are facing with a mentee, or a communication challenge you worry about facing.
* DO: Take a 10 minute break (10 min) (Optional if not following 3 day agenda)
* TELL: Have mentors form groups of three and choose roles for the active listening activity (25 min)
  + - Speaker: One mentor has one minute to share a current communication challenge s/he is facing in a mentoring relationship.
    - Listener: The second person practices active listening skills and has five minutes to ask questions and to try to come to a clear understanding of the situation.
    - Observer: The third person observes and notes tone, body language, facial expressions, feedback approach, etc. and has two minutes to describe what s/he observed.
  + Participants rotate roles and discuss what they learned as time allows. Refer to the provided reading for tips on active listening or for more information on nonverbal communication.
  + NOTE: Leaving instructions on a whiteboard or slide during this activity is helpful for participants to process the directions.
* DISCUSS **(**10 min): In the large group have mentors share what they learned from the exercise and the strategies that the pairs elicited. If you have time, make this large group discussion longer so that people can elicit additional ideas from each other about their current challenges.
* REFLECTION (10 min): Mentors reflect on the discussion today and on the handout, *Building a Relationship with a Mentee* about interpersonal communication and write down two areas for personal improvement. If there is time, you can have people volunteer to share what they will be working on. This can normalize that everyone has aspects of communication that they can work on.
* Conclusion **(10 min)**

DISCUSS: What worked well for you in the training today and what did not? [If you are out of time or even if you prefer, you can have people write their feedback so that it can be reviewed before the next session. **If your training for the day is not ending at this point, you skip this conclusion exercise altogether**].

* + ASSIGN: Homework for self-efficacy in research and for equity and inclusion: Read the What is Self-Efficacy handout (pages 90-91) and the Benefits and Challenges of Diversity article (pages 75-84). In the latter reading, see the questions posed on page 80 under “Consciously strive to minimize the influence of unintentional bias” to perform your own ‘thought experiment.’

***Maintaining Effective Communication***

**Case #1: *Giving Constructive Feedback***

As he leaves the crowded conference room, Dr. Tariq (the mentor) tells Dr. Timms (the mentee) he’ll see her in a few minutes. Dr. Timms was the last postdoctoral fellow to present in a practice session before a conference. Back in his office Dr. Tariq sits looking distractedly out the window and releases a heavy sigh. He shifts his attention back to his notes for a last review of his written comments: reading slides...too fast…too long…text too small…too much text…color contrast…meandering….

A few moments later he hears a knock on the door and asks Dr. Timms to come in. She sits in a chair across the desk from him and looks up expectantly. He meets her gaze, smiles, and says: “Thanks for coming by. I wanted to make sure we could review your practice talk since the conference is in a week and I leave town in a couple days.” Dr. Timms continues to stare without comment, a blank expression on her face.

“Well, as you know I think your research is really important and I’m glad that we have this opportunity to share it,” continues Dr. Tariq. “I think this conference will be a great opportunity for you to meet some key colleagues in this field.” Dr. Timms nods slightly, and shifts in her seat.

“I do think there are a few things that could tighten your presentation.” She continues to stare and Dr. Tariq keeps his focus on his notes as he continues. “For example you had some long sentences, and even whole paragraphs on your slides. While they were well written”—His computer chimes as a new email arrives and he glances over to see who it’s from. *Oh, not again.* “As I was saying, while they were well written—I mean you know your writing is strong—it is really too much text for a slide. You could try to shorten some to bullet points. Then you can still make those points without just reading your slides to the audience.”

He looks up and sees that she is now looking at the floor. “It would also allow you to increase the font size a bit. I think it might have been hard to read from the back of the room.” He looks up again and sees she is taking some notes. “To cut back on the time, I think you could cut the four slides on the background and just briefly summarize those.” He waits for comment and the silence drags on a few moments. “What do you think?”

“I can look at it.” Her face remains expressionless as she glances up and briefly meets his eye.

“That might allow you to slow down a bit,” he continues. “Of course it’s natural to get nervous and then one tends to talk faster. Perhaps you could practice it a bit at home and focus on slowing the pace and not looking at your notes as much. Have you tried practicing out loud to yourself at home?

“Yes.”

The phone rings. He checks caller ID. *I’ll have to call her back when this is over*. “Ok then. I can send you a link to some tips on slide composition and oral presentation and hopefully that will be helpful.”

There is another long moment of silence. “Well do you have any questions for me?”

“No, not right now.”

“Ok then, well good luck!” He forces another smile and reaches out to shake her hand as she rises to leave. She takes it and smiles feebly back, adding a quick “Thanks.”

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. How could this situation have been handled differently? What should the mentor do now?
3. How do you interpret silence or very short responses? Does your interpretation of this kind of response differ depending on who the speaker is (e.g., mentee, peer, or supervisor)

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

**Additional Activities (if time allows):**

**Objective 1; Activity #4:**

Have mentors read about interpersonal communication (below). Have them discuss their own communication skills and two areas for improvement. If you are running a multiple-day workshop, you can have them write these down and return to them at the end of the workshop. Have they made improvement on those specific skills?

**Objective 2; Activity #5:**

**Case #2: *Saying No***

Dr. Yin is a second-year assistant professor. Dr. Yin found his first year as a faculty member very challenging. In particular, Dr. Yin struggled to balance his teaching responsibilities with his research productivity. However, in just the last few months, he has figured out a schedule and an organizational system that is working well for him. He is finally feeling that his research program is moving forward and his teaching is getting easier. Last week Dr. Yin’s department chair asked Dr. Yin to join the chair’s research project. While the project is interesting and has some publication potential, Dr. Yin cannot imagine fitting it in without his own current research suffering. Dr. Yin feels he must say no to his department chair, but fears the repercussions both in terms of their relationship and the opinion his chair holds of him.

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What could have been done to avoid this situation?
3. What strategies have you used to assure that your mentee’s time is adequately protected?

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

**Objective 3; Activity #6:**

Have mentors generate a list of different communication styles and discuss the styles they feel most and least comfortable with. If time allows, ask mentors to share practical strategies for working with mentees who have very different communication styles from their own.

**Objective 4; Activity #7:**

Have mentors work in pairs and role-play the scripted conversation between mentor and mentee on page 40. Then discuss how the mentor could have reacted differently; practice a response that includes good active listening. Use the techniques in the reading to guide your approach. (Alternatively, facilitators could role play the scenario and then discuss with the full group.)

***Scripted conversation:***

Mentee walks into his mentor’s office excited after coming from a meeting with a co-primary mentor.

Mentee: [Knocks and walks in office] Hi! I’m so glad I caught you in your office. I just came from my meeting with Dr. Jahns and I have really exciting news about our upcoming grant. He said --

Mentor: [Interrupting] I was hoping you’d stop by. I just submitted the abstract for the conference next month. I was thinking… [email notification pops up on computer and mentor is distracted]

Mentee: [Patiently waits for mentor to read email]

Mentor: Ooh I just received an email back from Dr. Tram. He agreed to present at the conference. His ideas are so innovative. I want to make sure you meet him. I have to quickly run to my next meeting. What were you saying before?

Mentee: Dr. Jahns is really excited about our idea for the grant. He and I thought of a few suggestions on how to integrate our projects –

Mentor: [Interrupting] That’s great but we already decided our approach at the lab meeting two weeks ago. I already know what he has to say about it and it doesn’t make any sense to change it.

Mentee: I really think we should consider --

Mentor: [Interrupting] I have to go. We can talk next week. I expect a draft of the grant at our next meeting.

Mentor walks out of his office and hurries down the hall.

**Objective 5; Activity #8**

Have mentors brainstorm a list of barriers to good communication with a mentee, record them on a white board or flip chart, and then have participants choose two or three barriers and discuss practical ways to overcome them. For example, one barrier might be a lack of time to meet one-on-one. Some solutions might be more frequent e-mail, progress summaries, or phone calls.

**Building a Relationship with a Mentee**

Adapted from the I-TECH Clinical Mentoring Toolkit, produced by the International Training and Education Center for Health (I-TECH)/University of Washington with funding from the US Health Resources and Services Administration. For more information, visit [www.go2itech.org](http://www.go2itech.org).

Building an effective relationship of mutual understanding and trust with the mentee is a critical component of effective mentoring. Mentors can establish rapport with their mentees by using effective interpersonal communication skills, actively building trust, and maintaining confidentiality. This document contains information and advice to help mentors build rapport and create positive relationships with mentees so both parties can achieve the greatest benefit from the mentoring experience.

**Interpersonal Communication**

Interpersonal communication is a person-to-person, two-way, verbal and nonverbal sharing of information between two or more persons. Good communication helps to develop a positive working relationship between the mentor and mentee by helping the mentee to better understand directions and feedback from the mentor, feel respected and understood, and be motivated to learn from the mentor. Mentees learn best from mentors who are sincere, approachable, and nonjudgmental. These qualities are communicated primarily by facial expressions, and, to a limited extent, by words. People often remember more about how a subject is communicated than the speaker’s knowledge of the subject.

There are two types of communication: verbal and nonverbal. Verbal communication is communication that occurs through spoken words. Nonverbal communication is communication that occurs through unspoken mediums, such as gestures, posture, facial expressions, silence, and eye contact. It is important for mentors to remember they are communicating to mentees both when they are speaking and when they are not speaking. Up to 93% of human communication is nonverbal.[[1]](#footnote-1) Body language tells those with whom we are communicating a great deal about what we are thinking and feeling. Examples of positive or open body language include:

* Eye contact (depending on the culture)
* Open or relaxed posture
* Nodding or other affirmation
* Pleasant facial expressions

Examples of negative or closed body language include crossed arms, averted eyes, and pointing fingers. The mentor needs to be aware of what he or she is communicating nonverbally as well as what the mentee is communicating nonverbally.

When mentoring, effective communication involves more than providing information or giving advice; it requires asking questions, listening carefully, trying to understand a mentee’s concerns or needs, demonstrating a caring attitude, remaining open-minded, and helping solve problems. There are many communication skills that mentors can utilize to effectively communicate with mentees, including the following:

* Active listening: Be sure to really listen to what a mentee is saying. Often, instead of truly listening to the mentee, the mentor is thinking about his or her response, what to say next, or something else entirely. It is important to quiet these thoughts and remain fully engaged in the task of listening.
* Attending: Listen while observing, and communicate attentiveness. This can include verbal follow-up (saying “yes” or “I see”) or nonverbal cues (making eye contact and nodding the head).
* Reflective listening: Verbally reflect back what the mentee has just said. This helps the mentor to check whether or not he or she understands the mentee, and helps the mentee feel understood. Examples:
  + “So it seems that you’re overwhelmed with your workload.”
  + “It seems that you are concerned about that experiment.”
* Paraphrasing: Determine the basic message of the mentee’s previous statement and rephrase it in your own words to check for understanding. Examples:
  + “You’re interested in developing a system for improving that.”
  + “It sounds like you’re concerned about the design of the experiment.”
* Summarizing: Select main points from a conversation and bring them together in a complete statement. This helps ensure the message is received correctly. For example, “Let me tell you what I heard, so I can be sure that I understand you. You said that the main challenge right now is balancing your clinical load and writing the research proposal.”
* Asking open-ended questions: Ask mentees questions that cannot be answered with a simple yes or no. Open-ended questions encourage a full, meaningful answer using the mentee’s own knowledge and feelings, whereas closed-ended questions encourage a short or single-word answer. Examples:

*Close-ended question*: “You didn’t think the experiment would work?”

*Open-ended question*: “What factors led you to your decision to change the protocol?”

*Close-ended question*: “Did you understand what we discussed today?”

*Open-ended question*: “Can you summarize what we discussed today?”

* Probing: Identify a subject or topic that needs further discussion or clarification and use open-ended questions to examine the situation in greater depth. For example, “I heard you say you are overwhelmed; please tell me more about that.”
* Self-disclosure: Share appropriate personal feelings, attitudes, opinions, and experiences to increase the intimacy of communication. For example, “I can relate to your difficult situation, I have experienced something similar and recall being very frustrated. Hopefully I can assist you to figure out how to move forward.”
* Interpreting: Add to the mentee’s ideas to present alternate ways of looking at circumstances. When using this technique, it is important to check back in with the mentee and be sure you are interpreting correctly before assigning additional meaning to their words. For example, “So you are saying that the reason the interpretation is flawed is because of the statistical test used to analyze the data? That is likely one reason, but have you also considered that the design may be wrong as well?”
* Confrontation: Use questions or statements to encourage mentees to face difficult issues without accusing, judging, or devaluing them. This can include gently pointing out contradictions in mentees’ behavior or statements, as well as guiding mentees to face an issue that is being avoided. For example, “It’s great that you are so committed to mentoring the younger researcher in the group. However, I am concerned that you are not dedicating enough time to your own research.” A number of attitudes and/or behaviors can serve as barriers to communication—these can be verbal or nonverbal. Verbal barriers to communication that should be avoided include the following:
* Moralizing: Making judgments about a mentee’s behavior, including calling it right or wrong, or telling them what they should or should not do.
* Arguing: Disagreeing with instead of encouraging the mentee.
* Preaching: Telling the mentee what to do in a self-righteous way.
* Storytelling: Relating long-winded personal narratives that are not relevant or helpful to the mentee.
* Blocking communication: Speaking without listening to the mentee’s responses, using an aggressive voice, showing impatience, showing annoyance when interrupted, or having an authoritative manner. These behaviors often lead to the mentee feeling down, humiliated, scared, and insecure. As a result, the mentee may remain passive and refrain from asking questions, or distrust the mentor and disregard his or her recommendations.
* Talking too much: Talking so much that the mentee does not have time to express themselves. As a mentor, it is important not to dominate the interaction.

Examples of nonverbal barriers to communication include shuffling papers, not looking directly at the mentee when he or she is speaking, and allowing interruptions or distractions. These barriers may have consequences for both the mentor and the mentee. They may lead to a poor sharing of information, fewer questions being asked by the mentee, difficulty in understanding problems, uncomfortable situations, and a lack of motivation on the part of the mentee.

**Establishing Trust**

Establishing trust is an essential component in building rapport with a mentee. Trust is the trait of believing in the honesty and reliability of others.[[2]](#footnote-2) Some mentees may be nervous about working with a mentor. To put them at ease, create a trusting relationship by empathizing with their challenges, share knowledge without being patronizing, and remain nonjudgmental. Along with the other communication skills listed above, establishing a trusting dynamic is essential for a productive and positive mentor/mentee relationship.

The following list provides some ideas for how the mentor can build trust with the mentee:

* Share appropriate personal experiences from a time when they were being mentored.
* Acknowledge mentee strengths and accomplishments from the onset of the mentoring process.
* Encourage questions of any type and tell the mentee that there is no such thing as a bad question.
* Take time to learn culturally appropriate ways of interacting with your mentee and helping your mentee to interact appropriately with their peers.
* When appropriate, consider how local knowledge can be incorporated into the mentoring experience.
* Acknowledge the mentee’s existing knowledge and incorporate new knowledge into existing knowledge.
* Ask for and be open to receiving feedback from mentees, apply constructive feedback to improve mentoring skills.
* Eat a meal with the mentee to get to know him or her in a non-work setting.

**Aligning Expectations**

**Aligning Expectations**

**Introduction**

A shared understanding of what each person expects is critical to establishing effective mentor-mentee relationships. Challenges arise when mentors and mentees have misunderstandings about expectations in the relationship, which naturally changes over time. Therefore, ongoing reflection and communication about expectations is needed to maintain positive and productive mentor-mentee relationships.

**Learning Objectives**

Mentors will have the knowledge and skills to:

1. Effectively establish mutually beneficial expectations for the mentoring relationship
2. Clearly communicate expectations for the mentoring relationship
3. Align mentee and mentor expectations
4. Consider how personal and professional differences may influence expectations, including differences across disciplines when working in multidisciplinary teams

**Overview of Activities for the Expectations Session:** Please note that a core activity is listed for each learning objective. We strongly encourage you to engage your mentors in this activity. There is a list of additional activities that can be used if there is extra time in the session or the core activity is not working well for your group.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Learning Objectives** | **Core Activities** | **Additional Activities** |
| **1** | Effectively establish mutually beneficial expectations for the mentoring relationship | Mentors read and discuss Case #1: *Doctoral Student Blues* (Activity #1) | Mentors create a list of predicted mentee expectations and discuss how they can determine if these are being met (Activity #4) |
| **2** | Clearly communicate expectations for the mentoring relationship | Mentors review compact examples (Activity #2) | Mentors discuss how to elicit their mentees’ learning goals and incorporate those into individualized compacts (Activity #5) |
| **3** | Align mentee and mentor expectations | Mentors discuss pros and cons of a compact and consider design of their own (Activity #2 continued) | Mentors develop strategies to identify their own expectations, those of their mentee, and align the two (Activity #6) |
| **4** | Consider how personal and professional differences may influence expectations | Mentors read and discuss Case #2: *Misaligned Expectations* (Activity #3) | Mentors discuss challenges mentees may face when working with multiple mentors and brainstorm solutions to these challenges (Activity #7) |

**Facilitation Guide**

**Recommended Session on Aligning Expectations (70 minutes)**

* **Materials Needed for the Session:**
  + Table tents and markers
  + Index cards
  + Chalkboard, whiteboard, or flip chart
  + Handouts:
    - Copies of introduction and learning objectives for *Aligning Expectations* (page 47)
    - Copies of *Expectations* case studies (*Doctoral Student Blues* and *Misaligned Expectations*)(pages 50-51)
    - Copies of example mentor-mentee compacts (pages 53-61)
* **Introduction** **(10 min)**
* ASK: Briefly share one important idea you learned from the last mentor-training session.
* TELL: Provide an overview for the day. Review the introduction and learning objectives for the first session.
* NOTE: The time for the introduction is based on the 3-day agenda; it can be shortened if needed.
* **Objective 1: Effectively establish mutually beneficial expectations for the mentoring relationship (15 min)**
* ACTIVITY #1: Case Study
  + Distribute *Expectations* Case #1*: Doctoral Student Blues* andlet participants read the case individually for two to three minutes.
  + DISCUSS with entire group. You may want to record the ideas generated in this discussion on a white board or flip chart. Use the guiding questions following the case study.
* **Objectives 2 and 3: Clearly communicate expectations and how to align mentee and mentor expectations (25 min)**
* ACTIVITY #2: Reviewing Mentor-Mentee Compacts
* TELL: Some programs and individual faculty use mentor-mentee compacts, contracts, or statements of expectations that they use with mentees.
* ASK: Do any of you use mentor-mentee compacts? If so, what has your experience been in using them? DISCUSS (5 min**)**

TELL: If you were to create a mentor-mentee compact for a particular type of mentee to work with (such as a doctoral student or a postdoc), consider what you would include. We are going to look at some sample compacts from a range of programs. Some of the items will resonate with you, while others will not. The goal today is to identify those elements that you would definitely include in your own compact and note additional items you might want to incorporate that you don’t see here.

* + - Mentors review sample compacts and circle or highlight the items in the examples that they would like to include in their own compact. (5 min**)**
    - NOTE: Some of these compacts were created by faculty as a result of their participation in mentor training.
* TELL: Remind mentors that while they may create a template expectations document that can be used to initiate a discussion on the topic with mentees, the essential component is the processof sharing goals and expectations and arriving at a common understanding. Individual development plans, like those included in the “Promoting Professional Development” session can be utilized in concert with your expectations template to tailor a holistic plan for each mentee.
* DISCUSS in GROUP **(**15 min**):** What are the pros and cons of using a compact? Which items did you like and what items would you add to your own that you don’t see here?
* NOTE: If leading a large group, instead of spending 15 minutes in the large group, consider having people discuss for 10 minutes in pairs and then discuss for 5 minutes as a group.
* **Objective 4: Consider how personal and professional differences may impact expectations, including differences across disciplines when working in multidisciplinary teams (20 min)**
* ACTIVITY#3: Case Study
  + Distribute *Expectations* Case #2: *Misaligned Expectations* and let participants read the case individually for two to three minutes.
  + DISCUSS with entire group. You may want to record the ideas generated in this discussion on a white board or flip chart. Use the guiding questions following the case study.

***Aligning Expectations***

**Case #1: *Doctoral student Blues***

Amy is beginning her third year as a doctoral student. To date, she has enjoyed working on her mentor’s research project but is becoming anxious that she has not yet started an independent research project. She wants to bring up her concerns, but it seems her mentor never has enough time to have a discussion focused on Amy’s research goals. This situation is becoming frustrating for her, as she likes her mentor and she understands that the past few months have been extremely busy for her mentor due to a host of factors, e.g., budget cuts, writing a grant application, adoption of a new family member, etc. Amy is reluctant to make a misstep with her well-established, senior mentor, yet she knows the clock is ticking. She wants to stop feeling stuck.

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?

