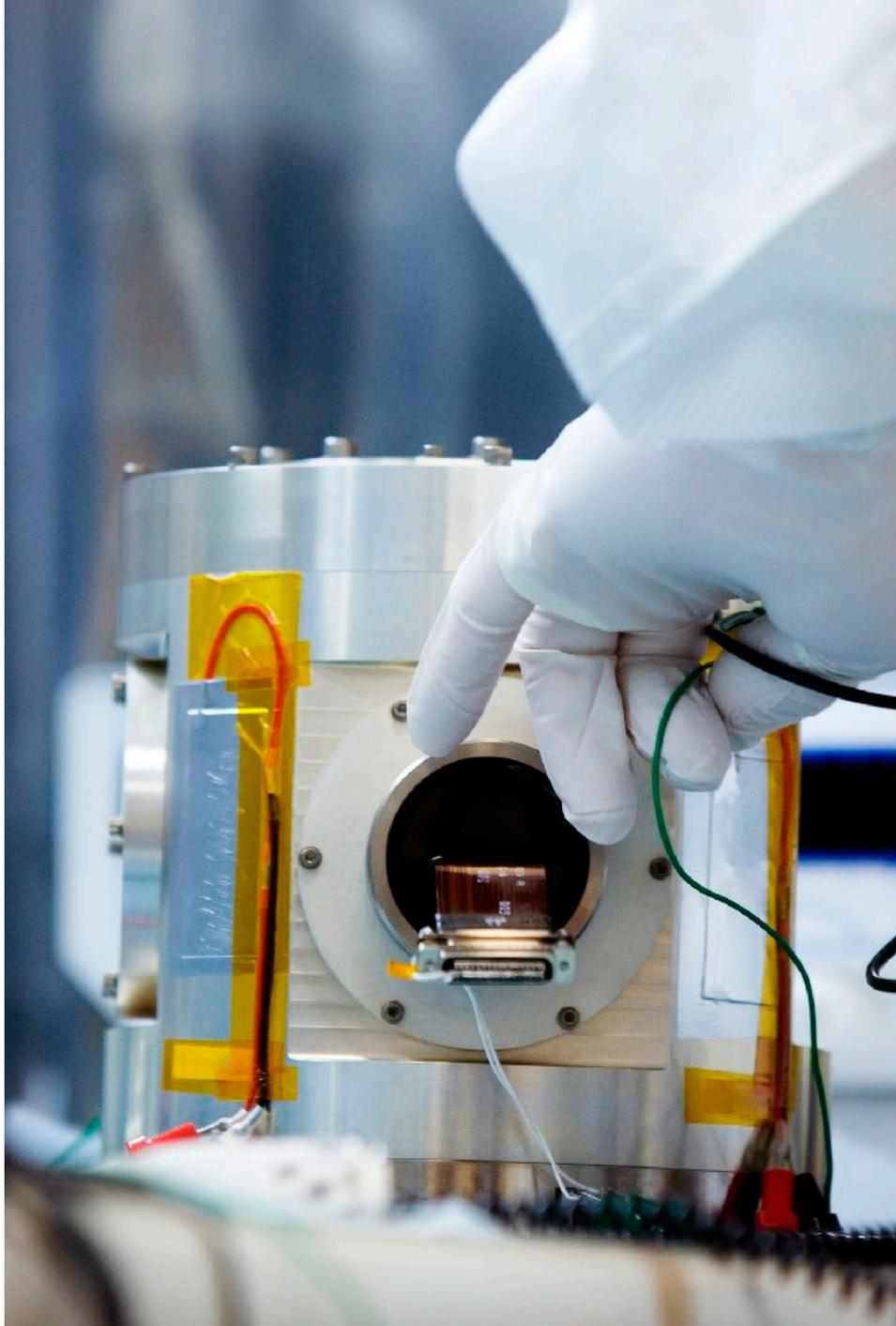


Labs That Work FOR EVERYONE

*An Intentional Professional
Leadership Curriculum
Tailored for Researchers
at HHMI and Beyond*



PERSONAL LOGBOOK: Cultures of Excellence

ncpre National Center for Principled Leadership & Research Ethics

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Cultures of Excellence

This course and your logbook are for you: the more you put into them, *the more you will benefit.*

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As you begin...

We encourage you to keep a logbook throughout this course. Your logbook is for your use only and is meant to establish and support your learning process and professional development as you work through the course.