2. What could have been done to avoid this situation? Moving away from the case study now…

3. How do you establish and communicate your expectations of your mentee?

4. How do you find out your mentee’s expectations of you and for the research experience?

5. What are strategies for uncovering the unspoken expectations mentees and mentors may have about issues such as authorship, job placement, letters of recommendation, etc.?

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

***Aligning Expectations***

**Case #2: *Misaligned Expectations***

Sam is a doctoral student who has recently made some contacts within the local Hmong community who would like to work with him to understand and address high rates of asthma in local Hmong children. Sam is very excited about the possibility of this potential partnership having a direct impact on children’s health and wants to apply for a grant to pursue a community-based participatory research (CBPR) project. Ideally, it would be the basis for his dissertation. He approaches his faculty mentor, Dr. Hunter, to ask her to be a mentor on the grant. Dr. Hunter is very reluctant, letting Sam know that she has never done community-based participatory research and doesn’t know if she could guide him adequately. Sam assures her that this is not necessary, that he has identified a faculty member in another department with CBPR expertise who can play that role. He further points out that there is no one in their department who has this expertise and reminds her that his community contacts will be able to help guide and mentor him in this area. Dr. Hunter is still uncertain how well she can assess his study design and progress and wonders how well the other mentor can play that role and how they can coordinate assessment and feedback on the project.

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What kind of conversations regarding expectations might have been helpful earlier in this relationship? What kind of conversation needs to happen now?
3. What can mentors do to improve their ability to work with mentees whose work does not dovetail well with their own?
4. How can you help a mentee navigate the different expectations articulated by multiple mentors?

*Adapted from House S, Dearlove, A, Spencer K, Ziegahn L. Mentor Training for Community Engaged Researchers. 2013. Pfund C. and Handelsman J., eds. Entering Mentoring Series.* Advance online publication

**Additional Activities (if time allows):**

**Objective 1; Activity #4:**

Have mentors create a list of the things they believe their mentees expect from them and then discuss how they can determine if these expectations are reasonable and how well they are meeting them. You may want to record the ideas generated in this discussion on a white board or flip chart.

**Objective 2; Activity #5:**

Mentors discuss how to elicit their mentees’ learning goals and incorporate those into individualized compacts. (See comment about Individual Development Plans found earlier). You may want to record the ideas generated in this discussion on a white board or flip chart.

**Objective 3; Activity #6:**

Have mentors develop strategies to identify their own expectations, those of their mentee, and align the two**.** You may want to record the ideas generated in this discussion on a white board or flip chart.

**Objective 4; Activity #7:**

Have mentors discuss the challenges that mentees may face when working with multiple mentors and then brainstorm solutions to these challenges. You may want to record the ideas generated in this discussion on a white board or flip chart.

**Examples of Mentoring Agreements**

* + - 1. **Dr. Stephanie Robert, Professor, School of Social Work, University of Wisconsin-Madison**
      2. **Dr. Eric Grodsky, Professor, Department of Sociology, University of Wisconsin-Madison**
      3. **University of Alabama (UAB) Mentoring Contract**

**Mentor/Mentee Expectations Fall 2017**

**Stephanie Robert**

The relationships between doctoral students and their advisors/mentors are special. Doctoral students rely on their mentors for stewardship and support to develop as independent scholars. Mentors often experience the relationships with their mentees as very rewarding – helping individuals reach their goals, seeding the field with strong scholars, and reaping benefits from the intellectual exchange. Because of the importance of these relationships, clarity of expectations and communication can help develop and maintain a strong mentor/mentee relationship. Towards this end, this document aims to make clear some of the expectations that I have for my mentees, and what my mentees can expect from me.

What I expect from my mentees

*I expect that you and I will both work to communicate our expectations of each other* as clearly as we can, to foster a strong working relationship. This includes being frank with each other about our own strengths and weaknesses and their implications for how we can work together most productively.

*I expect you to be the driver of your educational experience*. I expect you to understand what is expected of you from our program and the graduate school, but to also determine how to best get your educational and professional needs met and to advocate for yourself.

*I expect that you will read the* ***Doctoral Student Guidelines****,* and update yourself on that information at each stage of your program. I can help *interpret* the Guidelines, but I expect you to take the initiative to review program guidelines first before asking for my guidance.

*It is your responsibility to make sure you are following the Guidelines of the program* (taking the appropriate coursework, meeting deadlines, etc.). I am here to help you determine how best to do so, but it is not my job to keep track.

*I expect that if something is happening in your life that is getting in the way of your doctoral work, you will tell me* so that we can problem solve how to get the work done, determine realistic timelines, etc. You can decide how much to share with me—but I need to know the general scope of the constraints to help you minimize the impact on your professional development and timely progress.

*I expect you to let me know when you need to meet with me*. At different points in the program, we will have more or less frequent contact. If there is something you need to talk about sooner than our next meeting, you should contact me to set up a time to meet.

*I expect that you will be open to receiving constructive criticism of your work* – or that you will commit to improve on your ability to learn from constructive criticism of your work. You are a student because you have things you want to learn, and learning from critiques of your work is often the best way to improve. I hope to model taking constructive criticism well – test me!

*I expect you to disagree with me.* This is your life, your career, and your doctoral program. If you disagree with a comment or suggestion I make, you need to communicate that to me and be your own advocate.

*I encourage your feedback*. I am a flawed individual and I will make mistakes. I still am a work in progress and am trying to become a better mentor and individual over time. If I say something that angers or upsets you, I hope that you will let me know so that we can talk about it. One or both of us will likely benefit from that conversation.

*I expect you to respond promptly to my e-mails* – within one business day, preferably.

*I expect you to take advantage of opportunities other than those I present to you* – for example, attending professional development sessions offered by the graduate school, the teaching academy, and institutes and centers on campus. This is a part of you taking control of your professional goals.

*I expect you to work hard towards your professional goals while also working towards a sustainable work/life balance*. Both hard work and work/life balance are important to sustaining a successful professional career over the long term.

What my mentees can expect from me

*I am eager to help you achieve your goals, and am committed to doing the best I can to support and advocate for you.* I enjoy helping other people achieve their goals, and my mentees are a priority for me.

*I will help you navigate your way through the doctoral program*. Although you are ultimately responsible for your deadlines and progress, I am pleased to help you interpret the guidelines and plan with you about strategies to get your professional needs met.

*I will make time for you*. I am very busy with a range of duties, but my mentees are a priority for me. If you need to meet with me sooner than planned, I expect you to contact me and tell me so. You should trust that I will be honest and tell you what I can and can’t do regarding the timing of that meeting.

*I do not expect you to be just like me.* I am here to help you develop the career that you want for yourself. That may be in academia and it may not be. I am open to you having career goals of various types and am committed to helping you achieve them.

*Life is too short to not follow the path you want*. I believe that doctoral programs are not for everyone. If, during the course of your study, you decide that you may not want to continue with your doctoral degree, I encourage you to talk with me about it. There are good and bad reasons for doing a doctoral degree. I am open to you changing your goals and deciding that this is not the right path for you. I am willing to help talk you through your options.

*I am not Facebook friends with current students*. It’s just my policy.

*I prefer e-mail* as the best way to reach me. I don’t check my office phone messages consistently. I do not like to text about work, except in special circumstances. I don’t like people to call me on my cell phone for work reasons, except in special circumstances (e.g., you are late for a meeting with me, an emergency happens).

*I try to respond to e-mail within one business day, when I am in town*. If you haven’t heard from me in a couple days, or if it is urgent, please resend your message, as it may have gotten lost in the e-pile.

Although I am not responsible for funding you, *I will do my best to help you find appropriate funding for your doctoral studies.*

*I don’t have to be your primary mentor*. If there is someone else who you think would be a better mentor/advisor for you, I am open to having that conversation. Having an appropriate primary mentor/advisor to help you reach your goals is important, and I am committed to helping you achieve your goals, even if it isn’t with me as your mentor!

*I expect that I will not be your only mentor*. I would hate to think that you would be limited by only my advice and guidance. I encourage you to find others who can mentor you to meet different needs that you have. I will not be jealous but rather pleased if you get advice and assistance from others. Inevitably, you will get conflicting advice from me and others, and we can talk about that too.

*I will be honest about the strengths and weaknesses of your work*. For better or for worse, I am usually straightforward and direct with my feedback and you can expect that from me.

*I understand that my role as mentor changes over time* as a mentees needs change, and as a mentee moves towards independence. I will aim for clear communication about my changing expectations of you and you should aim for clear communication about your changing needs and concerns. Towards this end, every spring the Doctoral Program asks each doctoral student to report on his/her progress over the previous year and to highlight plans for the next year. We will use this as a time to thoroughly discuss your progress and plans.

*Below is a list of some of the topics that I am prepared to help you with*. I can either help you with these topics directly, or can help you find other people or opportunities to get your needs met in these domains. These topics will each become important to you at different stages in your development as an independent scholar. You should feel free to raise a discussion of any of these topics below, topics above, and other topics in our meetings.

|  |  |
| --- | --- |
| * Choosing appropriate courses | * Networking with others in your area |
| * Supervising independent studies, if appropriate | * Turning your research into publications – developing and submitting the manuscript, responding to reviewers, etc. |
| * Developing a preliminary exam topic and proposal | * Developing protocols for the IRB for your research |
| * Developing a dissertation topic and proposal | * Developing and practicing research presentation skills |
| * Forming and communicating with preliminary exam and dissertation committees | * Preparing presentations and/or posters for professional meetings |
| * Finding appropriate TA and PA opportunities | * Discussing job options and preparing for the job market |
| * Applying for funding, as appropriate | * Brainstorming ideas for time management |
| * Finding other mentors to help you with topics that are not my strengths | * Brainstorming ideas for maintaining work/life balance |
| * Finding teaching opportunities | * Help you develop attainable goals and a plan for attaining them |
| * Developing teaching skills | * Conducting peer review of research |

**Mentor/mentee expectations** Eric Grodsky

I value highly the professional and intellectual relationships I enjoy with my students. Despite the respect and affect I feel for my colleagues and for this department as an institution, the graduate students we attract were the strongest draw in my return in 2012.

This document makes explicit the expectations I hold for my advisees and the things my advisees can expect from me. It is not meant as a contract but as a means of clarifying my expectations of you and what I think is reasonable for you to expect from me. I am happy to discuss of clarify any of these things. As you will see, I try to be both direct and clear in my communication. I hope that you will be as well.

What I expect from advisees

*Scholarship*

* You will attend at least one brown bag consistently.
* My goal is for us to write two papers together, one with me as the first author and one with you as the first author, and another paper with you as the sole author. This may take up to three years.

*Communication*

* When I email you with a question, concern or recommendation you will respond within one business day.
* We will communicate under the presumption that all communication is intended to be constructive.
* We will meet at least monthly and more often as needed.
* If there is something getting in the way of your progress, personal or professional, you will communicate with me about this in a timely manner. You can decide how much to share with me—but I need to know the general scope of the constraints to help you minimize the impact on your professional development and timely progress.

*Academic progress*

* You will take three courses per semester until you advance to candidacy unless you are TAing or have some other reason to take only two courses.
* We will discuss course options during the registration period each semester.
* You will see the department’s schedule for timely progress as a guideline but not be beholden to it. What you and I agree to, however, is binding.

*Professional development*

* You will take advantage of opportunities to meet with visiting scholars. This is part of what we do.
* You will present your work when 1) we agree it is ready for presentation and 2) opportunities arise. This includes presenting locally, at brown bags, and at regional or national conferences.
* You will be explicit with me about your professional goals as they develop. You do NOT need to aim to be a professor at a prestigious research university, or a professor at all (though we clearly think you are capable of doing so- you are here). You may even decide you do not want to pursue a PhD. That’s fine. Don’t be trapped by your own (mis)perceptions of the path ahead or of the faculty’s expectations of you. It’s your life.

What advisees should expect from me

*Scholarship*

* I will do my best to provide you with access to computational resources and data you need to do your work.
* I will read and comment on your written work in a timely fashion.
* I will observe and comment on practice presentations for conferences so long as those presentations occur with sufficient advance notice.

*Communication*

* I communicate most frequently by email. I am respectful but direct in my communication.
* Unless I am travelling, I will typically respond to your emails within one business day.
* If I am slow getting back to you, please do not hesitate to remind me that I owe you a response, comments, etc.
* I comment on and edit manuscripts extensively, usually with track changes in Word. Do not be overwhelmed or surprised when I have a lot to say about your writing in addition to the substantive and methodological aspects of your papers. It’s all part of the process.
* I am not Facebook friends with current students.

*Professional development*

* I will provide you with opportunities to meet scholars in the field.
* I will do my best to help you find funding, either through me or elsewhere.
* I will not be in the least bit hurt or offended if you choose a different mentor/advisor. You need to take ownership of your professional development- and that may include finding a mentor whose expertise and expectations are more closely aligned with your needs. I am completely open to discussing these with you.

**UAB CENTER FOR CLINICAL AND TRANSLATIONAL SCIENCE**

**MENTORING CONTRACT**

This contract is intended to serve as a guideline to facilitate communications between a trainee (mentee) and his/her mentors. It is suggested that the document be thoroughly reviewed and completed by the mentee and his/her mentor individually, and then jointly review and discuss each person’s answers in order to reach an agreement. The mentee should re-write the agreed upon answers before the contract is signed and dated by him/her and each mentor. The mentee is responsible for keeping the contract and reviewing/updating it as necessary. For mentees appointed to a training program, a signed copy will be submitted to training program leadership for the trainee’s file.

Scholar/Trainee: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mentor Team: (Primary): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Secondary): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What type of assistance does the mentee want from the mentor?

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1. What expectations do the mentors have of the mentee?

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1. What expectations does the mentee have of the mentors?

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1. How often will you meet, where?

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1. What will meeting topics include?

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1. What core competencies will be obtained? How will they be obtained? Please refer to the list of core competencies and provide section and number for each competency that you will obtain.

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1. What senior level biostatistician will you meet with to discuss design and statistical

analysis plan? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How often will you meet with biostatistician?

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1. How will you know when the mentoring relationship has served its purpose and needs

to be terminated?

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1. We have agreed that our initial meetings will focus on these three topics:

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Scholar/Trainee Signature Date

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Primary Mentor Signature Date

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Co-Mentor Signature Date

**Addressing Equity and Inclusion**

**Addressing Equity and Inclusion**

**Introduction**

Diversity, along a range of dimensions, offers both challenges and opportunities to any relationship. Learning to identify, reflect upon, learn from, and engage with diverse perspectives is critical to forming and maintaining an effective mentoring relationship, as well as a vibrant learning environment.

In this session, mentors will consider how to foster an equitable and inclusive environment where everyone can do their best learning and create the highest quality of research, both because of and in spite of their diverse perspectives.

**Learning Objectives**

Mentors will have the knowledge and skills to:

1. Improve and expand understanding of equity and inclusion and how diversity influences mentor-mentee interactions
2. Recognize the potential impact of conscious and unconscious assumptions, preconceptions, biases, and prejudices on the mentor-mentee relationship and reflect on how to manage them
3. Identify concrete strategies for learning about, recognizing, and addressing issues of equity and inclusion in order to engage in conversations about diversity with mentees and foster a sense of belonging

*Note from authors:* We acknowledge that a 1 or 2-hour module addressing equity and inclusion is valuable but only begins to raise awareness for mentors on how diversity influences mentor-mentee interactions. Authors and contributors to the *Entering Mentoring* Series continue to enhance its training modules over time in response to participant feedback and ongoing research about effective mentoring practices. The funding of the NIH National Research Mentoring Network (nrmn.net) in 2014 in particular is having a significant impact on expanding mentor training that addresses the need for mentors to delve deeper into understanding how their cultural beliefs, worldviews and identifies influence their mentoring practices. To this end, leaders of the NRMN Mentor Training Core (MTC) have developed mentor training curricula to promote culturally aware mentoring. The *Culturally Aware Mentor Training* curriculum currently being piloted nationally was developed by diverse scholars in the MTC (led by Dr. Angela Byars-Winston) and is implemented as a 6-hour workshop. The overall goal of the workshop is to explore how cultural diversity influences research mentoring relationships and it guides mentors through the development of a culturally aware mentoring plan. The *Culturally Aware Mentoring* workshop is now available.

**Overview of Activities for the Addressing Equity and Inclusion session**: Please note that the core activity is listed for each learning objective. We encourage you to engage the mentors in your group in this activity. There is a list of additional activities that can be used if there is extra time in the session or the core activity is not working well for your group.

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| --- | --- | --- | --- |
|  | Learning Objectives | Core Activities | Additional Activities |
| 1 | Improve and expand understanding of equity and inclusion and how diversity influences mentor-mentee interactions | Activity #1: 1-Minute Diversity Challenge  Activity #2: Is it Okay to Ask? | Activity #4: Reflections on Otherness |
| 2 | Recognize the potential impact of conscious and unconscious assumptions, preconceptions, biases, and prejudices on the mentor-mentee relationship and reflect on how to manage them | Activity #2: Is it Okay to Ask? | Activity #5: Implicit Bias Test |
| 3 | Identify concrete strategies for learning about, recognizing, and addressing issues of equity and inclusion in order to engage in conversations about diversity with mentees and foster a sense of belonging | Activity #3: Individual Case Studies | Activity #6: Case Study: Cultural Sensitivity |

**Facilitation Guide**

**Recommended Session on Addressing Equity and Inclusion (65 minutes)**

* **Materials Needed for the Session:**
  + Table tents and markers
  + Chalkboard, whiteboard or flip chart
  + Handouts:
    - Copies of introduction and learning objectives for *Addressing Equity and Inclusion* (page 65)
    - Copies of *1-Minute Diversity Challenge* Handout (page 70)
    - Copies of *Equity and Inclusion* case studies(Multiple versions of *Is it Okay to Ask?)* (pages 71-73), and the additional case if desired (page 74)
    - Copies of the reading *“Benefits and Challenges of Diversity”* (see homework assignment below) (pages 75-84)
* **Introduction (5 min)**
* TELL: Review the introduction and learning objectives for the session.
* NOTE: If you did not assign as homework the short paper by Jo Handelsman and Eve Fine titled “Benefits and challenges of diversity,” have them read it after the first activity.

###### **Objective 1: Improve and expand understanding of equity and inclusion, and how diversity influences mentor-mentee interactions**

* ACTIVITY #1: 1-Minute Diversity Challenge(15 min) **(**source:Kelly Diggs-Andrews, PhD  
  Diggs-Andrews Consulting, LLC)
* TELL: Picture in your mind one particular mentee – one you have now or have had. Got it? Now list up to 10 ways that you are or perceive to be different from your mentee (1 min)
* TELL: In our society, it is engrained in our subconscious to first think of diversity in terms of race and ethnicity, but of course diversity is broader than that. Did any of you get 10 differences? 9? 8? (probe for range)
* TELL: Get in pairs. First, briefly look at each other’s lists. Each of you pick one of the differences on your list discuss how you might capitalize on this specific difference to create high quality and innovative research. (4 min)
* DISCUSS: In the large group, share examples of how differences can be viewed as strengths and enhance the quality of research. (10 min)
* TELL: Now look at your list again, and just for yourself, jot down or note which aspects of difference between you and your mentee may be sources of discomfort for you in this or other mentor/mentee relationships.

###### **Objectives 1 and 2: Improve and expand understanding of equity and inclusion, and how diversity influences mentor-mentee interactions; Recognize the potential impact of conscious and unconscious assumptions, preconceptions, biases, and prejudices on the mentor-mentee relationship and reflect on how to manage them.**

* ACTIVITY #2: Case Study #1 (versions a, b, c,). *Is it Okay to Ask?* (20 min)
* DO: Put participants in groups of 3 or 4. Distribute the “*Is it Okay to Ask?”* case study and give participants a couple of minutes to review it; **Give a different version of the case study to each group, without telling them that the case studies are slightly different**.
* TELL (8 min): Discuss the case study in the small groups.
  1. DISCUSS (10 min) with the entire group. [Give this exercise more time if you can]. Begin reporting from the groups. Early in the discussion, you will want to let them know that each group had a slightly different scenario. You may want to record the ideas generated in this discussion on a white board or flip chart. NOTE: Additional discussion questions for the full group discussion include. These questions may draw out the potential impact of conscious and unconscious assumptions, preconceptions, biases, and prejudices on the mentor-mentee relationship if not already raised by participants. Did your group agree or disagree on whether it is ok to ask? (and did the general response differ by scenario across the groups?)
  2. How would you go about engaging people in a discussion about their race, ethnicity, gender, disability, age, sexual orientation, etc.? How do you engage in such conversations based on interest without feeling or expressing a sense of judgment about differences? How do you ask without raising issues of tokenism?
  3. As a mentor, are you more or less comfortable with discussing different aspects of diversity? How does this reflect explicit or implicit biases that you might have?
  4. As a mentor, reflect on how diversity can be viewed as an asset to a mentor-mentee relationship. How might you reframe conversations with mentees in terms of how you can benefit and learn from experiences that differ from your own?