The format of the logbook is entirely up to you. It should be a format you are comfortable working in and will continue to use throughout the program:



Handwritten: download and print the logbook we provide or use a notebook of your own.



Digital: we provide a fillable pdf version as well as a version you can use as prompts for keeping notes in your own files.

“This is what the best journals look like. They aren’t for the reader. They are for the writer. To slow the mind down. To wage peace with oneself.”

– Ryan Holiday, *Stillness is the Key*

Our intention is for this resource to be useful to you. During the program, we suggest you frequently revisit observations you recorded in earlier sections; sometimes they may highlight the ways your own thinking changes or evolves.

As you go through this course, you will be considering a range of topics that contribute to a lab culture of excellence. Among the tools are approaches to help you evaluate the factors that influence decision-making, navigate tricky situations, and deal with difficult conversations. By the end of the program, you should have two products:

- 1) a logbook with your reflections and completed activities, which will feed into and help you develop;
- 2) the strong core of a lab manual for a lab of the future in which you are the PI or in which you are a member.

The more difficult you find the questions, the more likely they are to yield longterm benefits for you.

How to Use this Professional Development Logbook

This logbook is designed to be used alongside the online content to help you integrate concepts and to reflect on your learning process. Record observations and consider questions relevant to issues raised in the episode. The section numbers correlate with those of each online episode.



The storyline is built from a composite of real-world examples from people working in research laboratories. If you find behaviors and issues in scenes that resonate with you, use those moments as opportunities to think about your own situation.

There are four categories of activities:



Practice

Opportunities for you to put specific tools to use—to test them out in a low-stakes environment. You will be introduced to a range of tools that can help you navigate the dynamics of lab life. The activities have been designed to help you practice using them so they can become part of your professional toolkit.



Reflection

Structured reflection questions followed by open space for you to capture thoughts or observations that are not explicitly a part of the practice opportunities. Structured reflections have been shown to increase creativity and productivity in professionals. Pausing to reflect regularly can help you keep track of questions, ideas to try, emotions, and more. Take the time to draw, bullet point, or record in a way that works for you to integrate concepts from this course into your professional habits.



Lab Manual

Throughout this program, you will be developing lab manual sections that reflect your values and philosophy for a lab you might run or be proud to join. Early users have found it helpful to create a separate document or file and work on all emerging lab manual sections there. Engaging with this exercise will give you an opportunity to apply your values and think through environments in which you can be productive and fulfilled. Whether you use your emerging lab manual one day in a lab of your own, or use it to help you assess labs you might join, making notes and drafting sections as you go will benefit your professional and leadership development.



Integration

Periodically, you will find integration exercises or reminders. These will help you identify key skills and points to consider; they will challenge you to integrate your observations and thinking into clear takeaways useful to you.

What issues did you recognize in this first scene? What challenges, what opportunities? Thinking about what you wrote above, about observable characteristics in labs of excellence, what did you see of those? What was missing?

What are steps that you *personally* can take right now to ensure a better work environment and culture in your current lab?

Are there specific policies or procedures you will implement when you are the PI to support a strong culture of excellence?



Scene Synopsis

Dr. Sorenson is in an airport lounge, heading home from a conference, when she learns a pending grant has been awarded. She shares the news with Dr. Evelyn Towne, a colleague who attended the same conference. They talk about what lab growth means as the PI shifts from hands-on involvement in day-to-day activities to a bigger-picture role. Evelyn offers some advice.



Reflection: Owning Your Career

It is your responsibility to build professional skills and manage your career.

Science can be a demanding discipline. What drives you? What makes you truly excited about what you do? Consider the core of what you love about what you do. Can you explain why are you pursuing a career as a scientist?

Look at your field from the point of view of an outsider. It can be easy to lose sight of the big picture after years dedicated to a specialization. What, fundamentally, makes what you do worth doing?

ARTICULATING YOUR VALUES

Values direct our thoughts, attitudes and behavior. As you take responsibility for building professional skills and managing your career, it's important for your efforts to align with your values and aspirations—and to stay in alignment with them over time.

If you can articulate your values, you have a good start. Being clear on your values helps clarify decision-making, as it can highlight what issues you are willing to let go and what you are not.

Who do you admire? Think of two people and list their names below. First take a moment to consider the quality of their work and character, how they embody their values, and how each exemplifies excellence. Now, list specifically what you admire about each of them.

1.

2.



Circle **FIVE** values that guide your life; add your own if not already represented on this list:

- | | | |
|-------------------|----------------------------|-----------------------------------|
| achievement | friends & family | competition |
| personal growth | helping society | reputation |
| relationships | honesty | security |
| intelligence | independence | self-respect |
| status | community | decisiveness |
| money | loyalty | wisdom |
| excellence | inspiring others | leadership |
| work-life balance | integrity | work ethic |
| adventure | personal faith or religion | curiosity |
| | | professional recognition, respect |

Reducing a long list of values to only five requires us to focus us on what we are willing to let go and what we are not. Many of the most serious dilemmas you will face in your career will arise from conflicts between strongly held values: loyalty to a friend vs. your professional integrity, or a conflict between your work ethic and a desire for a good work-life balance, or a conflict between helping society and your personal ambition or desire for achievement and recognition. Reflect on how you made the choices you did, getting to only five values.

Values lie at the center of your role in a workgroup, your goals, and your career. Acting according to your values can be challenging in the face of conflicting pressures, incentives, and ambitions.

One tool many professionals find helpful for aligning career goals and choices with articulated values is an Individualized Development Plan (IDP). We have provided some samples to review in the Resources section.

Consider starting—and maintaining by revisiting it regularly—an IDP or making notes in your logbook addressing one or two professional development areas on which you might focus first. You will have an opportunity to revisit developing your own IDP later in the program.



Episode 1.3: The Heideberg Lab



Scene Synopsis

Harold Wendling, a third-year grad student, is struggling with replicating the work of postdoc Dr. Darren Novak synthesizing the compound used in the collaboration. Darren is disengaging as he prepares to leave the lab for a faculty position. Dr. Malcolm Heideberg directs Darren to put grad student Meena Anand in charge of collaboration under Darren's supervision.



Concept: Career TRAGEDIES

TRAGEDIES is an acronym for specific individual and situational factors that can influence our rational decision-making processes.¹

T	Temptation	"Getting my name on this article would really look good on my CV."
R	Rationalization	"Everyone else adds all lab members to their papers." or "It's only a few data points and those runs were flawed anyway."
A	Ambition	"The better the story we tell, the better a journal we can go for."
G	Group and Authority Pressure	"The PI's instructions don't exactly match the IRB/IACUC protocol, but she is the senior researcher..."
E	Entitlement	"I've worked so hard on this, and I know this works, and I need get this publication."
D	Deception	"Everyone does it, and I'm no worse than them."
I	Incrementalism	"It's only a single data point I'm excluding, just this once."
E	Embarrassment	"I don't want to look foolish for not knowing how to do this."
S	Stupid Systems	"I'm better off submitting the paper through my personal email to avoid having to pay another membership charge."



Reflection: TRAGEDIES

- Did you notice any TRAGEDIES in the scene? For example, how might Harold's embarrassment, or Darren's sense of entitlement, bear on the quality of the research being done in the Heideberg lab?

¹ Gunsalus, C.K. & Robinson, A. (2018). *Nature* 557, 297-299 (2018) doi: <https://doi.org/10.1038/d41586-018-05145-6>.

Practice: Career TRAGEDIES

Now, consider the concept of TRAGEDIES you have felt or experienced. Write three to five TRAGEDIES and when you experience it. What do you feel? What do you say to yourself?

TRAGEDY name	When You Experience It

Episode 1.4: The Sorenson Lab



Scene Synopsis

Jules Sorenson returns to the lab. Lab manager Dr. Loretta Wenstrup brings up items requiring her urgent attention. Jayna talks to Jules about her frustration with the Heideberg lab. Jules throws the lead back to Jayna for resolving this issue and asks Jayna to take Ana Sofia under her wing.



Reflection: Consider Leadership

Research has well established the large influence leaders have on those around them in shaping the tone of working environments. As a leader, whether formal or informal, it is critical to be thoughtful and purposeful about how your behavior affects others.

1. Describe your “ideal” leader from your perspective; consider your values and goals as you do so. Use as many descriptors as possible, and consider how this ideal leader would act in various scenarios.

2. Now, evaluate yourself with respect to what you just described. The expectation is that you are not there yet, so rate yourself on each of the descriptors you listed above. Define a scale, give yourself a “score” on each to add some rigor to the exercise, and force yourself to be specific.

3. How would you describe/characterize Jules Sorenson's leadership style? Did it resonate with you? What might you rather have seen in her interaction with Jayna?