###### **Objective 3: Identify concrete strategies for learning about, recognizing and addressing issues of equity and inclusion, in order to engage in conversations about diversity with their mentees and foster a sense of belonging**

* Activity #3: Individual Case Studies (25 min)
* TELL: Please create your own “case study” (this can be done as homework before this session or during a 10 minute break if following the 3-day agenda or as part of the session) and be prepared to share it, if you’re willing, for small group discussion. To create your case study: Briefly describe a situation you have been in as a mentor or a mentee, or one you have observed, where there was a challenging situation related to diversity and inclusion that was not dealt with optimally by the mentor. (10 min)
* TELL: Choose one of the case studies that a group member wrote or described, and discuss it as a group. You have 10 minutes. Try to discuss at least two of the case studies generated by your group members during this time. Sample discussion questions to put on the board:
  + What are the key themes of the case study?
  + What are some different ways that a mentor could deal with a similar situation?
  + How might our explicit or implicit biases affect how we deal with such a situation?
* DISCUSS IN FULL GROUP (5 min). Be sure to ground the discussion in finding strategies (see reading Benefits and Challenges of Diversity, pgs. 79-81, for suggested strategies) to move forward past challenges. [Give this discussion more time, if possible].
* FOLLOW-UP ACTIVITY: Encourage mentors to think about their compacts (if applicable) and think about any changes they might make based on their reflections on equity and inclusion.

**Additional Considerations as a Facilitator**

* Views of the impact of race, class, ethnicity, gender, disability, age, sexual orientation, background on the research experience vary widely. Remember that as a facilitator you are not expected to be an expert on the topic. Given that some facilitators have expressed less comfort mediating this session, we have included some possible responses to the cases below. Given the complexity of human relationships and the importance of situational contexts, these responses are of course by no means exhaustive or comprehensive. Further, we do not claim they are the ‘right’ answers, but merely responses you may expect to hear.
  + - 1. Possible general responses to all of the cases:
* Race, gender, ethnicity, sexual orientation, and other aspects of diversity have nothing to do with a research experience because the experience should focus on research and not on personal characteristics.
* Race, gender, ethnicity, sexual orientation, and other aspects of diversity have everything to do with a research experience and permeate every aspect of the experience, impacting perceptions, confidence, and motivation. Ignoring the impact of diversity sends a message that those aspects of a person have no role in one’s work, which may turn students off to science. The level of impact will vary across the relationship. At times it may be invisible. At other times, it may be the most important factor.
* Individuals want to be assessed for their ability, independent of race, gender, etc. The trick is deciding how to balance acknowledging someone‘s background and taking it into consideration when deciding how to work with that person, but not letting a person‘s background bias your interaction with them.
* Regular conversations with ALL mentees to check on how they are doing and whether they are happy in their overall environment are important. This will build relationships that allow mentees to be comfortable sharing concerns AND allow mentors to notice if there are issues surrounding race or other diverse personal characteristics that need to be addressed, or identify opportunities for growth.
  + - 1. Possible responses to “*Is It Okay to Ask*”?
* There is no consensus on if and when it is ― “OK to ask”. Some feel it is important to ask early, others feel it is never ok to ask, and others still feel there are special situations when it is necessary to ask.
* It is not ok to ask. Some are tired of telling their story and feel that the question sometimes carries an implicit “explain yourself” or “justify yourself.”
* Establishing a sufficiently personal relationship with ALL mentees allows mentors to better understand diversity-related issues from mentees without directly asking questions about their personal characteristics and background.

One-Minute Diversity Challenge

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***Addressing Equity and Inclusion***

**Case #1a: *Is it Okay to Ask?***

Last year I had a new graduate student join my research team. She has been a great member of the team and has contributed significantly to the research project. I think that she has had a positive experience working with our research team. This particular scholar is an African-American woman and I wonder how she has felt about being the only African-American woman in our research group. In fact, she is the only African American woman in our entire department. I have wanted to ask her how she feels, but I worry it might be insensitive or politically incorrect to do so. I have never asked. Should I ask? Is it too late to ask now that it has been a year and I haven’t asked?

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What might the mentor’s intent have been in asking the question, and what might the impact be on the mentee?
3. How do you engage in such conversations based on interest without feeling or expressing a sense of judgment about differences? How do you ask without raising issues of tokenism? Can you generate questions or approaches to broaching this subject with the mentee?

*Adapted from Handelsman, J., Pfund, C., Miller Lauffer, S., and Pribbenow, C.M. 2005. Entering Mentoring: A Seminar to Train a New Generation of Scientists. Madison, WI: University of Wisconsin Press.*

***Addressing Equity and Inclusion***

**Case #1b: *Is it Okay to Ask?***

Last year I had a new graduate student join my research team. She has been a great member of the team and has contributed significantly to the research project. I think that she has had a positive experience working with our research team. This particular scholar is from China and I wonder how she has felt about being the only international woman in our research group. In fact, she is the only international woman in our entire department. I have wanted to ask her how she feels, but I worry it might be insensitive or politically incorrect to do so. I have never asked. Should I ask? Is it too late to ask now that it has been a year and I haven’t asked?

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What might the mentor’s intent have been in asking the question, and what might the impact be on the mentee?
3. How do you engage in such conversations based on interest without feeling or expressing a sense of judgment about differences? How do you ask without raising issues of tokenism? Can you generate questions or approaches to broaching this subject with the mentee?

*Adapted from Handelsman, J., Pfund, C., Miller Lauffer, S., and Pribbenow, C.M. 2005. Entering Mentoring: A Seminar to Train a New Generation of Scientists. Madison, WI: University of Wisconsin Press.*

***Addressing Equity and Inclusion***

**Case #1c: *Is it Okay to Ask?***

Last year I had a new graduate student join my research team. She has been a great member of the team and has contributed significantly to the research project. I think that she has had a positive experience working with our research team. This particular scholar is a Muslim woman and I wonder how she has felt about being the only Muslim woman in our research group. In fact, she is the only Muslim woman in our entire department. I have wanted to ask her how she feels, but I worry it might be insensitive or politically incorrect to do so. I have never asked. Should I ask? Is it too late to ask now that it has been a year and I haven’t asked?

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What might the mentor’s intent have been in asking the question, and what might the impact be on the mentee?
3. How do you engage in such conversations based on interest without feeling or expressing a sense of judgment about differences? How do you ask without raising issues of tokenism? Can you generate questions or approaches to broaching this subject with the mentee?

*Adapted from Handelsman, J., Pfund, C., Miller Lauffer, S., and Pribbenow, C.M. 2005. Entering Mentoring: A Seminar to Train a New Generation of Scientists. Madison, WI: University of Wisconsin Press.*

**Additional Activities (if time allows):**

**Objective 1; Activity #4:**

Ask mentors to think back to a time when they felt conspicuous as someone who did not fit in to a situation or setting. ASK: What was the situation, what did it feel like, and how did you react? Alternatively, mentors could share an experience in which they could see that *someone else* felt like they did not belong or fit in. What kinds of differences make us feel like outsiders and what differences are irrelevant? Why?

NOTE: Have each mentor share an experience. If a mentor cannot think of an experience to share, ask them to pass and then come back to them at the end of the activity. As a facilitator, you may need to encourage people to keep their comments relatively short so everyone has a chance to share. The time each person has to talk will depend on the size of the group.

**Objective 2; Activity #5**:

Have mentors visit "Dig Deeper" at [http://www.tolerance.org/hidden\_bias/index.html](http://www.tolerance.org/hidden_bias/index.html" \t "1) and select various tests to better understand their hidden biases and assumptions. At Project Implicit <https://implicit.harvard.edu/implicit/> mentors can find a number of tests that enable them to explore specific biases and assumptions, such as our biases and assumptions about gender, disabilities, skin-tone, etc. These are not only informative, but also fun and quick to take. These sites could be explored during the session if computers are available or could be distributed on a handout or via email and done outside of the session.

**Objective 3; Activity #6:**

**Case #4: *Cultural Sensitivity***

You just finished your master’s degree in Social Work and are pursuing a PhD in the sociology of medicine. To further your research training, you join an established research team studying the impact of free health clinics on access to healthcare in economically depressed urban areas. Your project will be to examine the effect of a new, free clinic on preventative health care in an African-American community. There are many research questions you could ask, but your mentor insists you use the research questions used in his other studies, so he can compare the data across studies. Most of those previous studies were developed and used in Latino communities. After visiting the community, you will study and noting several cultural differences, you believe that the questions should be revised for your study. Your mentor disagrees and tells you to use the standard questions.

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What could have been done to avoid this situation? What should the mentor do now? What should the mentee do now?
3. What assumptions about the study population and the research is the mentor making? What might be the impact of those assumptions?

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

**Benefits and Challenges of Diversity**

**By Jo Handelsman and Eve Fine**

The diversity of a university’s faculty, staff, and students influences its strength, productivity, and intellectual personality. Diversity of experience, age, physical ability, religion, race, ethnicity, gender, and many other attributes contributes to the richness of the environment for teaching and research. We also need diversity in discipline, intellectual outlook, cognitive style, and personality to offer students the breadth of ideas that constitute a dynamic intellectual community.

A vast and growing body of research provides evidence that a diverse student body, faculty, and staff benefits our joint missions of teaching and research by increasing creativity, innovation, and problem-solving. Yet diversity of faculty, staff, and students also brings challenges. Increasing diversity can lead to less cohesiveness, less effective communication, increased anxiety, and greater discomfort for many members of a community.1

Learning to respect and appreciate each other’s cultural and stylistic differences and becoming aware of unconscious assumptions and behaviors that may influence our interactions will enable us to minimize the challenges and derive maximum benefits from diversity.

This booklet summarizes research on the benefits and challenges of diversity and provides suggestions for realizing the benefits. Its goal is to help create a climate in which all individuals feel *“personally safe, listened to,* *valued, and treated fairly and with respect.”* 2

“It is time to renew the promise of American higher education in advancing social progress, end America’s discomfort with race and social difference, and deal directly with many of the issues of inequality present in everyday life.”

Sylvia Hurtado

**Benefits for Teaching and Research**

Research shows that diverse working groups are more productive, creative, and innovative than homogeneous groups, and suggests that developing a diverse faculty will enhance teaching and research.3

**Some findings are:**

* A controlled experimental study of performance during a brainstorming session compared ideas generated by ethnically diverse groups composed of Asians, Blacks, Whites, and Latinos to those generated by ethnically homogenous groups composed of Whites only. Evaluators who were unaware of the source of the ideas found no significant difference in the number of ideas generated by the two types of groups. However, when applying measures of feasibility and effectiveness, they rated the ideas generated by diverse groups as being of higher quality.4
* The level of critical analysis of decisions and alternatives was higher in groups exposed to minority viewpoints than in groups that were not. Minority viewpoints stimulated discussion of multiple perspectives and previously unconsidered alternatives, whether or not the minority opinion was correct or ultimately prevailed.5
* A study of corporate innovation found that the most innovative companies deliberately established diverse work teams.6
* Data from the 1995 Faculty Survey conducted by UCLA’s Higher Education Research Institute (HERI) demonstrated that scholars from minority groups have expanded and enriched scholarship and teaching in many academic disciplines by offering new perspectives and by raising new questions, challenges, and concerns.7
* Several investigators found that women and faculty of color more frequently employed active learning in the classroom, encouraged student input, and included perspectives of women and minorities in their coursework.8

**Benefits for Students**

Numerous research studies have examined the impact of diversity on students and educational outcomes. Cumulatively, these studies provide extensive evidence that diversity has a positive impact on all students, minority and majority.9

**Some examples are:**

* A national longitudinal study of 25,000 undergraduates at 217 four-year colleges and universities showed that institutional policies fostering diversity of the campus community had positive effects on students’ cognitive development, satisfaction with the college experience, and leadership abilities. These policies encouraged faculty to include themes relating to diversity in their research and teaching, and provided students with opportunities to confront racial and multicultural issues in the classroom and in extracurricular settings.10
* Two longitudinal studies, one conducted by HERI in 1985 and 1989 with over 11,000 students from 184 institutions and another in 1990 and 1994 on approximately 1500 students at the University of Michigan, showed that students who interacted with racially and ethnically diverse peers both informally and within the classroom showed the greatest “engagement in active thinking, growth in intellectual engagement and motivation, and growth in intellectual and academic skills.”11 A more recent study of 9,000 students at ten selective colleges reported that meaningful engagement rather than casual and superficial interactions led to greater benefit from interaction with racially diverse peers.12
* Data from the National Study of Student Learning indicated that both in-class and out-of-class interactions and involvement with diverse peers fostered critical thinking. This study also found a strong correlation between “the extent to which an institution’s environment is perceived as racially nondiscriminatory” and students’ willingness to accept both diversity and intellectual challenge.13
* A survey of 1,215 faculty members in departments granting doctoral degrees in computer science, chemistry, electrical engineering, microbiology, and physics showed that women faculty played important roles in fostering the education and success of women graduate students.14

**Challenges of Diversity**

Despite the benefits that a diverse faculty, staff, and student body provide to a campus, diversity also presents considerable challenges that must be addressed and overcome.

**Some examples include:**

* Numerous studies have reported that women and minority faculty members are considerably less satisfied with many aspects of their jobs than are majority male faculty members. These aspects include teaching and committee assignments, involvement in decision-making, professional relations with colleagues, promotion and tenure, salary inequities, and overall job satisfaction.15
* A study of minority faculty at universities and colleges in eight Midwestern states showed that faculty of color experience exclusion, isolation, alienation, and racism in predominantly white universities.16
* Multiple studies demonstrate that minority students often feel isolated and unwelcome in predominantly white institutions and that many experience discrimination and differential treatment. Minority status can result from race, ethnicity, national origin, sexual orientation, disability and other factors.17
* Women students, particularly when they are minorities in their classes, may experience unwelcoming climates that can include sexist use of language, presentation of stereotypic or disparaging views of women, differential treatment from professors, and/or sexual harassment.18
* When a negative stereotype relevant to their identity exists in a field of interest, women and members of minority groups often experience “stereotype threat”—the fear that they will confirm or be judged in accordance with the stereotype. Such stereotype threat exists for both entry into a new field and for individuals already excelling in a specific arena. Situations or behaviors that heighten awareness of one’s minority status can activate stereotype threat.19 Research demonstrates that once activated, stereotype threat leads to stress and anxiety, which decreases memory capacity, impairs performance, and reduces aspirations and motivation.20 Human brain imaging, which shows that activating stereotype threat causes blood to move from the cognitive to the affective centers of the brain, indicates how situational cues reduce cognitive abilities.21
* Research has demonstrated that a lack of previous positive experiences with “outgroup members” (minorities) causes “ingroup members” (majority members) to feel anxious about interactions with minorities. This anxiety can cause majority members to respond with hostility or to avoid interactions with minorities.22

**Influence of Unconscious Assumptions and Biases**

Research studies show that people who have strong egalitarian values and believe that they are not biased may unconsciously behave in discriminatory ways.23 A first step towards improving climate is to recognize that unconscious biases, attitudes, and other influences unrelated to the qualifications, contributions, behaviors, and personalities of our colleagues can influence our interactions, *even if we are committed to egalitarian views*.

Although we all like to think that we are objective scholars who judge people on merit, the quality of their work, and the nature of their achievements, copious research shows that a lifetime of experience and cultural history shapes every one of us and our judgments of others.

The results from controlled research studies demonstrate that people often hold unconscious, implicit assumptions that influence their judgments and interactions with others. Examples range from expectations or assumptions about physical or social characteristics associated with race, gender, age, and ethnicity to those associated with certain job descriptions, academic institutions, and fields of study.

***“People confident in their own objectivity may***

***overestimate their invulnerability to bias.”***

ERIC LUIS UHLMANN AND GEOFFREY L. COHEN

**Examples of common social assumptions or expectations:**

* When shown photographs of people of the same height, evaluators overestimated the heights of male subjects and underestimated the heights of female subjects, even though a reference point, such as a doorway, was provided.24
* When shown photographs of men of similar height and build, evaluators rated the athletic ability of Black men higher than that of White men.25
* When asked to choose counselors from a group of equally competent applicants who were neither exceptionally qualified nor unqualified for the position, college students chose White candidates more often than African American candidates, exhibiting a tendency to give members of the majority group the benefit of the doubt.26

These studies show that we often apply generalizations about groups that may or may not be valid to the evaluation of individuals.27 In the study on height, evaluators applied the statistically accurate generalization that men are usually taller than women to estimate the height of individuals who did not necessarily conform to the generalization. If we can inaccurately apply generalizations to objective characteristics as easily measured as height, what happens when the qualities we are evaluating are not as objective or as easily measured? What happens when, as in the studies of athletic ability and choice of counselor, the generalizations are not valid? What happens when such generalizations unconsciously influence the ways we interact with other people?

**Examples of assumptions or biases that can influence interactions:**

* When rating the quality of verbal skills as indicated by vocabulary definitions, evaluators rated the skills lower if told that an African American provided the definitions than if told that a White person provided them.28
* When asked to assess the contribution of skill versus luck to successful performance of a task, evaluators more frequently attributed success to skill for males and to luck for females, even though males and females performed the task identically.29
* Evaluators who were busy, distracted by other tasks, and under time pressure gave women lower ratings than men for the same written evaluation of job performance. Sex bias decreased when they took their time and focused attention on their judgments, which rarely occurs in actual work settings.30
* Research has shown that incongruities between perceptions of female gender roles and leadership roles can cause evaluators to assume that women will be less competent leaders. When women leaders provided clear evidence of their competence, thus violating traditional gender norms, evaluators perceived them to be less likeable and were less likely to recommend them for hiring or promotion.31
* A study of nonverbal communication found that White interviewers maintained higher levels of visual contact, reflecting greater attraction, intimacy, and respect, when talking with White interviewees and higher rates of blinking, indicating greater negative arousal and tension, when talking with Black interviewees.32

**Examples of assumptions or biases in academic contexts:**

Several research studies conclude that implicit biases and assumptions can affect evaluation and hiring of candidates for academic positions. These studies show that the gender of the person being evaluated significantly influences the assessment of résumés and postdoctoral applications, evaluation of journal articles, and the language and structure of letters of recommendation. As we attempt to enhance campus and department climate, the influence of such biases and assumptions may also affect selection of invited speakers, conference presenters, committee membership, interaction, and collaboration with colleagues, and promotion to tenure and full professorships.

* A study of over 300 recommendation letters for medical faculty hired by a large American medical school found that letters for female applicants differed systematically from those for males. Letters written for women were shorter, provided “minimal assurance” rather than solid recommendations, raised more doubts, and included fewer superlative adjectives.33
* In a national study, 238 academic psychologists (118 male, 120 female) evaluated a junior-level or a senior-level curriculum vitae randomly assigned a male or a female name. These were actual vitae from an academic psychologist who successfully competed for an assistant professorship and then received tenure early. For the junior-level applicant, both male and female evaluators gave the male applicant better ratings for teaching, research, and service and were more likely to hire the male than the female applicant. Gender did not influence evaluators’ decisions to tenure the senior-level applicant, but evaluators did voice more doubts about the female applicant’s qualifications.34
* A study of postdoctoral fellowships awarded by the Medical Research Council of Sweden found that women candidates needed substantially more publications to achieve the same rating as men, unless they personally knew someone on the selection panel.35
* A 2008 study showed that when the journal *Behavioral Ecology* introduced a double-blind review process that concealed the identities of reviewers and authors, there was a significant increase in the publication of articles with a woman as the first author.36

**Reaping the Benefits and Minimizing the Challenges of Diversity**

To reap the benefits and minimize the challenges of diversity, we need to overcome the powerful human tendency to feel more comfortable when surrounded by people we resemble. We need to learn how to understand, value, and appreciate difference. Below is some advice for doing so:

**Become aware of unconscious biases that may undermine your conscious commitment to egalitarian principles.**

One way of doing so is to take the Implicit Association Test (IAT) offered by Project Implicit (a research collaborative at the University of Virginia, Harvard University, and the University of Washington): https://implicit.harvard.edu/implicit/demo.

**Consciously strive to minimize the influence of unintentional bias.**

Question your judgments and decisions and consider whether unintentional bias may have played a role. One way to do so is to perform a thought experiment: ask yourself if your opinions or conclusions would change if the person was of a different race, sex, or religion, etc. Some questions to consider include:

* Are women or minority colleagues/students subject to higher expectations in areas such as number and quality of publications, name recognition, or personal acquaintance with influential colleagues?
* Are colleagues or students who received degrees from institutions other than major research universities under-valued? Are we missing opportunities to benefit from the innovative, diverse, and valuable perspectives and expertise of colleagues or students from other institutions such as historically black universities, four-year colleges, community colleges, government, or industry?
* Are ideas and opinions voiced by women or minorities ignored? Are their achievements and contributions under-valued or unfairly attributed to collaborators, despite evidence to the contrary in their publications or letters of reference?
* Is the ability of women or minorities to lead groups, raise funds, and/or supervise students and staff underestimated? Are such assumptions influencing committee and/or course assignments?
* Are assumptions about whether women or minorities will “fit in” to an existing environment influencing decisions?
* Are assumptions about family obligations inappropriately influencing appointments and other decisions?

**Seek out opportunities for greater interaction with women and minority colleagues.**

Get to know women and minority colleagues in your department, your campus, and your professional associations. Pursue meaningful discussions with them about research, teaching methodologies, and ideas about the direction of your department, college, and profession. Listen actively to any concerns they express and try to understand and learn from their perspectives and experiences.

**Focus on the individual and on his/her personality, qualifications, merit, interests, etc.**

Consciously avoid the tendency to make assumptions about an individual based on the characteristics (accurate or not) of his/her group membership. Likewise, avoid the tendency to make assumptions about groups based on the behavior, personality, qualifications, etc. of an individual group member. Instead, concentrate on the individual and his/her qualities.

**Treat all individuals—regardless of race, sex, or status—with respect, consideration, and politeness.**

* Greet faculty, staff, and students pleasantly in hallways or in other chance encounters.
* Make requests to faculty, staff, and students politely - even when the work you are asking for is part of their obligations.
* Acknowledge and appreciate the work, assistance, and contributions of faculty colleagues, staff, and students. Do so in public forums as well as privately.
* Address individuals by their appropriate titles or by their preferred forms of address.

**Actively promote inclusive communities.**

* In classroom, committee, laboratory, and departmental settings, work to ensure that everyone has a chance to voice opinions, concerns, or questions. Acknowledge and attribute ideas, suggestions, and comments accurately. Women and minorities often report that their remarks or contributions are ignored or unheard.
* Support efforts to ensure that leadership and membership of departmental and professional committees are diverse with respect to age, gender, nationality, race, ethnicity, etc.
* Support efforts to ensure that departmental events such as seminar series and sponsored conferences include presenters of various ages, genders, nationalities, races, and ethnicities.
* Promote inclusive language by example. Avoid using only male pronouns when referring to groups of both sexes. Avoid language that makes assumptions about marital status and or/sexual orientation, i.e., consider using “partner” rather than “spouse.”
* Welcome new departmental members by initiating conversations or meetings with them. Attend social events hosted by your department and make efforts to interact with new members and others who are not part of your usual social circle.

**Avoid activating stereotype threat.**

In addition to the advice provided above for actively promoting inclusive communities, the following suggestions can prevent the activation of stereotype threat or counteract its effects:

* Teach students and colleagues about stereotype threat.37
* Counter common stereotypes by increasing the visibility of successful women and minority members of your discipline. Ensure that the posters and/or photographs of members of your department or discipline displayed in hallways, conference rooms, and classrooms reflect the diversity you wish to achieve. Choose textbooks that include the contributions and images of diverse members of your discipline.38
* Support and encourage your students by providing positive feedback as well as constructive criticism to ensure that they know their strengths and develop confidence in their abilities. Save your harshest criticism for private settings so that you do not humiliate or embarrass students in front of either their peers or more senior colleagues. Such respectful practices are important for all students, but are likely to be more important for women and members of minority groups, who may have received less encouragement and may be at greater risk of being discouraged due to the influence of stereotype threat. Demonstrate similar respect and encouragement for your colleagues.
* For more suggestions, see: http://reducingstereotypethreat.org/reduce.html.

**Conclusion**

***Diversity is not an end in itself.***

Diversity is a means of achieving our educational and institutional goals. As such, merely adding diverse people to a homogeneous environment does not automatically create a more welcoming and intellectually stimulating campus.

Long-term efforts, engagement, and substantial attention are essential for realizing the benefits that diversity has to offer and for ensuring that all members of the academic community are respected, listened to, and valued.

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Complete references, including links to articles, are available online:

**http://wiseli.engr.wisc.edu/docs/benefits\_references2012.pdf**

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**Second Edition.**

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**Promoting Research Self–Efficacy**

**Promoting Mentee Research Self–Efficacy**

**Introduction**

Self-efficacy is the perceived confidence people have in their ability to perform a given task or skill. Research consistently shows that self-efficacy has a tremendous impact on behavior; people who lack self-efficacy in relation to a certain skill are less likely to perform tasks relating to that skill set. Mentors play a critical role in shaping the research experience to increase mentees’ self-efficacy in relation to their research skills. Making explicit efforts to strengthen mentees’ research self-efficacy, like being explicit about how they are making important contributions to the team or telling them you believe they can successfully pursue a research career, can increase the likelihood that they will effectively perform the tasks that lead to these outcomes. There are four factors that build self-efficacy: past accomplishments, vicarious modeling, social persuasion, and positive affective states. These factors, or sources, provide mentors direction for strategies to enhance and sustain mentees’ research self-efficacy.

**Learning Objectives**

Mentors will have the knowledge and skills to:

1. Define and articulate what self-efficacy is and its four sources
2. Identify signs of self-efficacy in relation to research related tasks
3. Articulate their role in fostering mentees’ research self-efficacy
4. Practice strategies for building mentees’ research self-efficacy

Self-efficacy curriculum developed by Byars-Winston, Angela, Leverett, Patrice, Branchaw, Janet, and Pfund, Christine (2013). University of Wisconsin-Madison. Supported by NIH grant # R01 GM094573 (Byars-Winston, PI).

**Overview of Activities for the Self-Efficacy session**: Please note that the core activity is listed for each learning objective. We encourage you to engage the mentors in your group in this activity. There is a list of additional activities that can be used if there is extra time in the session or the core activity is not working well for your group.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Learning Objectives** | **Core Activities** | **Additional Activities** |
| **1** | Define self-efficacy and its four sources. | Anatomy of a successful research experience (Activity #1) |  |
| **2** | Identify signs of self-efficacy in relation to research-related tasks | Approaches to improving research self-efficacy with a specific mentee (Activity #2) | Case #1: The Struggling Graduate Student. How to build and support research self-efficacy . (Activity #4) |
| **3** | Articulate their role in fostering mentees’ research self-efficacy | Approaches to improving research self-efficacy with a specific mentee (Activity #2) | Case #1: The Struggling Graduate Student. How to build and support research self-efficacy. (Activity #4) |
| **4** | Practice strategies for building mentees’ self-efficacy in research | Discuss particular examples further, and brainstorm additional strategies that could be used (Activity #3) | Case #1: The Struggling Graduate Student. How to build and support research self-efficacy. (Activity #4) |

**Facilitation Guide**

**Recommended Session on Improving Mentee Research Self-Efficacy (45 minutes)**

* **Materials Needed for the Session:**
  + Table tents and markers
  + Chalkboard, whiteboard, or flip chart
  + Handouts:
    - Copies of introduction and learning objectives for *Promoting Mentee Self-Efficacy* (page 87)
    - Copies of What is Self-Efficacy handout (at beginning or prior as a homework assignment) (page 90)
* Copies of Sources of Self-Efficacy handout (page 91)
* Copies of Self-efficacy toolbox (pages 92-93)
* Copies of the additional case if desired (page 94)

###### **Overview (5 min)**

* + TELL: Introduce the session, review the introduction and learning objectives, and provide brief overview of the concept of self-efficacy.

This module was developed by Byars-Winston et al. (2013). See page 87.

* **Objective 1: What Is Research Self-Efficacy and How Do You Improve It? (10 min)**
* ACTIVITY #1: Anatomy of a Research Success Experience
* Tell: Think of one “magical research moment” in your career thus far, a time when you had an outstanding experience or achievement in research you conducted. Then in pairs or triads, discuss some of the questions below. (5 min)

1. How did that magical moment happen? What were the events, people, and experiences that contributed to the success?
2. How do the factors that led to that success fit into the four sources of self-efficacy?
3. Were some efficacy sources more common than others in your success story? If so, what are they?
4. How do you think your own experiences with sources of research self-efficacy affect the approaches you use with your mentees, or do not use with your mentees, to build or support their research self-efficacy?
   * + DISCUSS (5 min) with the entire group themes that arose in pairs/triads.

* **Objective 2 and 3: Identify signs of self-efficacy in relation to research related tasks**

**and articulate their role in fostering mentees’ research self-efficacy (15 min)**

* ACTIVITY #2: Approaches to improving research self-efficacy with a specific mentee. Distribute the Self-Efficacy Tool Box
* NOTE: If this session is not with experienced mentors, consider replacing Activities #2 and #3 with Activity #4 under Additional Activities.
* Tell: Think of one of your own mentees who currently or in the past has shown signs of lower self-efficacy around research. If you have not yet mentored someone, think of a time when you yourself were feeling challenges to your research self-efficacy.
* TELL: Look at the Self-Efficacy Tool Box in Handout #1, and spend a few minutes thinking and then talk with your partner (use previous pair/triad from Activity #1) about the following questions):

1. Briefly, describe to your partner what is/was the situation or sign of low research self-efficacy.
2. Which of the approaches could you use with this mentee? Or, if it was a past situation, what approach did you use? Do you think it helped? What else could you have tried?
3. Does your workshop partner have suggestions about other approaches you could or could have tried?
4. Which approaches on the handout feel most natural to you and which do not? Why?
5. Are there some approaches that you think you would like to try moving forward?

* **Objective 4: Practice strategies for building mentees’ self-efficacy in research (15 min)**
* ACTIVITY #3: DISCUSS: In the large group brainstorm particular examples from the pairs activity further. What additional approaches could be used? (15 min)

This module was developed by Byars-Winston et al. (2013). See page 87.

**What Is Self-Efficacy?**

The concept of self-efficacy is central to psychologist [Albert Bandura](http://psychology.about.com/od/psychologyquotes/a/banduraquotes.htm)’s [social cognitive theory](http://psychology.about.com/od/developmentalpsychology/a/sociallearning.htm), which emphasizes the role of [observational learning](http://psychology.about.com/od/oindex/fl/What-Is-Observational-Learning.htm), social experience, and [reciprocal determinism](http://psychology.about.com/od/socialpsychology/f/reciprocal-determinism.htm) in the development of personality. According to Bandura, a person’s attitudes, abilities, and [cognitive skills](http://childparenting.about.com/od/schoollearning/a/cognitive-skills-def.htm) comprise what is known as the self-system. This system plays a major role in how we perceive situations and how we behave in response to different situations. Self-efficacy plays an essential part of this self-system.

According to [Albert Bandura](http://psychology.about.com/od/profilesofmajorthinkers/p/bio_bandura.htm), self-efficacy is "the belief in one’s capabilities to organize and execute the courses of action required to manage prospective situations." In other words, self-efficacy is a person’s belief in his or her ability to succeed in a particular situation. Bandura described these beliefs as determinants of how people think, behave, and feel (1994). Since Bandura published his seminal 1977 paper, "Self-Efficacy: Toward a Unifying Theory of Behavioral Change," the subject has become one of the most studied topics in psychology. Why has self-efficacy become such an important topic among psychologists and educators? As Bandura and other researchers have demonstrated, self-efficacy can have an impact on everything from psychological states to behavior to motivation.

**The Role of Self-Efficacy**

Virtually all people can identify goals they want to accomplish, things they would like to [change](http://psychology.about.com/od/behavioralpsychology/ss/behaviorchange.htm), and things they would like to achieve. However, most people also realize that putting these plans into action is not quite so simple. Bandura and others have found that an individual’s self-efficacy plays a major role in how goals, tasks, and challenges are approached.

*People with a strong sense of self-efficacy:*

* View challenging problems as tasks to be mastered
* Develop deeper interest in the activities in which they participate
* Form a stronger sense of commitment to their interests and activities
* Recover quickly from setbacks and disappointments

*People with a weak sense of self-efficacy:*

* Avoid challenging tasks
* Believe that difficult tasks and situations are beyond their capabilities
* Focus on personal failings and negative outcomes
* Quickly lose confidence in personal abilities

This module was developed by Byars-Winston et al. (2013). See page 87.

**Sources of Self-Efficacy**

How does self-efficacy develop? These beliefs begin to form in [early childhood](http://psychology.about.com/od/developmentalpsychology/ss/early-childhood-development.htm) as children deal with a wide variety of experiences, tasks, and situations. However, the growth of self-efficacy does not end during youth, but continues to evolve throughout life as people acquire new skills, experiences, and understanding.

According to Bandura, there are four major sources of self-efficacy.

**1. Mastery Experiences**

"The most effective way of developing a strong sense of efficacy is through mastery experiences," Bandura explained. Performing a task successfully strengthens our sense of self-efficacy. However, failing to adequately deal with a task or challenge can undermine and weaken self-efficacy.

**2. Social Modeling**

Witnessing other people successfully completing a task is another important source of self-efficacy. According to Bandura, "Seeing people similar to oneself succeed by sustained effort raises observers' beliefs that they too possess the capabilities master comparable activities to succeed."

**3.** [**Social Persuasion**](http://psychology.about.com/od/socialinfluence/f/what-is-persuasion.htm)

Bandura also asserted that people could be persuaded to believe that they have the skills and capabilities to succeed. Consider a time when someone said something positive and encouraging that helped you achieve a goal. Getting verbal encouragement from others helps people overcome self-doubt and instead focus on giving their best effort to the task at hand.

**4. Emotional and Physiological Responses**

Our own responses and emotional reactions to situations also play an important role in self-efficacy. Moods, [emotional states](http://psychology.about.com/od/emotion/f/what-are-emotions.htm), physical reactions, and stress levels can all impact how a person feels about their personal abilities in a particular situation. A person who becomes extremely nervous before speaking in public may develop a weak sense of self-efficacy in these situations.

However, Bandura also notes "it is not the sheer intensity of emotional and physical reactions that is important but rather how they are perceived and interpreted." By learning how to minimize stress and elevate mood when facing difficult or challenging tasks, people can improve their sense of self-efficacy.

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This module was developed by Byars-Winston et al. (2013). See page 87.

**The Self-Efficacy Tool Box – What Can You Do?**

**Research Mentors Matter! You can make a difference in building your mentees’ self-efficacy**

*Self-efficacy:* belief in one’s ability to achieve a specific goal or task. Self-efficacy is situation-specific self-confidence. Simply put, *“I believe I can do this.”*

**When a trainee’s research self-efficacy falters, you can support them in four ways:**

**Mastery Experience**

**Ask yourself: *What are your mentees doing?*** Are they doing well, but still lack self-efficacy for research? Are they taking on projects that might be too complex for them at this stage in their training?

**What you can do:**

* Reinforce your mentees’ past successes (have them recall and highlight a personal “significant research moment”, or other specific successes in other domains, to understand what contributed to their success in the past and recreate that in the present).
* Encourage mentees to reference past successes during the research experience or, if they are new to research, past successes in academics (e.g., “you did it before you can do it now”). Help mentees adopt success strategies (match strategies to situation—e.g., reinforce effective behaviors that contributed to their past success).

**Social Modeling**

**Ask yourself: *What are mentees observing?*** Do they have any role models in the lab or in their network of peers? Can they “see” themselves reflected in the students, faculty, staff, and policies in your STEM programs? Are students from historically underrepresented groups able to see themselves in STEM at your institution? Why or why not?

**What you can do:**

* Talk about your own research experience: How do you know when you are doing a good job as a researcher? What are the things that increase your confidence in your field?
* Consider who your mentees’ role models are and what research skills (and attitudes) are being modeled for them by you and others.
* Be aware of what skills and behavior mentees are observing about coping with research challenges and setbacks; share strategies for what you do when you hit a wall and how you encourage yourself to get over challenges/setbacks in research.
* Offer time to practice skills that are strong as well as ones that need more development
* Encourage your department to run a session where advanced mentees or faculty talk about setbacks, challenges, and how they overcame them.

This module was developed by Byars-Winston et al. (2013). See page 87.

**Social Persuasion**

**Ask yourself: *What are they hearing?*** Are they hearing that they have what it takes? Are they receiving specific feedback relating to their effort or capabilities? Is that feedback constructive? Is the message that you are sending the same as what is being received by the student?

**What you can do:**

* Foster a “you can do it” attitude.
* Be attuned to ways that you can acknowledge mentees’ current successes.
* Reinforce mentee’s research abilities by giving specific, credible feedback about technique and less evaluation of the outcome or general feedback.
* Let them know that they belong in research/the program.
* Be aware of signs that mentees may feel that they do not fit in research/training program (“I don’t belong here”).
* Talk about both the positive things mentees are doing while giving clear steps for how they can improve in areas that are challenging to them.

**Emotional/Physiological State**

**Ask yourself: *What are they feeling?*** How can you help students feel at home in your lab/classroom/university? What can you do regarding the environment (e.g., office hours, program policies, etc.) that can help reduce students’ stress and anxiety relating to STEM?

**What you can do:**

* Be aware of positive (enjoyment) or negative moods (anxiety) mentees may have related to research/training program.
* Attend to negative, anxiety-related feelings (e.g. negative self-talk that they are not as smart as other mentees).
* Acknowledge and normalize when things are difficult; “It’s supposed to be hard, new things usually are.”
* Give examples of mentees who struggled but made it (successful in research)

Source: <http://psychology.about.com/od/theoriesofpersonality/a/self_efficacy.htm?p=1>

This module was developed by Byars-Winston et al. (2013). See page 87

**Additional Activity (if time allows):**

**Objectives 3, 4, and 5; Activity #4:**

This case study is an alternative activity to address fostering self-efficacy in a research group. (30 min total: 3 min for participants to read the case and questions, 12 min for paired or small group discussion, and 15 minutes for large group discussion.)

**Case #1: *The Struggling Graduate Student*** One of your colleagues, Dr. Cooper, comes to talk with you about a situation with her mentee, Al, a second year graduate student. Al arrived at a recent meeting with Dr. Cooper seeming down and nervous as he told Dr. Cooper that he was not sure that he was going to be successful working with Dr. Cooper and her research group. For six months, Al has been coming to weekly meetings that Dr. Cooper holds with her research team consisting of Al, two other graduate students, and one postdoc. When Dr. Cooper asked Al why he thinks he won’t be successful, he said that in the weekly meetings he observes that the others all know a lot more about the topic than he does, they all seem to grasp advanced research methods, and they are all moving their research agenda forward while he doesn’t even have his own topic yet. He said he recognizes that the other two graduate students are ahead of him – that they have completed their coursework, and that one is a postdoc, but still he can’t imagine himself being able to get to where they are so quickly. He worries that he doesn't have the preparation needed to work with Dr. Cooper and her group.

Dr. Cooper feels bad that she probably didn’t spend enough time with Al when she invited him to join her research group. She thought that Al could start learning by watching the others in the research group first, and pick up information there. She also wonders if Al might feel like he doesn’t belong because the others are funded from Dr. Cooper’s research grant while Al is funded by a minority fellowship from the graduate school. Dr. Cooper thinks Al has a lot of promise, but it’s true that she hasn’t given him many opportunities to contribute to the progress of the research.

Guiding Questions for Discussion:

1. What might Dr. Cooper say to Al?
2. What might she do?
3. How can she draw from all four sources of self-efficacy in considering what to say or do?
4. How might your own unconscious biases affect your assumptions about how to approach building or supporting research self-efficacy in your mentees?

This module was developed by Byars-Winston et al. (2013). See page 87.

**Fostering Independence**

**Fostering Independence**

**Introduction**

An important goal in any mentoring relationship is helping the mentee become independent; yet defining what an independent mentee knows and can do is often not articulated by the mentor or the mentee. Defining what independence looks like and developing skills to foster independence is important to becoming an effective mentor. Defining independence becomes increasingly complex in the context of team and interdisciplinary science.