4. Look over the list of descriptors, and pick two or three of those you could practice to build better habits for how you affect the lab environment. Consider specific steps you might take to get better in each area. *Revisit your list once a week over the course of a month to assess any results from your efforts to improve; refining your short list would be valuable in achieving your goals. It is critical to revisit these ideas and not simply file and forget them.*

Lab Manual: Assess Leadership Reflected in these Lab Manuals

Part of being a good lab leader is assuring that the members of your lab have information about the overall structure and expectations of the lab. This happens in multiple ways: 1:1 meetings, lab meetings, and through a lab manual that lays out the philosophy and mission of the lab. Review the Sorenson and Heideberg lab manuals. Do you get a sense of the culture of the lab in reading through these two lab manuals? Compare and contrast them with others in the resources section, attending to elements included and omitted.

Episode 1.5: Passing the Torch



Scene Synopsis

Darren informs Meena of Malcolm Heideberg's decision to move responsibility for the collaboration with the Sorenson lab to her, in a major blow to Harold.



Concept: Using A Decision-Making Framework (DMF)

After you have learned to recognize and take responsibility for your own choices by identifying TRAGEDIES in situations, the Decision-Making Framework (DMF) is a six-step tool to support you in being analytical about your actions. Knowing and “owning” the feelings you bring to situations, such as those represented through the TRAGEDIES, helps you manage and control yourself in difficult interactions. Using the DMF to help work through the actions you will take can help you assure that your choices are considered, balanced, and contribute to positive outcomes for you and your career. It can help you act consistently with your values.

When you adopt it as a habit, the DMF can help to slow down your thinking (reacting), assure you are giving broad consideration of a range of aspects about a situation, assure that your actions are fully considered, and help you to make choices that match your values and align with your career goals.



1. What issues does this situation present?
2. What rules and regulations apply?
3. What questions do you need/want to ask?
4. What resources are available to you to work through this situation?
5. What options do you have? Who will be affected by each?
6. What are you going to do? *What (exact) words will you use?*



Practice: 2-Minute Challenge

You have recently joined a lab and were assigned to take over the lead on a project using techniques with which you are not completely familiar. You are happy to be getting the experience, though you have concerns about putting the project and your reputation at risk from your lack of in-depth experience with the technique. You come to understand that the PI replaced one of the more experienced lab members with you—and this other person seems really unhappy about it. You are not sure if you or the PI is the focus of the feelings. What you do know is that the relationship between the two of you is strained.

What do you do?

Practice using the DMF by walking through each step in order as it applies to this situation.

1. What issues does this situation present?
2. What rules and regulations apply?
3. What questions do you need/want to ask?
4. What resources are available to you to work through this situation?
5. What options do you have? Who will be affected by each?
6. What are you going to do? *What (exact) words will you use?*



Reflection: Cohort Discussion

Share your responses with your group discussion cohort. Did this structured format open up any aspects of the problem you hadn't at first seen? Did it assist in developing words you might be able to use?



★ Concept: Personal Scripts

Let's focus for a moment on the last step in the DMF, above, which asks you to articulate *specifically* what you will say after you make a decision and are starting to act on it. Finding the words is an important step: it is not enough to know what you want to do after you have assessed the situation and your options: you must also know *how* to implement your decision. This takes personal scripts.

🔧 Practice: Personal Scripts

Take a few minutes to create and practice some personal scripts if someone asks you to do something you're not sure you want to do for whatever reason (time, interest, other conflicts).

For example: *"I need some time to reflect. Perhaps I could get back to you [tomorrow/in about 20 minutes]?"* Or, *"I wouldn't be able to do the kind of job you and I both expect of me because of my other commitments. Thank you for thinking of me."*

1.

2.

3.

Think about situations that come up in your life for which having some words prepared could be helpful, even if just to buy time for thought and applying the DMF. What would those situations be? What scripts might be helpful for you to prepare and practice in advance?

✕ Reflection: Cohort Discussion

Share your scripts with your group discussion cohort, and revisit yours after you see what others developed.

Episode 1.6 Everything Is Fine



Scene Synopsis

Grad fellow Alex Park is struggling to find a starting point for his project—and the review for his fellowship is approaching. Loretta notices his struggles and suggests he meet with Jules. Alex reluctantly agrees to a meeting. Alex is frustrated by her mentoring style, as he is seeking “answers” for what to do.



Concept: Listening as Leadership

Actively listening means listening without judgment to fully understand what the other person is saying. It goes beyond listening to the words—good active listening includes paying attention to the other person’s tone and body language. Active listening helps you to build a trusting relationship with the other person—and to really understand their perspective.