**Learning Objectives**

Mentors will have the knowledge and skills to:

1. Define independence, its core elements, and how those elements change over the course of a mentoring relationship
2. Employ various strategies to build mentee confidence, establish trust, and foster independence
3. Identify the benefits and challenges of fostering independence, including the sometimes conflicting goals of fostering independence and achieving the mentor’s own research objectives

**Overview of Activities for the Fostering Independence Session:** Please note that a core activity is listed for each learning objective. We encourage you to engage the mentors in this activity. There is a list of additional activities that can be used if there is extra time in the session or the core activity is not working well for your group.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Learning Objectives** | **Core Activities** | **Additional Activities** |
| **1** | Define independence, its core elements, and how those elements change over the course of a mentoring relationship | Mentors share ideas on the core elements of independence and then organize the list based on career stage (Activity #1) | Mentors engage in a follow-up conversation to Activity #1, with more in-depth discussion about the growing need for multidisplinary research teams (Activity #3) |
| **2** | Employ various strategies to build mentee confidence, establish trust, and foster independence | Mentors share strategies they have used to foster independence (Activity #2) | Mentors read and discuss Case #1: *How Much to Help?* (Activity #4) |
| **3** | Identify the benefits and challenges of fostering independence | Mentors discuss the benefits of an independent mentee, as well as the challenges (Activity #2 continued) | Mentors read and discuss Case #2:*The Slow Writer* (Activity #5) |

**Facilitation Guide**

**Recommended Session on Fostering Independence** (60 minutes)

* NOTE: The activities for this session were chosen for use with a more experienced group of mentors. For newer or future mentors, we recommend substituting cases from the additional activities option at the end of this section.
* **Materials Needed for the Session:**
  + Table tents and markers
  + Chalkboard, whiteboard, or flip chart
  + Handouts:
    - Copies of introduction and learning objectives for *Fostering Independence* (page 97)
    - Copies of *Mentoring Research Writers* Reading (pages 102-108)
    - Copies of additional case studies if desired (pages 100-101)
* Potential resource for handouts: <https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/tips-students/self-directed-learning/self-directed-learning-four-step-process>
* **Introduction** **(10 min)**
* ASK: Briefly share one important idea you learned from the last mentor-training session.
* TELL: Provide an overview for the day. Review the introduction and learning objectives for the first session.
  + NOTE: The time for the introduction was extended for the 3-day agenda. It can be shortened if necessary.
* **Objective 1: Define independence, its core elements, and how those elements change over the course of a mentoring relationship (25 min)**
* ACTIVITY #1: Defining Independence
* ASK: Please describe your definition of independence. What does “independence” look like across career stages? Include in your discussion what it means in your department or school and how that might differ from other places.
* TELL (15 min): We recognize that independence looks different at various stages of a researcher’s career. As we list the elements of independence, let’s also note the most appropriate career stage for each element.
* You may want to record the ideas generated in this discussion on a white board or flip chart, writing elements of independence along a continuum based on the discussion. Categories should include graduate student, post-doc, new faculty, and senior faculty.
* NOTE: Some elements of independence include:
  + - * + Advanced knowledge of discipline, including expertise in their sub-area
        + Ability to critically read the literature and find answers to questions through extended literature searches and consulting experts
        + Ability to write a grant proposal for an entire research project
        + Ability to design and give an oral presentation on their work at a national meeting
        + Ability to design and implement a research project from start to finish
* DISCUSS (10 min) with the entire group the following questions:

1. How can you tell if a certain level of independence is achieved? For example, what does independent thinking look like?
2. Do mentees know what level of independence is expected of them? Do they understand that this will change as they progress in their career?
3. Do you think your mentees’ estimations of their level of independence are aligned with yours?
4. How can a mentee work both as an independent researcher and in a team project?

* FOLLOW-UP ACTIVITY: Draw your own timeline for establishing independence and discuss it with your mentee to see if it aligns with their expectations. You may consider adding this timeline to your compact (if applicable).
* **Objectives 2 and 3: Employ various strategies to build mentee confidence, establish trust, and foster independence and identify the benefits and challenges of fostering independence (25 min)**
* ACTIVITY #2: Have mentors generate a list of strategies that can be used to foster independence. Ask mentors to review the list of elements generated in Activity #1 for guidance. Consider strategies that can be used in face-to-face meetings, over email, through written reports, etc. You may want to record the ideas generated in this discussion on a white board or flip chart. If ideas lag, ask them:
  1. What do you do to foster independence in mentees who you perceive to be slow writers, good at analyzing data but weaker on creative ideas, lower on self-motivation or time management, great on big ideas but weaker on methodological or statistical skills?
  2. What can your department or school do to help your mentees become independent?
  3. What are some of the challenges of mentees achieving independence? Benefits?
  4. What are some of the challenges and solutions for fostering independence with mentees who have multiple mentors from different fields?

**Additional Activities (if time allows):**

**Objective 1; Activity #3**

Have mentors engage in a follow up conversation to Activity #1, with a more in-depth discussion of the ways in which research team composition is becoming more diverse and how an increasing reliance on multidisciplinary expertise is transforming how independence is defined. Ask mentors to think through whom it is they include in the ‘team’ and what each member contributes. For example, are they counting statisticians, data managers/analysts, editors, program coordinators, and support staff?

**Objective 2; Activity #4**

**Case #1*: How Much to Help?***

Amar is nearing the end of his dissertation, but wishes to continue his research as a postdoc in his mentor’s research group. Thus, he is applying for an individual postdoc fellowship from the National Science Foundation. His mentor believes that Amar is a very valuable asset to the team and is highly supportive of Amar continuing as a postdoc in the group, but does not have funding to support him. The mentor has agreed to advise Amar in the preparation of the application, although noting that it should represent Amar’s independent work.

When Amar provides his mentor with a draft of the application, his mentor becomes concerned. The research ideas are not well defined, and the proposal is very poorly written. Amar’s mentor believes that the proposal in its current form would not be a strong contender for funding. Although the application should reflect Amar’s work, the mentor has a vested interest in the proposal succeeding so that he can retain Amar in his research group. The mentor is unsure how to improve Amar’s proposal while still preserving it as Amar’s independent work. Moreover, Amar has invested more than a month in preparing this application so the mentor is concerned about how to provide feedback that is honest yet constructive to help keep Amar motivated to continue revisions to the proposal.

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What could have been done to avoid this situation? What should the mentor do now?
3. How would independent research be defined in this case?

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

**Objective 3; Activity #5**

**Case #2: *The Slow Writer***

A postdoc in my research group is adept at analysis of large data sets, but is a very slow writer. Last fall, I set multiple deadlines that this scholar missed, while another post-doc wrote a grant proposal and submitted two papers. Over the holidays, the slow writer had a breakthrough and produced an outline of a manuscript. To avoid delays in publication, I have now taken the lead in writing the manuscript based on this investigator’s work. However, to become an independent investigator, I know this mentee must be able to write independently. Setting deadlines for detailed outlines, manuscript sections, figures, etc. hasn’t worked. Trying to communicate the importance of manuscripts to the scientific endeavor hasn’t worked either. Neither has encouragement. Veiled threats don’t seem professional. Other than being patient, what should I do?

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. How do you convey the level of independence you expect from your mentee?
3. What is the mentor’s responsibility in this case?
4. What if the mentee in this case was an international scholar for whom English is not the first language? How do you grapple with issues of independence in writing for international scholars versus others?

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

**READING**

**Mentoring Research Writers**

**by Bradley Hughes**  
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**Recognizing the Power of Writing as a Component of the Research Process**

As a mentor you have a great opportunity to encourage your trainees to set high goals for their research writing and to help them achieve those goals. You should recognize, in fact, that you have a serious responsibility to motivate and to help researchers-in-training become excellent writers. Why should you and your trainees make writing a priority? The answer is clear to all experienced researchers: researchers earn their living and develop their careers *through the writing they do*—writing proposals to fund research, writing conference abstracts and posters and papers to disseminate new knowledge and to influence future research and the shape of their fields, documenting their research methods and findings, writing reviews of literature, writing reviews of colleagues’ manuscripts, and writing letters of recommendation. Writing pervades the research process, and successful researchers spend a significant amount of their time planning, drafting, and revising complex forms of writing. Experienced researchers also know that writing is not just a way to communicate completed findings and polished arguments: writing is actually a powerful form of thinking and learning, one that clarifies thought and makes analyses and arguments more precise.

**Acknowledging the Complexity of Research Writing**

In order to appreciate the complexity of research writing and to guide new researchers, mentors need to understand that writing is a highly situated practice—that is, it is not a generic, general skill. Successful researchers need to achieve very specific purposes and speak persuasively to particular groups of readers. What is valued in writing and what is conventional and effective in writing varies across particular scientific communities and even within particular communities of researchers.

As researchers transition from writing within particular disciplines or professions to new ones, they often struggle to write successfully, even if they had success in previous writing situations. Given how varied purposes and audiences are for advanced research writing, as a research mentor, you should have intentional conversations about research writing with your mentees—working on and talking about writing are natural and important parts of training programs, and you should not expect new biomedical researchers to be accomplished writers from the start. Becoming an excellent research writer takes time, effort, and dedicated, consistent mentoring.

Mentors should also remember that researchers-in-training, like all students, bring varied literacy backgrounds to each new writing challenge. Some of your research trainees will have done lots of writing and reading, been held to high standards for written communication, and learned to receive and give critical feedback on writing. Others may feel that their intellectual strengths lie in quantitative rather than verbal areas. Some may have great strengths in oral communication rather than academic writing. Others may be multilingual writers, who are very skilled communicators in their first or second languages and who have great cross-cultural linguistic knowledge, but less experience writing and reading English. Some multilingual writers may have internalized organizational structures or styles for academic writing from their first language that are at odds with standard patterns in English. Still other writers may have a tenuous grasp on the subject that they are writing about, and their conceptual struggles may manifest themselves in their writing. At the same time, many researchers find writing difficult and as a consequence avoid writing, procrastinate, and eventually end up in stressful time crunches that reinforce their dislike for writing.

**Key Principles In Mentoring Writers**

1. Signal from the very start and reinforce frequently that excellent writing is a high priority for you, for your research group, and for all successful researchers.
2. Figure out what your mentees already know about research writing and find ways to help them learn what they need to learn.
3. Work collaboratively with your research mentees to motivate them to write every week, sometimes every day.
4. Talk with your mentees regularly about their writing—analyzing successful examples, planning new pieces of writing, brainstorming, kicking ideas around, discussing drafts, and planning revisions.
5. Schedule meetings to plan and work on drafts. Make discussions of in-progress writing in progress part of the culture and rhythm of your research group.
6. Give clear, specific, encouraging feedback. Start first with global concerns and then move on to more local, smaller concerns.
7. Be sure your feedback identifies strengths and potential as well as problems.
8. Honor and celebrate successful research writing within your research group.

Given what varied experiences and strengths researchers-in-training may bring, you should ask your mentees about their previous experience and about their perceived strengths and areas for improvement. Acknowledge that research writing is always hard work, especially when researchers are learning to write in a new field or in a new genre, when they are making arguments that are more complex than they have made before, or when they’re not sure what their findings mean or what is interesting or important in their findings. For these reasons, research writers need their mentors to be patient and encouraging as well as critical. And above all, mentors need to *normalize revision*; revision is a normal and crucial part of writing, not a sign that a writer has failed because she or he did not achieve perfection in an early draft. Research shows that experienced, successful writers spend a lot of time revising their work.

Writing is hard work and time-consuming for mentees. Let’s face it—--helping mentees learn to become strong research writers is hard work and time-consuming for you as a mentor. Although the recommendations that follow should make the time you spend on mentoring more successful and effective for you and for the writers you are mentoring, there are no shortcuts. Reading drafts carefully and critically and charitably; discerning what is and what is not working well in a draft; giving clear, specific, helpful, and encouraging feedback; reading yet another draft; meeting to talk through your feedback and the writer’s plan for revision—these critical tasks will always require concentration and time. But they are what every writer needs in order to learn and to improve—to become the strongest possible research writer they can be and to launch their research career.

Here are some specific strategies, drawn from research and practice, for mentors to try.

**Before the First Draft**

**Find ways to signal that writing is crucial to research in your field and that mentoring researchers to become strong writers is a high priority for you and for your research group**. When, for example, a prospective researcher interviews with you, talk about writing and your commitment to mentoring writing. If you use some form of written expectations, such as a mentoring compact, you might consider including a section for your mentees on writing. Create a culture within your group of sharing and discussing drafts and of sharing and celebrating successful writing. In your meetings or discussions, always find time to talk about writing—even long before it is time to begin writing.

**Talk with trainees about their writing processes, and yours.** You might read and discuss writing resources, which offer valuable advice about establishing good habits for academic writing. You might also want to share some drafts of your own research writing in progress, seeking feedback from your mentees—learning to give constructive, critical feedback helps writers grow, and sharing your drafts will give you valuable feedback and model the drafting, critique, and revision process that you are trying to teach.

**Recognize that *talk* is a crucial part of writing.** Be sure that you are talking regularly with trainees about their writing in progress.Your mentoring discussions about research questions, methods, literature, and results are all critical for helping a newer researcher figure out how they will explain their research project in research publications, in funding proposals, in presentations, and in interviews. In discussions, ask questions that point toward future writing, such as

“How are you thinking about organizing your literature review?”

“How might you phrase that as a research question?”

“In your results, what’s new? What’s most significant?”

These kinds of questions and many others help researchers clarify their thoughts through talk and help them prepare for writing. And by your choice of questions, you are helping reinforce the key principles of scientific research and helping researchers imagine the audiences for whom they will be writing.

**Your trainees will benefit if you ask them to prepare and discuss the main information and arguments in their papers.** Researchers benefit from having to organize information in a logical outline and giving colleagues a chance to ask questions and offer advice *before* investing hours and hours in drafting sentences and paragraphs. You might ask them to prepare and discuss informally, with you and with peers, a few PowerPoint slides outlining the main information and arguments they hope to include in their paper. Another good reason to invest time upfront clarifying key ideas and arguments: if you and your mentee do *not* clarify and agree on the main points and arguments for the paper early in the process of writing, don’t be surprised if your mentee is reluctant to make major changes after she or he has invested all the time that it takes to write a full draft.

**New research writers need to develop a robust understanding of the *genres* commonly written by researchers in their discipline.** Strong, successful research writers can take an aerial view of a document and can talk intentionally about the purpose of a particular piece of writing and about the choices authors have made about the content and organization for a given genre. Mentors should work systematically with mentees to identify and to analyze the key genres (or kinds of writing) in relevant fields or subfields, looking at what a particular kind of writing accomplishes and how it is tailored to a particular audience. For each key genre, mentors should first explore mentees’ experience and understanding about that genre. As you have these discussions, you might want to ask trainees to analyze, together with you, the different kinds of articles in major journals in your field. In talking about genre, try to focus not on surface features of a genre (e.g., the citation system) but aim to develop—in yourself as a mentor and in your mentees—an ability to talk about the rhetoric of each genre; that is, the purpose of that genre, its audience, and its persuasive elements. For example, talk systematically about which questions get answered in the introduction, in the literature review, in the methods, in the results, and in the discussion sections. How is information organized *within* a particular section (such as the results section)? How much detail do authors give? What do the authors assume about the knowledge their readers already have about the topic under study?

**Engage in “prewriting.”** Before your mentee begins drafting a proposal or research report, use your conversations to help your mentee plan and do what is called “prewriting.” You can use your time—and your mentee’s time—wisely by doing some explicit planning of a paper before your mentee starts actually drafting sections of it. Through collaborative talk and questions, you can help an author clarify the purpose of a piece of writing, central research questions, a plan, an outline, lists of main points, and the logic of an argument. Moreover, you can capture good ideas, plans, and important language—the mentee’s and yours—by writing them down often as they emerge in these conversations. Your conversation and interest and encouragement also provide crucial motivation for doing the hard work of starting a writing project. And by correcting major misconceptions at this stage, you’re helping writers, rather than waiting for a writer to invest countless hours in writing a full draft that may be misguided in some fundamental ways.

**Set intermediate deadlines for portions of a draft, and insist that mentees meet those deadlines.** Less experienced research writers need to write a partial draft long before they think they are ready to write, in order to give mentors a chance to give formative feedback and in order to give mentees plenty of time to revise. Early drafts, tough but encouraging critical feedback, and lots of revisions—these are what produce strong thinking and strong scientific writing. You might consider scheduling a weekly draft discussion for all lab members, with different members scheduled to share their work each week. It is natural for busy postdocs or graduate students to fall behind with deadlines, and of course mentors should be understanding and flexible, but you are not doing your mentees a favor if you allow them to delay writing for too long. Be sure your expectations for writing are clear and that the mentee understands the consequences of falling behind in writing given the number of publications they are expected to produce while working with you.

**Ask your trainees to include a cover sheet with each draft.** Each time your mentee provides you with a draft of their writing it should be accompanied by a cover sheet, which can orient you as a reader. This cover sheet might include relevant questions, such as

* What is this draft?
* Who is the intended audience?
* How is it organized?
* What are your main points?
* What do you think is working well? What are you pleased with?
* What would you especially like me to focus on as I read, or what would you like my help with?

Answers to these questions can guide your reading, and you will be able to use your time more effectively and be sure to respond to the writer’s needs. Learning to reflect critically on their own writing is valuable for writers as well; experienced writers can talk effectively about their writing, can offer an aerial view of a draft, and can ask readers for particular kinds of help.

**Giving Feedback and Guiding Revisions on Drafts**

**Encourage mentees to welcome criticism and advice about their writing.** Before you ever give specific feedback on a draft, find comfortable ways to ask your mentees about their experience receiving feedback on drafts and about their feelings about feedback and criticism. Talk about your own feelings about advice and criticism and encourage your mentee to welcome and consider all feedback, to ask for clarification during an in-person conversation, and to feel comfortable choosing not to accept some advice but justifying that choice. Explain that the strongest, most successful writers seek out tough, critical readers while their writing is still changeable.

**Explain your approach to feedback and contextualize your comments.** For example, if you have commented only on big ideas or the next steps you are suggesting, be sure to tell that to the writer. Otherwise, it is easy for a writer to assume that because you have not commented on something that means there are no problems with it. If you commented on local concerns only in one section but similar problems continue in other parts of the draft where you did not comment, be sure to explain this lack of feedback that so that writers do not have to guess what it means.

**Focus first on global concerns before local concerns.** In your reading, in your comments, and in your conversations with the writer, focus first on whether the big picture is working well by addressing *global, high-level concerns* like these:

* Is the central research question clear?
* Is the significance of the research clear and persuasive?
* Is the progression of ideas and arguments logical?
* Does the writer demonstrate a clear understanding of the major concepts under study?
* Does the review of literature emphasize the most important ideas?
* Are findings clearly explained and easy to grasp—in figures and graphs as well as in the text?
* Are ideas thoroughly explained?
* Is the discussion focused on the most important points?

Later in the process of writing and revising, when the big stuff is working pretty well, narrow your focus and the writer’s to more *local concerns* like these:

* Are there effective transitions between sections?
* How can the style be improved?
* Where do sentence or word problems interfere with the writer’s ability to communicate clearly?
* Are there any grammatical errors?
* How can the word choice be improved?
* Are there punctuation errors?
* Are there proofreading mistakes?

Why is it important to start our feedback with global concerns? First, it is just a matter of efficiency—you have limited time to give feedback and your trainees have limited time to revise, so there is not much point to your commenting on small edits and not much point to the writer’s making small edits when the writer needs to make larger changes. Second, research shows that less experienced writers are often confused by what faculty and mentors want them to concentrate on in their writing and in their revisions. They may think, for example, that correcting semicolon mistakes or rephrasing part of a sentence is as important as clarifying the logic of their discussion or anticipating and addressing counterarguments or emphasizing some ideas and subordinating others. And mentor comments on their writing too often lead writers to make only superficial revisions to words and sentences, overlooking larger conceptual, rhetorical, and structural revisions that would most improve a paper. By starting your feedback with global concerns, mentees get clear guidance from you about how to strengthen their ideas, their analyses, and their arguments, so that they have papers worth editing and polishing. *Then* you can turn your attention—and your trainees’ attention—to improving sentences, words, and punctuation.

**Identify strengths and potential in a draft, teach from success, and offer encouragement.** In your comments, instead of jumping right into what’s wrong or needs improving, try starting with what you see as the specific strengths in a draft, what’s promising, and what’s working well. And it’s important to make some of your praise specific, as specific as some of your criticism. So instead of saying “Good start,” or just “Good,” try identifying what in particular is working well in a draft. This does not mean to offer false or insincere praise, but writers need to know what they are doing well and they need to see you as a reader who is genuinely interested in what they have to say and eager for them to succeed, rather than seeing you only as an error hunter. Teaching or coaching for success means if a writer has done something well in one section of a draft (if, for example, their topic sentences orient a reader well to the topic and main point of a paragraph) but not in another section, you can encourage the writer to do what they have already done well elsewhere.

**Be direct and clear in your request for revisions.** When giving feedback, indicate in specific terms how much work remains to be done. For example, “This will need a fair amount of revision in order to clarify your key research questions and to report your key findings effectively. As you revise, here are my key suggestions: (1) . . . ; (2) . . . ; (3) . . . .” Or “After you’ve worked on focusing the literature review around just a few central concepts, you’ll need to do some substantial editing to clarify sentences. I’ve shown the kinds of edits in the first paragraph of the lit review, but the rest of the draft needs that same kind of editing.” You can be clear and constructive in your feedback, even if you are delivering bad news, but you are not doing a writer any favors if you hide or sugarcoat how much work remains to be done.

**Ask writers to document their revisions.** When you’re reviewing a revised version of something you’ve read before, ask the writer to attach a cover sheet explaining the major changes they’ve made since you last read it. Asking trainees to do this signals that you expect them to make major revisions before you read something again. This kind of cover letter resembles what you would write in a cover letter or email with a revised manuscript if you received a “revise and resubmit” decision from a journal editor. In addition, you might want to ask the trainee to use “track changes” so that you can focus your reading on what’s changed.

**Close your comments with some encouragement and a look forward.** Be sure to include notes of encouragement and expectation with your feedback. For example, you might say, “Looking forward to reading the next draft of this,” or “Looking forward to seeing this in print soon!” or “Looking forward to meeting on Thursday to talk through your plans for revising.”

**Within your research group, create a culture that celebrates important milestones in writing.** Acknowledge and celebrate proposals and manuscripts when they are submitted, when revisions are completed, grants funded, publications accepted, and publications appear.

Mentors play a critical role in helping researchers-in-training become excellent, independent writers. Be sure to set the bar high for your trainees’ thinking, research, and writing and then provide them with support to meet those expectations. If at any point you feel that a mentee requires additional feedback and support, seek out local resources and encourage your mentee to take advantage of them.

**Promoting Professional Development**

**Promoting Professional Development**

**Introduction**

The ultimate goal of most research mentoring situations is to enable the mentee to identify and achieve some academic and professional outcomes after the training period. Along the way, there are many objectives to be achieved, all of which must be consciously considered so they do not get lost or forgotten. While non-research professional development activities are sometimes seen as distractions from the core business of doing research, they are often critically important to identifying and successfully meeting the mentee’s long-term career objectives. Therefore, it is important to recognize and promote relevant professional development opportunities for mentees.

**Learning Objectives**

Mentors will have the knowledge and skills to:

1. Identify the roles mentors play in the overall professional development of their mentees

2. Develop a strategy for guiding professional development using a written document

3. Initiate and sustain periodic conversations with mentees on professional goals and career development objectives and strategies

4. Engage in open dialogue on balancing the competing demands, needs, and interests of mentors and mentees (e.g., research productivity, grant funding, creativity and independence, career preference decisions, non-research activities, personal development, work-life integration)

**Overview of Activities for the Professional Development Session:** Please note that a core activity is listed for each learning objective. We encourage you to engage the mentors in this activity. There is a list of additional activities that can be used if you have extra time or if the core activity is not working well for your group.

|  | **Learning Objectives** | **Core Activities** | **Additional Activities** |
| --- | --- | --- | --- |
| **1** | Identify the roles mentors play in the overall professional development of their mentees | Mentors discuss a list of the roles mentors play in the professional development of their mentees beyond research, and rank them in order of importance (Activity #1) | Mentors discuss the ways in which their own mentors supported and promoted their professional development (Activity #5) |
| **2** | Develop a strategy for guiding professional development using a written document | Mentors review and discuss examples of Individual Development Plans (IDPs) and Mentoring Plans (Activity #2) | Mentors draft a compact based on discussion of examples in *Aligning* *Expectations* session that includes specific expectations for professional development (Activity #6) |
| **3** | Initiate and sustain periodic conversations with mentees on professional goals and career development objectives and strategies | Mentors use the written professional development plan created in Activity #2 as a guide for a conversation with their mentee about career development (Activity #3) | Mentors use their drafted expectations compact in Activity #6 to guide a conversation with their mentee about career development (Activity #7) |
| **4** | Engage in open dialogue on balancing competing demands, needs, and interests of mentors and mentees | Mentors read and discuss Case #1:  *Choosing a Different Path* (Activity #4) | Mentors share some of their own challenges and strategies advising mentees on work-life balance issues (Activity #8) |

**Facilitation Guide**

**Recommended Session on Promoting Professional Development** (85 minutes including optional 10 minute break)

* **Materials Needed for the Session:**
  + Table tents and markers
  + Chalkboard, whiteboard, or flip chart
  + Handouts:
    - Copies of introduction and learning objectives for *Professional Development* (page 111)
    - Copies of the examples of Individual Development Plans (pages 117-128)
    - Copies of the *Professional Development* Case #1, *Choosing a Different* Path (page 116)
* **Introduction (5 min)**
* TELL: Review the introduction and learning objectives for the session.
* **Objective 1: Identify the roles mentors play in the overall professional development of their mentees (20 min)**
* ACTIVITY #1: Mentor Roles in Professional Development
* TELL: On your own, write down some of the professional development topics that mentors have a responsibility to help mentees with, beyond research training. While you do this on your own, we will list some of the roles on the board and then we’ll ask you to add to our list.
* Professional development topics/skills
  + - 1. Networking-social and professional
      2. Socialization to local professional culture
      3. Finding funding
      4. Managing research staff
      5. Time management
      6. Leadership skills
      7. Drafting IRB protocols
      8. Career path guidance
      9. Work-life balance
      10. Public speaking
      11. Research Ethics
      12. Writing Skills
      13. Drafting a grant budget
      14. Fostering informal mentoring relationships
* TELL: What roles did you write down that should be added to this list? Which of the roles on the list are most important? Pick your top 5 and go put a mark/sticker next to each.
* DISCUSS with entire group the following questions:
* Which of the roles on the list are the most important? Why?
* Are there some roles on the list that should not be the mentor’s concern? Why? What is it your job and not your job to help them with? What are you willing to help with and not help with?
* Who mentored you to do these things and how well did it work?
* **Objective 2: Develop a strategy for guiding professional development using a written document (15 min)**
* ACTIVITY #2: Reviewing Individual Development Plans and Mentoring Plans
* DO: Introduce the idea of IDPs, as appropriate with your audience.
* TELL: You each have 15 minutes to look through examples of Individual Development Plans and make notes on them to indicate aspects of plans that you would consider adopting for use with your mentees. Some of you may already use IDPs for some of your mentees. Consider whether you would make changes to what you use. Even if you wouldn’t use IDPs moving forward, choose aspects of IDPs that might be helpful to talk with mentees about. (15 min)
* TELL: Suggest that IDPs be used in the mentee selection process. Mentors have found it helpful to request them as a means of better assessing fit, particularly at the postdoctoral level
* NOTE: Additional examples are available at <https://ictr.wisc.edu/mentoring/individual-development-plan/>. Mentors may also wish to refer their mentees to [http://myidp.sciencecareers.org](http://myidp.sciencecareers.org" \t "_blank)where they can develop their IDP through a guided, online process.

**10 minute break (optional)**

* **Objective 3: Initiate and sustain periodic conversations with mentees on professional goals and career development objectives and strategies (15 min)**
* ACTIVITY #3: Using the Individual Development Plans (IDPs) and Mentoring Plans
* ACTIVITY (10 min) in pairs: Mentors share specific ways they could introduce the idea of an individual development plan to their mentee and how the completed plan can be used to navigate the mentoring relationship.
* DISCUSS (5 min) with the entire group.
* FOLLOW-UP ACTIVITY: With their mentees, mentors could collaboratively choose or adapt an individual development plan and ask their mentee to complete it annually (at a minimum). The completed plan should be used to guide a conversation between mentor and mentee about professional development needs and expectations. For examples of IDPs visit: <https://ictr.wisc.edu/mentoring/individual-development-plan/>
* NOTE: These plans are an important step towards creating some form of expectations document that can be used to initiate a discussion on goals and expectations with mentees. Mentoring compacts, like those included in the *Aligning Expectations* session can be utilized in concert with these IDPs to tailor a holistic plan for each mentee (see pages 53-61). An additional resource mentors may consider are learning contracts <https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/tips-students/self-directed-learning/self-directed-learning-learning-contracts>
* **Objective 4: Recognize and engage in open dialogue on balancing the competing demands, needs, and career interests of mentors and mentees (20 min)**
  + ACTIVITY #4: Case Study
  + DO: Distribute *Professional Development* Case #1: *Choosing a Different Path.* Let participants read the case individually for two to three minutes.
* DISCUSS (17 min) in a large group. You may want to record the ideas generated in this discussion on a white board or flip chart. Use the guiding questions following the case study.
* ADDITIONAL WORK: Encourage mentors to return to their compact (if applicable) and include text on how both they and the mentee are expected to communicate a sudden change in the work plan due to health issues, family issues, etc., and how they will move forward. .
* NOTE: For more information, a mentor training module on work-life integration has been developed and is available at cimerproject.org.

***Promoting Professional Development***

**Case #1: *Choosing a Different Path***

You are currently mentoring two doctoral students. Both are very talented and hardworking; however, one has made it clear that once completing his PhD, he wants to find a position outside of academia. The other scholar has her heart set on a tenure track position at a top research university. Lately, you find yourself spending more time giving professional development advice to the mentee who intends to apply for faculty positions. You rationalize this by saying that you are more familiar with this career path and thus have more to offer. Secretly, you worry that you are neglecting the other scholar, believing that he is not worth your time and advice if he is pursuing a career outside of academia.

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What should the mentor do now? What value judgments is the mentor making?
3. How might non-academic career interests and personal goals or obligations play into a mentee’s decision of career path? How might the mentor draw these factors out in discussion?
4. What are the responsibilities of the mentor to every mentee, regardless of career path?
5. Is academia for everyone? How do you have a discussion with mentees about their goals, whether their goals match their talents, and whether their goals match their values and preferences?
6. To what extent are the differing value systems of the mentor and mentee a factor in their relationship?
7. Does the gender of the mentee and mentor impact your assessment of this case?
8. How do issues of socialization arise in this case study? What does it look like to belong to the academic enterprise?

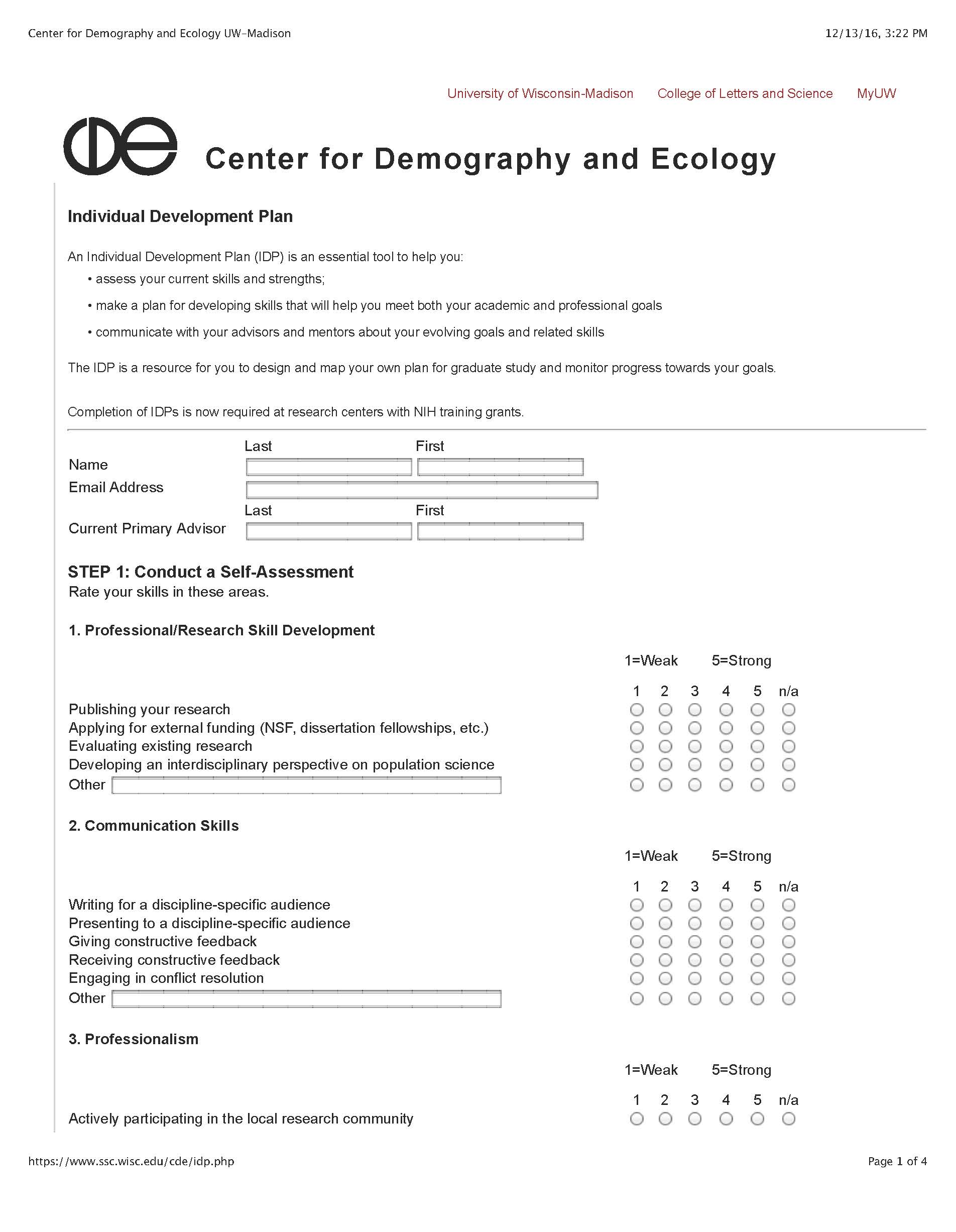
*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

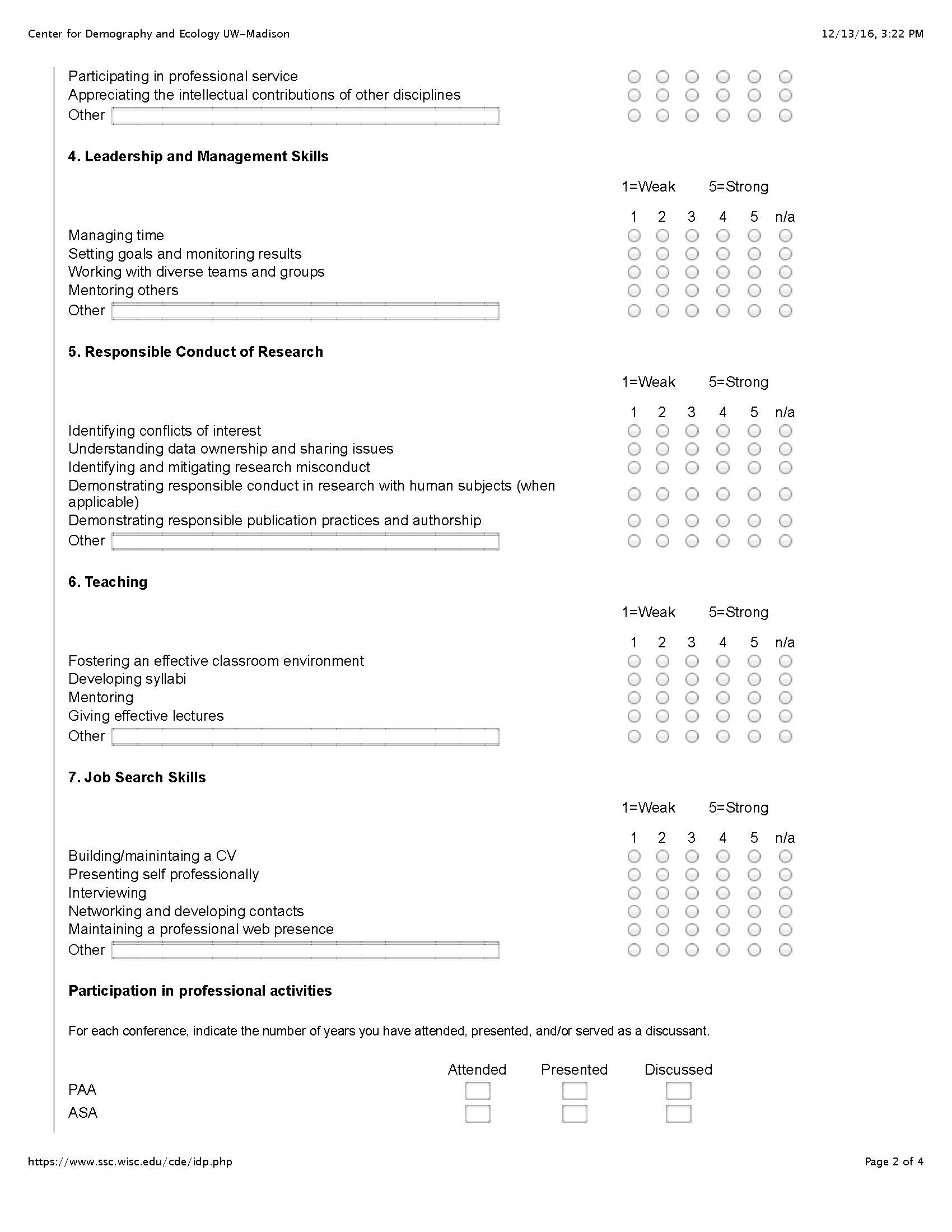
**Examples of Individual Development Plans (IDPs)**

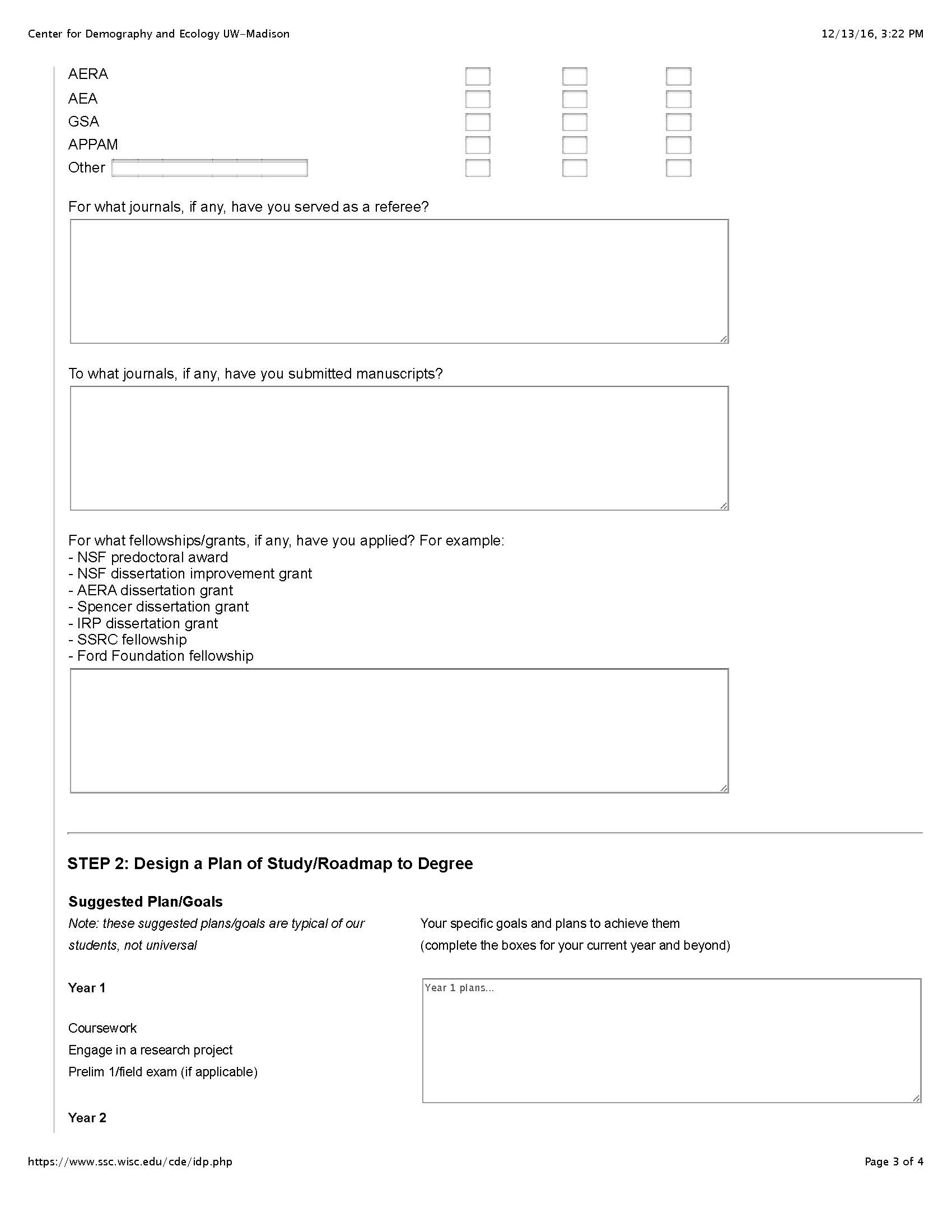
1. **Center for Demography and Ecology, University of Wisconsin-Madison**
2. **Center for Women’s Health Research Team-Science Program,**