Spending the effort to improve your listening skills is foundational to building a culture of excellence—and it starts with paying attention to how often and how well you are listening to others.



Practice: Listening (*with a partner*)

Find a partner for this practice. You will each take a turn being the listener.

1. Agree which of you will start as the listener/questioner; the other will be the first speaker.
2. Select a topic on which the two of you disagree and develop specific phrasing for how to pose a controversial question about it—avoid something too controversial (no politics or religion). For example, “*is our department (or group) advice/policy on preprints a good approach?*” “*should authorship order be alphabetical?*” or “*should peer review be anonymous?*”
3. Set a timer to two minutes (120 seconds) for each person’s speaking turn.
4. The listener poses the agreed-upon controversial question, and then, for the next two minutes, listens, speaking only to ask one of the following questions:
 1. “*Tell me more about that.*”
 2. “*Help me understand more about...*”
 3. Nodding and affirming (“*yes...*”, “*uh huh...*”...)
5. **NOTE! The listener may not take notes:** this is only listening!
6. When the timer goes off, the listener should repeat back the views of the speaker to the speaker’s satisfaction, signaled by the speaker saying: “*yes, you’ve got it.*”
7. Switch roles, set the timer, start again.

Reflection: Listening



- Which role (the listener/questioner or the speaker) was working harder? Why?
- How did it feel to be listened to that intently?
- What kind of listeners are the ideal leaders you were thinking about in the reflection for section 1.4?
- If listening was on your list of areas to improve, did this practice help you?



Practice: Asking Questions

You can practice listening and asking effective questions starting today. Individually or separately, listening intently for the purpose of understanding and asking constructive questions can be applied to any conversations you are having – professional or personal. Reflect on how good your “ideal” leader is at these skills, and how that affects your interactions with that leader.



Loretta is having a hard time communicating with Alex. He doesn't seem to want to open up to her. How might she reframe her questions to use humble inquiry (see below for a reminder about this kind of inquiry) to encourage Alex to feel more comfortable sharing? For example, *“Have you set up a time with Jules to talk about your research focus?”*

- Identify the type of question that this is (eg close ended or confrontational)

- Reframe the question to use humble inquiry (for example, “Tell me about your discussions with Jules,” or just, *“Tell me more about your experience with getting ready for the review?”*).

Alex is frustrated because Jules is “just asking him questions,” but not giving him any direction.

- What kind of questions might Jules ask that could both give him some direction and give him ownership? For example, *“Have you thought about X process. How can I help you with that?”*

- Let's say you notice someone in your lab who seems frustrated or shut down. Create a list of questions using humble inquiry that might encourage this person to feel more comfortable sharing.

REFERENCE

- **Confrontational:** Confrontational questions occur when you insert your opinion or ideas in the form of a question, as in *“You agree with me on this, don't you?”*
- **Diagnostic:** Diagnostic questions are designed to understand what the other person is currently thinking, for example *“Which part of the conversation is resonating with you the most right now?”*
- **Process:** Process questions are focused on the conversation at hand. *“What are our next steps here?”*
- **Humble:** Humble inquiry accesses your own ignorance and curiosity. Humble questions put the power in the

Episode 1.7: Where to Begin



Scene Synopsis

Jayna is struggling and feels time-pressured, so she suggests Ana Sofia seek to replicate previous work with the Heideberg lab as a preliminary project—and to keep her occupied. Ana Sofia cannot understand the lab notebooks, so consults Alex, who confirms that there is some disarray in the lab protocols. Alex makes a racist comment about Jayna. Ana Sofia voices her disapproval, modeling ‘upstander’ conduct.



Practice: Personal Scripts

Would you have been able to respond in the moment as Ana Sofia did? Do you have prepared personal scripts for serving as an upstander when out-of-line comments are made in your presence? Prepare two or three scripts that you would be able to use, even if it’s just to say “*Wow.*” or “*That really makes me uncomfortable.*”



Lab Manual: Setting the Tone and Expectations

Review the Sorenson and Heideberg lab manuals again: is there anything in either document that would guide lab members to know about expectations for civility, respect, or interactions in the lab environment? Do you think these topics can effectively be explicitly addressed in writing, or is that something that is only demonstrated implicitly in daily interactions?

Make a list of specific provisions or wording you would use to address these topics in a lab manual for your own lab in the future, or for a lab you would like to join.