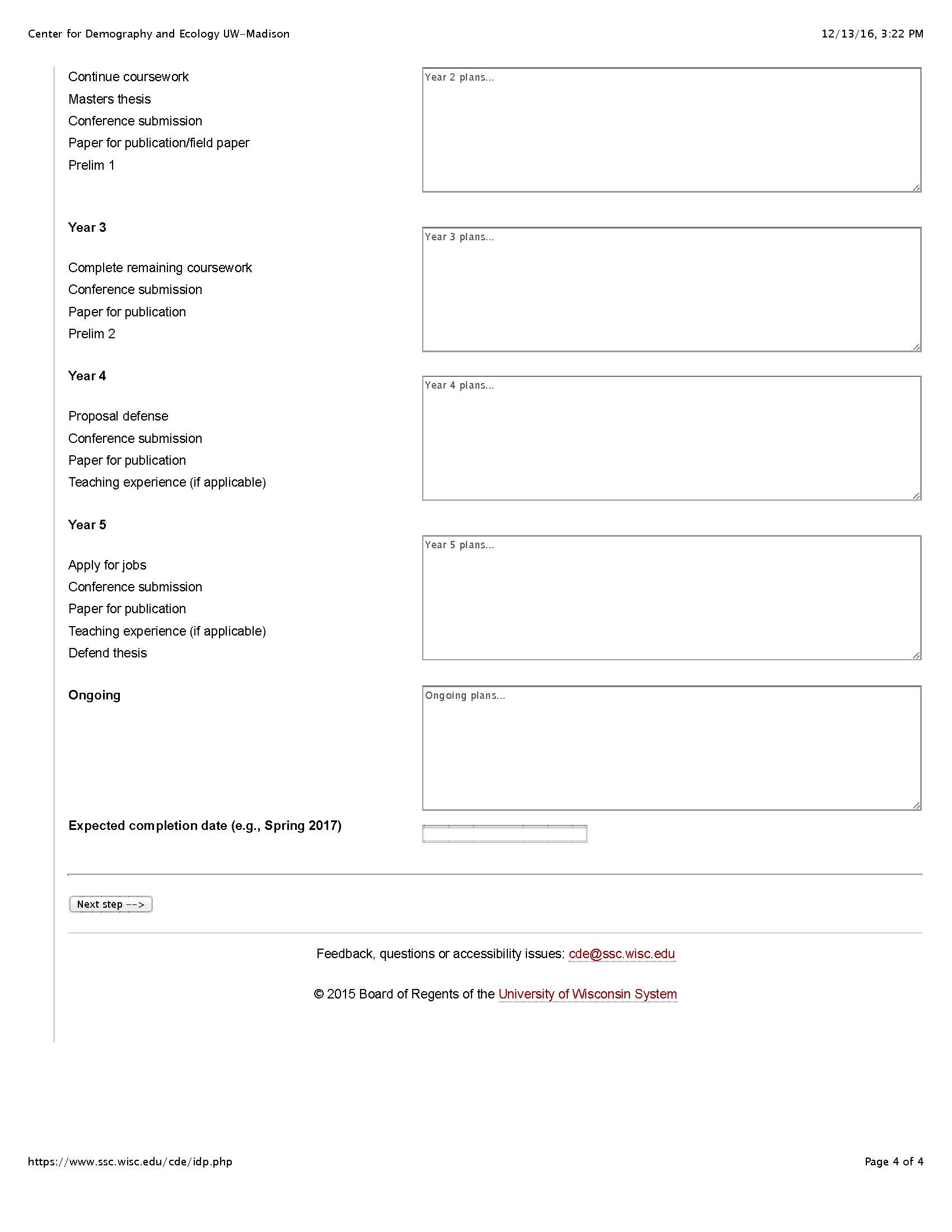
**University of Wisconsin-Madison**

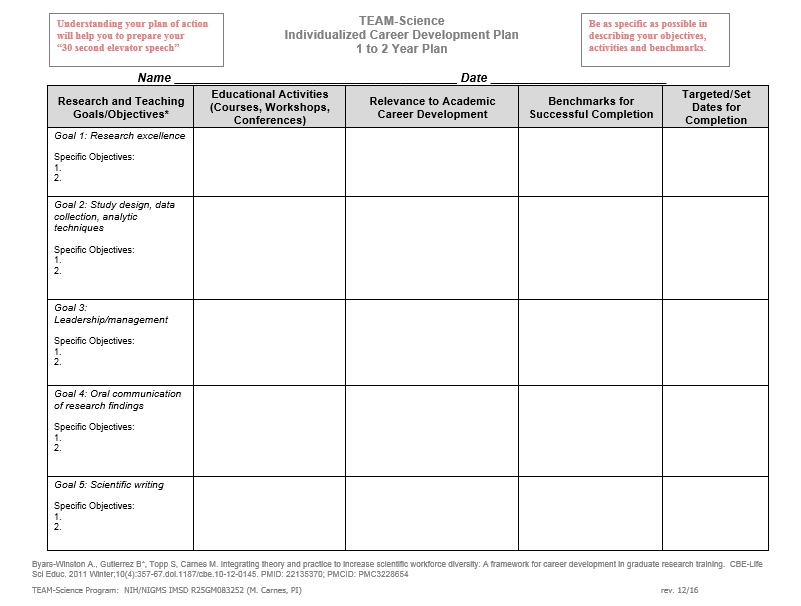
Additional examples are available at: <https://ictr.wisc.edu/mentoring/individual-development-plan/>. Mentors may also wish to refer their mentees to <http://myidp.sciencecareers.org>where they can develop their IDP through a guided, online process.

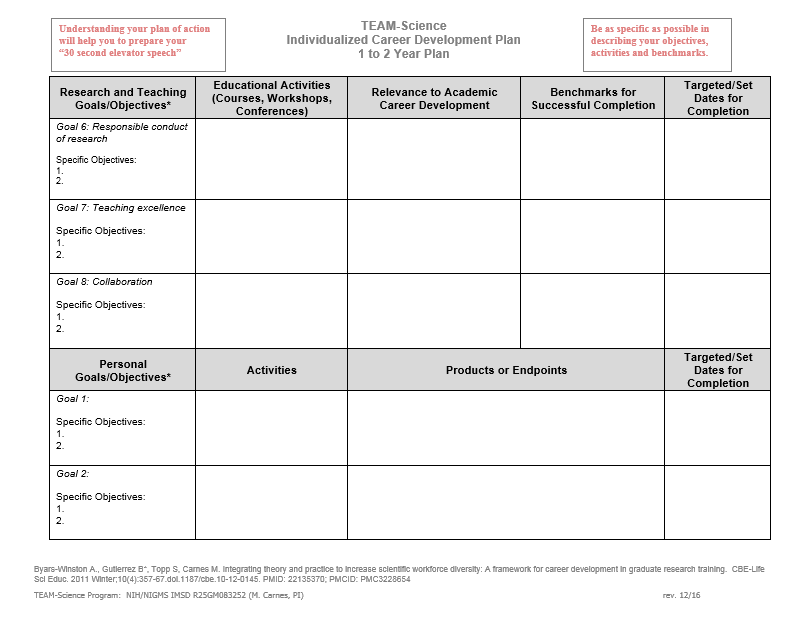
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8 Research Career Competencies for TEAM-Science Scholars

We have identified the following 8 research career competencies requires for any graduate student, regardless of discipline, to achieve to successfully advance in research career in biomedical or behavioral research. These began as an adaptation of a learner-based curriculum developed by Bakken and modified in an iterative process with input from over 30 faculty and in 10 academic disciplines. Details on the activities available to the scholars to meet these objectives and the criteria for successful completion are provided.

1. ***Research excellence:*** Acquire research expertise in a particular area;
2. ***Study design, data collection, analytic techniques:*** Investigate a cutting edge research problem employing discipline-specific techniques;
3. ***Leadership/management:*** Manage a research team and provide leadership in advancing a science discipline;
4. ***Oral communication of research findings:*** Communicate knowledge through verbal presentations in different types of venues to a variety of audiences;
5. ***Scientific writing:*** Write well-organized and logical abstracts, journal publications, research proposals and grant applications;
6. ***Responsible conduct of research:*** Conduct research according to professional ethics and regulatory guidelines;
7. ***Teaching excellence:*** Teaching others through classroom teaching and individual mentoring incorporating evidence-based strategies for teaching and learning;
8. ***Collaboration:*** Communicate and cooperate with others within and across disciplinary boundaries and national borders.

General Guidelines:

* Develop and continuously revise an individualized career development plan (ICDP) in conjunction with Career Coach, and Research Advisor/PhD Advisor;
* Meet regularly with Career Coach, Coordinator, Research Advisor/PhD Advisor;
* Regular meetings with lab groups and/or thesis or dissertation advisor;
* Complete discipline specific required coursework with grades ≥ B;
* Assessments of Coping Efficacy, Career Efficacy, and Outcomes Expectations remain positive.

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| --- | --- |
| 1. Research Excellence   Acquire research expertise in a particular area | |
|  | **Specific Objectives**   1. Apply a discipline-specific skill set to empirically or theoretically investigate a scientific question (includes technical performance of experiments, simulation, analytical skills specific to discipline) 2. Provide a coherent and specific chain of reasoning for one’s research based on existing evidence and past research (includes critical thinking and application of theory) 3. Articulate the relevance and importance of one’s own research within a scientific field 4. Interpret one’s research findings within the context of existing knowledge 5. Incorporate evolving methodologies into one’s own research 6. Access (e.g. through relevant data bases), read, critique, and synthesize past and on-going research relevant to one’s own area of study 7. Maintain and utilize computer and other technological skills including skills in data collection and analysis, literature searches, scientific writing and communications 8. Critique the research of others providing scientific justification for identified strengths and weaknesses (e.g. grant proposals, manuscript reviews) 9. Acknowledge the social, cultural, and historical context of one’s own research career development with particular attention to gender and underrepresented minority and disability issues 10. Build collaborations and professional networks to enhance one’s own research |
|  | |
| **Examples of Professional Development Activities:**   * Perform hands-on mentored research * Read and become familiar with proposals funding mentors/advisors’ research * Attend journal clubs, seminars, and lab meetings * Participate in grant and manuscript review process * Attend professional meetings and join national organizations related to the chosen area of research * Attend computer courses offered by DoIT or other campus entities as necessary * Subscribe to or otherwise regularly access key journals in chosen research area * Prepare a poster or paper for presentation of one’s research | |

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| 1. Study design, data collection, analytic techniques   Investigate a cutting edge research problem employing discipline-specific techniques | |
|  | **Specific Objectives**   1. Formulate a researchable question 2. Determine what study design, analytical tool, or simulation is appropriate to answer it 3. Categorize research designs or analytical methods and state the purpose and limitations of each 4. State the relationship between the chosen research design or analytic method and the type of data collected or problem being analyzed 5. Collect data using appropriate sampling techniques 6. Analyze data using statistical techniques or qualitative skills specific to one’s discipline |
|  | |
| **Examples of Professional Development Activities:**   * Attend and present at seminars within chosen graduate program * Meet with graduate committee at least annually * Study groups * Individualized tutoring | |

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| 1. Leadership/management   Manage a research team and provide leadership in advancing a science discipline | |
|  | **Specific Objectives**   1. Practice self-directed learning 2. Plan and adhere to a timeline for research projects 3. Mentor more-junior trainees and students in career development 4. Establish a network of professional colleagues 5. Organize and prioritize multiple competing tasks and roles 6. Manage time effectively 7. Run an organized research team and effective administrative meeting 8. Recognize gender, racial, or other bias 9. Identify possibilities for personal, interpersonal, and institutional responses 10. Behave in a culturally competent manner 11. Role model culturally competent behavior for others 12. Interview effectively for post-graduate position (e.g. postdoc, faculty position) 13. Organize curriculum vitae, resume, or portfolio in keeping with standards for one’s discipline 14. Observe, practice, and continually refine negotiating strategies to advance one’s research program and career at increasingly advanced levels |
|  | |
| **Examples of Professional Development Activities:**   * Participate in the Delta Program Research Mentor Training Seminar or ICTR and mentor undergraduate students in research * Participate in annual Advisory Board meeting * Attend workshops, seminars, conferences aimed as building skills for the professoriate or future faculty development * Recognize and take opportunities for individual leadership (e.g. organize and lead a discussion; join a GRS/TEAM-Science subcommittee) * Participate as student representative to departmental or campus committees * Enroll in in Women & Leadership in Medicine, Science & Engineering course. InterEgr or Medicine 650 (Spring Semester) * Enroll in Entering Mentoring Course (Biology 660) | |

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| 1. Oral Communication of research findings   Communicate knowledge through verbal presentation in different types of venues to a variety of audiences | |
|  | **Specific Objectives**   1. Prepare and deliver poster and/or paper presentations for professional conferences and local research forums 2. Deliver a focused and well organized presentation of one’s own research with background, research question/hypothesis, methods, results, and conclusions within allotted time 3. Use computer technology (e.g. Power Point) to prepare presentations 4. Translate one’s research into language for communicating with other scientists/engineers and community audiences **(multidisciplinary audience)** |
|  | |
| Examples of Professional Development Activities:   * Present preliminary dissertation proposal to graduate committee * Present and defend completed research for dissertation * Present papers/abstracts at international, national meetings or local forums * Participate in opportunities within scholar’s own department to present research (e.g. lectures in courses, lab meetings, seminar series) * Work with community group(s) to apply research in a practical setting (e.g. guest presentations in K-12 classrooms, industrial settings) * Enroll in individual skill building activities on oral communication * Present at meetings of GRS/TEAM-Science communities | |
| 1. Scientific Writing   Write well-organized and logical abstracts, journal publications, research proposals and grant applications | |
|  | **Specific Objectives**   1. Apply rules of Standard English usage, style, and composition (i.e. academic scientific communication) 2. Develop process strategies for organizing and drafting abstracts, journal articles, and grant proposals according to general and specific format guidelines 3. Accurately report research findings citing the strengths and limitations of studies 4. Report research in an ethically responsible manner 5. Use specialized software to prepare journal publications and other scientific documents. (e.g. EndNote, NVivo, SPSS, SAS, etc.) 6. Master the “politics” of journal article and grant submission (e.g. how to address reviewer’s criticisms, how and when to communicate with journal editors or granting agencies, authorship issues, etc.) |
|  | |
| **Examples of Professional Development Activities:**   * Engage in individual discussions with Research Advisor regarding editing of one’s own abstracts and manuscripts * Acquire guidebooks for assistance with writing (e.g. Strunk and White’s *Elements of Style*) * Work with the Writing Center if needed * Write abstract for presentation at scientific meeting * Write dissertation proposal, yearly research progress reports, and dissertation * Write research findings for publication in peer-reviewed journal; revise-and resubmit as needed * Write grant proposals if appropriate to level of training and research area * Enroll in individual skill building related to writing skills if needed | |

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| 1. Responsible Conduct of research   Conduct research according to professional ethics and regulatory guidelines | |
|  | **Specific Objectives**   1. Make a principled decision when faced with an ethical choice 2. Be knowledgeable and respectful of diverse ethical challenges 3. Be sensitive to issues involving the integrity of research 4. Know institutional and governmental policies regarding the ethical conduct of research in one’s field (e.g. regarding the use of human subjects, research animals, radionuclides, hazardous waste, stem cells, etc.) 5. Practice professional standards of conduct in one’s field |
|  | |
| **Examples of Professional Development Activities:**   * Enroll in a didactic course or seminar dedicated to these issues * Observe role models exhibiting ethical and responsible research practices * Participate in writing reports or submitting protocols to appropriate institutional committees if applicable to one’s research | |

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| 1. Teaching excellence   Teach others through classroom teaching and individual mentoring incorporating evidence-based strategies for teaching and learning | |
|  | **Specific Objectives**   1. Plan teaching or mentoring activities with appropriate scope, sequence, and focus suitable for audience and setting 2. Lead small and large group discussions with students at different levels appropriate to the discipline 3. Master several lectures and seminars in a specific field of science or engineering 4. Construct and evaluate the effectiveness of tests given to students in one’s classes 5. Supervise the teaching of others (e.g. teaching assistants) and provide specific feedback |
|  | |
| **Examples of Professional Development Activities:**   * Develop a personal teaching philosophy statement * Selected readings on the teaching of science * Participate in teaching opportunities with scholar’s own department (e.g. lectures in course, lab meetings, teaching courses in Microbiology) * Participate as a mentor in the Summer Science Institute (SSI) * Participate in courses/workshops on teaching improvement * Teaching Assistant opportunities * Engage in service learning or community outreach * Enroll in individual skill building activities to enhance teaching | |

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| 1. Collaboration   Communicate and cooperate with others within and across disciplinary boundaries and national borders | |
|  | **Specific Objectives**   1. Function as a member of a team assuming different roles (e.g. leader of a laboratory team, committee member, research collaborator, member of a design team) 2. Recognize and resolve conflict with positive outcomes for all involved 3. Be able to receive feedback about one’s research 4. Be able to give feedback |
|  | |
| **Examples of Professional Development Activities:**   * Observe role models working collaboratively in different settings * Work with other members of research group of a point project * Attend professional development activities presented by TEAM-Science and appropriate GRS community | |

**Additional Activities (if time allows):**

**Objective 1; Activity #5:**

Have mentors discuss the ways in which their mentors supported and promoted their professional development in the past (or that they wish their mentor had done). In general, how did they get where they are now and how did their mentors, formal and informal, play a role in that process? Have mentors consider whether how they were mentored has shaped their relationships with mentees. You may want to develop a “mentorship timeline” so that participants can document what worked, what didn’t and what practices they have continued to use with their mentees.

**Objective 2; Activity #6:**

Mentors draft a compact based on discussion of examples in *Aligning* *Expectations* session that includes specific expectations for professional development. Encourage them to incorporate goals and ideas generated from mentees’ individual development plans.

**Objective 3; Activity #7:**

Mentors use their drafted expectations compact in Activity #6 to guide a conversation with their mentee about career development. Ask mentors to make certain their expectations are in alignment with those of their mentee after this conversation.

**Objective 4; Activity #8:**

**Advising Mentees on Work-Life Balance Issues**

What are some challenges you’ve faced as a mentor when a mentee has struggled with the impact of life events on his/her productivity as a scholar? (The converse is worth discussing as well – i.e., when a mentee has struggled with the impact of the intensity of graduate or post doc research and training on the quality of his/her personal life?)

1. Some additional questions to consider are: How have you as a mentor dealt with these challenges?
2. Can you recall advice you were given by a mentor that helped you navigate the demands of busy personal and professional lives?
3. To what extent should mentors have a role in helping mentees with work/life balance?

**Articulating Your Mentoring Philosophy and Plan**

**Articulating Your Mentoring Philosophy and Plan**

**Introduction**

Reflecting upon your mentoring relationships is a vital part of becoming a more effective mentor. This is especially important immediately following a mentor-training session so that you can consider how to implement changes in your mentoring practice based on the training. Reflection on your mentoring practice at regular intervals is strongly encouraged.

**Learning Objectives**

Mentors will:

1. Reflect on the mentor-training experience
2. Reflect on any intended behavioral or philosophical changes across the mentoring competencies
3. Articulate an approach for working with new mentees in the future

**Overview of Activities for the Mentoring Philosophy and Plan Session:** Please note that only core activities are included for this final training session.

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|  | **Learning Objectives** | **Core Activities** |
| **1** | Reflect on the mentor-training experience | Mentors engage in an open discussion of the knowledge and skills they have learned from the mentor-training sessions (Activity #1) |
| **2** | Reflect on any intended behavioral or philosophical changes across the mentoring competencies | Mentors reflect on each of the mentoring competencies and write about their mentoring practices before and after the mentor-training sessions (Activity #2) |
| **3** | Articulate an approach for working with mentees in the future | Mentors discuss approaches for working with a new mentee (Activity #3) |

**Facilitation Guide**

**Recommended Session for Articulating Your Mentoring Philosophy and Plan** (30 minutes)

* **Materials Needed for the Session:**
* Table tents and markers
* Chalkboard, whiteboard, or flip chart
* Handouts:
* Copies of description and learning objectives for *Articulating Your Mentoring Philosophy and Plan* (page 133)
* Copies of the *Mentoring Competencies Reflection* *Worksheet* (page 136)
* Copies of the *Mentor Self-Reflection Template* (page 137)
* **Objective 1: Reflect on the mentor-training experience (10 min)**
* ACTIVITY #1: Group Discussion of Lessons Learned from Mentor Training (10 min)
* ASK: Please share with the group one or two ideas that stand out from the mentor-training sessions. These can include lessons learned, ideas that did or did not resonate with you, etc.
* You may want to record ideas generated in this discussion on a white board or flip chart.
* **Objective 2: Reflect on behavioral or philosophical changes across the mentoring competencies (10 min)**
* ACTIVITY #2: Individual Written Reflection Across the Competencies (10 min)
* Have each participant individually complete the Mentoring Competencies Reflection Worksheet.
* If there is not enough time to complete the writing activity, they may finish later.
* NOTE: Encourage mentors to edit their compact (if applicable) with these ideas. They can use the *Mentor Self-Reflection Template* to aid this process as well. Another similar tool can be found in “Nature’s Guide for Mentors.”[[3]](#footnote-3)
* **Objective 3: Articulate an approach for working with new mentees in the future** **(10 min)**
* ACTIVITY #3: Discussion of Ways to Begin a New Mentoring Relationship (10 min)
* TELL: Imagine you will soon begin formally mentoring a new mentee – a grad student, postdoc, or junior faculty member.
* DISCUSS (8 min) with entire group. You may want to record the ideas generated in this discussion on a white board or flip chart. Guide the discussion using the following questions:

1. What steps would you take to prepare for meeting with the new mentee in three weeks?
2. What will you do before the mentee arrives?
3. What will you do within the first month of the mentee’s arrival?
4. What do you think is the most important thing you can do to start this new mentoring relationship off on the right foot?

**NOTE:** If this is the last session of your mentor training workshop, you may desire to allot 5 minutes at the end for a brief wrap up and information for participants to complete the workshop evaluations.

**Mentoring Competencies Reflection Worksheet**

For each mentoring competency, please list one or two specific approaches you have taken in the past and plan to take in the future.

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| --- | --- | --- |
| **Competency** | **Approaches you have**  **used in the past** | **Approaches you intend**  **to try in the future** |
| **Maintaining Effective Communication** |  |  |
| **Aligning Expectations** |  |  |
| **Addressing Equity and Inclusion** |  |  |
| **Increasing Mentee Research Self-Efficacy** |  |  |
| **Fostering Independence** |  |  |
| **Promoting Professional Development** |  |  |

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| --- | --- | --- | --- | --- |
| **Mentor Self-Reflection Template\*** | | | | |
|  | **What were the unique challenges and opportunities from the past year?** | **What was your role?** | **What happened? What were the results?** | **Was there any further action?** |
| **Meetings & Communication**  **+**  **\_** |  |  |  |  |
| **Expectations & Feedback**  **+**  **\_** |  |  |  |  |
| **Career Development**  **+**  **\_** |  |  |  |  |
| **Research Support**  **+**  **\_** |  |  |  |  |
| **Psychosocial Support**  **+**  **\_** |  |  |  |  |
| **Upcoming Year** | | | | |
| * What do you want to keep doing? * What would you like to try differently with mentee in upcoming year? * What different resources or training would be helpful to you as the mentor? | | | | |

\* From Anderson L, Silet K, Fleming M. 2011. Evaluating and Giving Feedback to Mentors: New Evidence-Based Approaches. *Clinical and Translational Science* 5(1) 71-77.

**APPENDIX**

**Mentor Training for Social Scientists**

**3-Day Workshop**

**Sample Agenda**

**Day 1 Agenda**

**Topics: Introduction and Maintaining Effective Communication**

1:00 **Introduction to the training and each other (45 min total)**

Introduction/Overview

1:10 Activity #1: Learning about other mentors

1:30 Activity #2: Discuss group dynamics and functions

1:40 Activity #3: Establish ground rules

1:45 **Maintaining Effective Communication** **(135 min total)**

Introduction

1:50 Activity #1: Case study #1 – Giving constructive feedback

2:20 Activity #2: Communication styles

2:50 Activity #3: Building a relationship with a mentee; active listening and feedback

2:55 Break

3:05 Activity #3 continued

3:50 Concluding discussion and homework assignment

4:00 End

Homework for next session:

1. Read the What is Self-Efficacy handout (pages 90-91)
2. Read “Benefits and challenges of diversity” by Jo Handelsman and Eve Fine. See the questions posed on page 80 under “Consciously strive to minimize the influence of unintentional bias” to perform your own ‘thought experiment.’
3. For next time, please think of your own “case study” and be prepared to share it, if you are comfortable. To create your case study: Briefly describe a situation you have been in as a mentor (or a mentee) or one you have observed, where there was a challenging situation related to diversity and inclusion that was not dealt with optimally by the mentor. You can write it down or just keep it in your head. We may use your example to discuss in small groups.

**Mentor Training for Social Scientists**

**3-Day Workshop**

**Sample Agenda**

**Day 2 Agenda**

**Topics: Aligning Expectations, Addressing Equity and Inclusion, and Improving Mentee Research Self-Efficacy**

1:00 **Aligning Expectations (70 min total)**

Introduction

1:10 Activity #1: Case study #1 – Doctoral student blues

1:25 Activity #2: Reviewing Mentor-Mentee Compacts

1:50 Activity #3: Case study #2 – Misaligned expectations

2:10 **Addressing Equity and Inclusion (65 min total)**

Introduction

2:15 Activity #1: 1-Minute Diversity Challenge

2:30 Activity #2: Case study # 1– Is it Okay to Ask?

2:50 Activity #3: Introduction to addressing your case study

BREAK

3:00 Activity #3 continued – Addressing your case study

3:15 **Promoting Mentee Research Self-Efficacy (45 min total)**

Introduction

3:20 Activity #1: Anatomy of a research success experience

3:30 Activity #2: Approaches to improving research self-efficacy with a specific mentee

3:45 Activity #3: Practice strategies for building mentee’s self-efficacy in research (full group)

4:00 End

**Mentor Training for Social Scientists**

**3-Day Workshop**

**Sample Agenda**

**Day 3 Agenda**

**Topics: Fostering Independence, Promoting Professional Development, and Articulating Your Mentoring Plan**

1:00 **Fostering Independence (60 min total)**

Introduction

1:10 Activity #1: Defining independence

1:35 Activity #2: Strategies for fostering independence

2:00 **Promoting Professional Development (85 min total)**

Introduction

2:05 Activity #1: Mentor roles in professional development

2:25 Activity #2: Reviewing Individual Development Plans (IDPs)

2:40 Break

2:50 Activity #3: Using IDPs

3:05 Activity #4: Case Study #1 – Choosing a different path

3:25 **Articulating Your Mentoring Plan (30 min total)**

Activity #1: Group discussion of lessons learned

3:35 Activity #2: Individual written reflection across the competencies

3:45 Activity #3: Discussion of ways to begin mentoring a new mentee

3:55 **Conclude (thank you’s, evaluation) (5 min)**

4:00 End

## Case Study Appendix

*Below are all the case studies included in the curriculum, listed by mentoring competency.*

**Maintaining Effective Communication**

**Case #1: *Giving Constructive Feedback***

As he leaves the crowded conference room, Dr. Tariq (the mentor) tells Dr. Timms (the mentee) he’ll see her in a few minutes. Dr. Timms was the last postdoctoral fellow to present in a practice session before a conference. Back in his office Dr. Tariq sits looking distractedly out the window and releases a heavy sigh. He shifts his attention back to his notes for a last review of his written comments: reading slides...too fast…too long…text too small…too much text…color contrast…meandering….

A few moments later he hears a knock on the door and asks Dr. Timms to come in. She sits in a chair across the desk from him and looks up expectantly. He meets her gaze, smiles, and says: “Thanks for coming by. I wanted to make sure we could review your practice talk since the conference is in a week and I leave town in a couple days.” Dr. Timms continues to stare without comment, a blank expression on her face.

“Well, as you know I think your research is really important and I’m glad that we have this opportunity to share it,” continues Dr. Tariq. “I think this conference will be a great opportunity for you to meet some key colleagues in this field.” Dr. Timms nods slightly, and shifts in her seat.

“I do think there are a few things that could tighten your presentation.” She continues to stare and Dr. Tariq keeps his focus on his notes as he continues. “For example you had some long sentences, and even whole paragraphs on your slides. While they were well written”—His computer chimes as a new email arrives and he glances over to see who it’s from. *Oh, not again.* “As I was saying, while they were well written—I mean you know your writing is strong—it is really too much text for a slide. You could try to shorten some to bullet points. Then you can still make those points without just reading your slides to the audience.”

He looks up and sees that she is now looking at the floor. “It would also allow you to increase the font size a bit. I think it might have been hard to read from the back of the room.” He looks up again and sees she is taking some notes. “To cut back on the time, I think you could cut the four slides on the background and just briefly summarize those.” He waits for comment and the silence drags on a few moments. “What do you think?”

“I can look at it.” Her face remains expressionless as she glances up and briefly meets his eye.

“That might allow you to slow down a bit,” he continues. “Of course it’s natural to get nervous and then one tends to talk faster. Perhaps you could practice it a bit at home and focus on slowing the pace and not looking at your notes as much. Have you tried practicing out loud to yourself at home?

“Yes.”

The phone rings. He checks caller ID. *I’ll have to call her back when this is over*. “Ok then. I can send you a link to some tips on slide composition and oral presentation and hopefully that will be helpful.”

There is another long moment of silence. “Well do you have any questions for me?”

“No, not right now.”

“Ok then, well good luck!” He forces another smile and reaches out to shake her hand as she rises to leave. She takes it and smiles feebly back, adding a quick “Thanks.”

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. How could this situation have been handled differently? What should the mentor do now?
3. How do you interpret silence or very short responses? Does your interpretation of this kind of response differ depending on who the speaker is (e.g., mentee, peer, or supervisor)

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

**Case #2: *Saying No***

Dr. Yin is a second-year assistant professor. Dr. Yin found his first year as a faculty member very challenging. In particular, Dr. Yin struggled to balance his teaching responsibilities with his research productivity. However, in just the last few months, he has figured out a schedule and an organizational system that is working well for him. He is finally feeling that his research program is moving forward and his teaching is getting easier. Last week Dr. Yin’s department chair asked Dr. Yin to join the chair’s research project. While the project is interesting and has some publication potential, Dr. Yin cannot imagine fitting it in without his own current research suffering. Dr. Yin feels he must say no to his department chair, but fears the repercussions both in terms of their relationship and the opinion his chair holds of him.

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What could have been done to avoid this situation?
3. What strategies have you used to assure that your mentee’s time is adequately protected?

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

***Aligning Expectations***

**Case #1: *Doctoral student Blues***

Amy is beginning her third year as a doctoral student. To date, she has enjoyed working on her mentor’s research project but is becoming anxious that she has not yet started an independent research project. She wants to bring up her concerns, but it seems her mentor never has enough time to have a discussion focused on Amy’s research goals. This situation is becoming frustrating for her, as she likes her mentor and she understands that the past few months have been extremely busy for her mentor due to a host of factors, e.g., budget cuts, writing a grant application, adoption of a new family member, etc. Amy is reluctant to make a misstep with her well-established, senior mentor, yet she knows the clock is ticking. She wants to stop feeling stuck.

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What could have been done to avoid this situation? Moving away from the case study now…
3. How do you establish and communicate your expectations of your mentee?
4. How do you find out your mentee’s expectations of you and for the research experience?
5. What are strategies for uncovering the unspoken expectations mentees and mentors may have about issues such as authorship, job placement, letters of recommendation, etc.?

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

**Case #2: *Misaligned Expectations***

Sam is a doctoral student who has recently made some contacts within the local Hmong community who would like to work with him to understand and address high rates of asthma in local Hmong children. Sam is very excited about the possibility of this potential partnership having a direct impact on children’s health and wants to apply for a grant to pursue a community-based participatory research (CBPR) project. Ideally, it would be the basis for his dissertation. He approaches his faculty mentor, Dr. Hunter, to ask her to be a mentor on the grant. Dr. Hunter is very reluctant, letting Sam know that she has never done community-based participatory research and doesn’t know if she could guide him adequately. Sam assures her that this is not necessary, that he has identified a faculty member in another department with CBPR expertise who can play that role. He further points out that there is no one in their department who has this expertise and reminds her that his community contacts will be able to help guide and mentor him in this area. Dr. Hunter is still uncertain how well she can assess his study design and progress and wonders how well the other mentor can play that role and how they can coordinate assessment and feedback on the project.

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What kind of conversations regarding expectations might have been helpful earlier in this relationship? What kind of conversation needs to happen now?
3. What can mentors do to improve their ability to work with mentees whose work does not dovetail well with their own?
4. How can you help a mentee navigate the different expectations articulated by multiple mentors?

*Adapted from House S, Dearlove, A, Spencer K, Ziegahn L. Mentor Training for Community Engaged Researchers. 2013. Pfund C. and Handelsman J., eds. Entering Mentoring Series.* Advance online publication

***Addressing Equity and Inclusion***

**Case #1a: *Is it Okay to Ask?***

Last year I had a new graduate student join my research team. She has been a great member of the team and has contributed significantly to the research project. I think that she has had a positive experience working with our research team. This particular scholar is an African-American woman and I wonder how she has felt about being the only African-American woman in our research group. In fact, she is the only African American woman in our entire department. I have wanted to ask her how she feels, but I worry it might be insensitive or politically incorrect to do so. I have never asked. Should I ask? Is it too late to ask now that it has been a year and I haven’t asked?

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What might the mentor’s intent have been in asking the question, and what might the impact be on the mentee?
3. How do you engage in such conversations based on interest without feeling or expressing a sense of judgment about differences? How do you ask without raising issues of tokenism? Can you generate questions or approaches to broaching this subject with the mentee?

*Adapted from Handelsman, J., Pfund, C., Miller Lauffer, S., and Pribbenow, C.M. 2005. Entering Mentoring: A Seminar to Train a New Generation of Scientists. Madison, WI: University of Wisconsin Press.*

**Case #1b: *Is it Okay to Ask?***

Last year I had a new graduate student join my research team. She has been a great member of the team and has contributed significantly to the research project. I think that she has had a positive experience working with our research team. This particular scholar is from China and I wonder how she has felt about being the only international woman in our research group. In fact, she is the only international woman in our entire department. I have wanted to ask her how she feels, but I worry it might be insensitive or politically incorrect to do so. I have never asked. Should I ask? Is it too late to ask now that it has been a year and I haven’t asked?

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What might the mentor’s intent have been in asking the question, and what might the impact be on the mentee?
3. How do you engage in such conversations based on interest without feeling or expressing a sense of judgment about differences? How do you ask without raising issues of tokenism? Can you generate questions or approaches to broaching this subject with the mentee?

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**Case #1c: *Is it Okay to Ask?***

Last year I had a new graduate student join my research team. She has been a great member of the team and has contributed significantly to the research project. I think that she has had a positive experience working with our research team. This particular scholar is a Muslim woman and I wonder how she has felt about being the only Muslim woman in our research group. In fact, she is the only Muslim woman in our entire department. I have wanted to ask her how she feels, but I worry it might be insensitive or politically incorrect to do so. I have never asked. Should I ask? Is it too late to ask now that it has been a year and I haven’t asked?

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What might the mentor’s intent have been in asking the question, and what might the impact be on the mentee?
3. How do you engage in such conversations based on interest without feeling or expressing a sense of judgment about differences? How do you ask without raising issues of tokenism? Can you generate questions or approaches to broaching this subject with the mentee?

*Adapted from Handelsman, J., Pfund, C., Miller Lauffer, S., and Pribbenow, C.M. 2005. Entering Mentoring: A Seminar to Train a New Generation of Scientists. Madison, WI: University of Wisconsin Press.*

**Case #4: *Cultural Sensitivity***

You just finished your master’s degree in Social Work and are pursuing a PhD in the sociology of medicine. To further your research training, you join an established research team studying the impact of free health clinics on access to healthcare in economically depressed urban areas. Your project will be to examine the effect of a new, free clinic on preventative health care in an African-American community. There are many research questions you could ask, but your mentor insists you use the research questions used in his other studies, so he can compare the data across studies. Most of those previous studies were developed and used in Latino communities. After visiting the community, you will study and noting several cultural differences, you believe that the questions should be revised for your study. Your mentor disagrees and tells you to use the standard questions.

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What could have been done to avoid this situation? What should the mentor do now? What should the mentee do now?
3. What assumptions about the study population and the research is the mentor making? What might be the impact of those assumptions?

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

***Promoting Research Self-Efficacy***

**Case #1: *The Struggling Graduate Student*** One of your colleagues, Dr. Cooper, comes to talk with you about a situation with her mentee, Al, a second year graduate student. Al arrived at a recent meeting with Dr. Cooper seeming down and nervous as he told Dr. Cooper that he was not sure that he was going to be successful working with Dr. Cooper and her research group. For six months, Al has been coming to weekly meetings that Dr. Cooper holds with her research team consisting of Al, two other graduate students, and one postdoc. When Dr. Cooper asked Al why he thinks he won’t be successful, he said that in the weekly meetings he observes that the others all know a lot more about the topic than he does, they all seem to grasp advanced research methods, and they are all moving their research agenda forward while he doesn’t even have his own topic yet. He said he recognizes that the other two graduate students are ahead of him – that they have completed their coursework, and that one is a postdoc, but still he can’t imagine himself being able to get to where they are so quickly. He worries that he doesn't have the preparation needed to work with Dr. Cooper and her group.

Dr. Cooper feels bad that she probably didn’t spend enough time with Al when she invited him to join her research group. She thought that Al could start learning by watching the others in the research group first, and pick up information there. She also wonders if Al might feel like he doesn’t belong because the others are funded from Dr. Cooper’s research grant while Al is funded by a minority fellowship from the graduate school. Dr. Cooper thinks Al has a lot of promise, but it’s true that she hasn’t given him many opportunities to contribute to the progress of the research.

Guiding Questions for Discussion:

1. What might Dr. Cooper say to Al?
2. What might she do?
3. How can she draw from all four sources of self-efficacy in considering what to say or do?
4. How might your own unconscious biases affect your assumptions about how to approach building or supporting research self-efficacy in your mentees?

***Fostering Independence***

**Case #1*: How Much to Help?***

Amar is nearing the end of his dissertation, but wishes to continue his research as a postdoc in his mentor’s research group. Thus, he is applying for an individual postdoc fellowship from the National Science Foundation. His mentor believes that Amar is a very valuable asset to the team and is highly supportive of Amar continuing as a postdoc in the group, but does not have funding to support him. The mentor has agreed to advise Amar in the preparation of the application, although noting that it should represent Amar’s independent work.

When Amar provides his mentor with a draft of the application, his mentor becomes concerned. The research ideas are not well defined, and the proposal is very poorly written. Amar’s mentor believes that the proposal in its current form would not be a strong contender for funding. Although the application should reflect Amar’s work, the mentor has a vested interest in the proposal succeeding so that he can retain Amar in his research group. The mentor is unsure how to improve Amar’s proposal while still preserving it as Amar’s independent work. Moreover, Amar has invested more than a month in preparing this application so the mentor is concerned about how to provide feedback that is honest yet constructive to help keep Amar motivated to continue revisions to the proposal.

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What could have been done to avoid this situation? What should the mentor do now?
3. How would independent research be defined in this case?

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

**Case #2: *The Slow Writer***

A postdoc in my research group is adept at analysis of large data sets, but is a very slow writer. Last fall, I set multiple deadlines that this scholar missed, while another post-doc wrote a grant proposal and submitted two papers. Over the holidays, the slow writer had a breakthrough and produced an outline of a manuscript. To avoid delays in publication, I have now taken the lead in writing the manuscript based on this investigator’s work. However, to become an independent investigator, I know this mentee must be able to write independently. Setting deadlines for detailed outlines, manuscript sections, figures, etc. hasn’t worked. Trying to communicate the importance of manuscripts to the scientific endeavor hasn’t worked either. Neither has encouragement. Veiled threats don’t seem professional. Other than being patient, what should I do?

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. How do you convey the level of independence you expect from your mentee?
3. What is the mentor’s responsibility in this case?
4. What if the mentee in this case was an international scholar for whom English is not the first language? How do you grapple with issues of independence in writing for international scholars versus others?

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

***Promoting Professional Development***

**Case #1: *Choosing a Different Path***

You are currently mentoring two doctoral students. Both are very talented and hardworking; however, one has made it clear that once completing his PhD, he wants to find a position outside of academia. The other scholar has her heart set on a tenure track position at a top research university. Lately, you find yourself spending more time giving professional development advice to the mentee who intends to apply for faculty positions. You rationalize this by saying that you are more familiar with this career path and thus have more to offer. Secretly, you worry that you are neglecting the other scholar, believing that he is not worth your time and advice if he is pursuing a career outside of academia.

Guiding Questions for Discussion:

1. What are the main themes raised in this case study?
2. What should the mentor do now? What value judgments is the mentor making?
3. How might non-academic career interests and personal goals or obligations play into a mentee’s decision of career path? How might the mentor draw these factors out in discussion?
4. What are the responsibilities of the mentor to every mentee, regardless of career path?
5. Is academia for everyone? How do you have a discussion with mentees about their goals, whether their goals match their talents, and whether their goals match their values and preferences?
6. To what extent are the differing value systems of the mentor and mentee a factor in their relationship?
7. Does the gender of the mentee and mentor impact your assessment of this case?
8. How do issues of socialization arise in this case study? What does it look like to belong to the academic enterprise?

*Adapted from Pfund C, House S, Asquith P, et al. 2012. MentorTraining for Clinical and Translational Researchers. 1st ed., Entering mentoring series. W. H. Freeman and Co, New York, NY.*

1. Mehrabian, Albert. Nonverbal communication. Chicago: Aldine-Atherton, Chicago; 1972. [↑](#footnote-ref-1)
2. WordNet. Princeton, NJ: Princeton University, Cognitive Science Library; c2006 [cited 2008 5 June]. Available from: http://wordnet.princeton.edu. [↑](#footnote-ref-2)
3. Lee, Adrian, Carina Dennis and Philip Campbell. 2007. Nature’s Guide for Mentors. *Nature* 447: 791-797. [↑](#footnote-ref-3)