Act One: Integration



Integration

Consider the interactions between and among the characters and the tools introduced in Act One. Reflect on the role that communication and assumptions about others play in complicating or mitigating conflict. Among the tools introduced to help you apply your scientific skills of analysis and observation to interpersonal interactions are:

- Career TRAGEDIES: knowing and managing yourself (*Temptation, Rationalization, Ambition, Group & authority pressure, Entitlement, Deception, Incrementalism, Embarrassment, Stupid systems*)
- DMF (Decision-making framework) and using Personal Scripts
- 2MC: practicing with short “two-minute challenges”
- Listening intentionally and carefully to show respect and civility, and asking the most effective questions in a given situation



Reflection: Using the Tools

As you go forward, how can you practice these skills and integrate them into your ongoing interactions?

Consider how those tools can be incorporated into creating and maintaining a culture of excellence in the ongoing life of a laboratory.

Make a plan for how and when you can develop habits for using the tools that will help you be a strong contributor to your lab culture and the tone of interactions among and between lab members.

Review the specific statements you jotted down for inclusion in a lab manual. Would they encourage and support use of these tools in lab interactions?



Practice: Participate in a Data Management iREDS Discussion

The scenes in Act One have highlighted concerns in both scientific practice (data management) and interpersonal interactions (collaboration, exclusion, othering). The iREDS approach to a lab-based conversation about data management is a way to address both of these concerns. As you’ll have learned in the video introduction to iREDS, the deliberative communication approach is meant to foster inclusion, diversity and civility. The topic of data management discussed using this approach will help assure that the lab agrees on the best data management practices/guidelines for your lab and its projects.

Your lab should soon be holding an iREDS discussion about data management in your lab. After your lab has held that discussion, please stop and reflect on the questions that follow.

Reflection: iREDS Discussion on Data Management

- What were some of the ways this intentional and deliberative conversation was helpful?

- Were you able to communicate your own thoughts/ideas/concerns in the conversation?

- Did you feel heard and respected?

- What did you learn and discover in this conversation, either about others' perspectives or your own about data management, that you had not thought about before?

- Will you be making any changes in how you approach data management?

Concept: Communication in Cultures of Excellence

An important element of creating a culture of excellence is recognizing what day-to-day personal and professional information is useful in helping lab members learn about expectations and protocols.

New lab members must gain some explicit knowledge to be effective in a new environment, including:

- ✓ Research background and procedures
- ✓ Data management, compliance protocols

Consider the implicit or informal elements of how your lab operates, including unspoken elements that could help a new member both with start-up and in sustaining a culture of excellence, including:

Ponder the topics you would have found helpful to have documented or explained in a lab manual:

- ✓ Interpersonal interactions
- ✓ Cultural norms
- ✓ Use of shared equipment, maintenance, safety
- ✓ Mentorship interactions
- ✓ Expectations (research, publications, authorship, etc.)

Lab Manual: What Should Go in Lab Orientation Section?

- Review some of the “group orientation” samples in the resource section and list some topics you would like to have known about and understood before starting in your present group. Consider both explicit information (how do lab members learn about use of shared equipment and expectations for maintenance; safety, compliance protocols, etc.) as well as more informal expectations (greetings, sharing food, performance, time in the lab, etc.).
- Make a list of things to share the next time a new member joins your lab, making notes for your own aspirational “lab group orientation” document, whether for now, or for a lab of your own in the future.

NOTE: We encourage you to revisit your entries as you move through the other acts in Module One to see how your thoughts might have changed.

Episode 2.1: Teamwork



Scene Synopsis

The male members of the Heideberg lab are at a golf outing. Harold shanks the ball and feels his lab status is in jeopardy. He asks Darren for another chance on the synthesis, to no avail. Ana Sofia takes materials to the Heideberg lab and meets Meena, who mentions preparing for an upcoming poster session. A friendship between the two starts to form.



Reflection

Bias that leads to in-grouping and out-grouping can exist in many different ways.

Take a few minutes and make notes about biases that may be present in your current environment—biases that lead to favoritism and those that lead to differential treatment that isn't favorable.

Are you contributing to any of those? If so, how? Remember that bias need not be malicious to contribute nonetheless to “othering.”

Consider the kinds of bias that may cause or result in exclusion in lab or research environments:

- cultural biases
- socioeconomic
- nationality
- language
- field of study
- age
- gender
- racial
- familial responsibilities
- educational background
- smell, voice, weight
- disability

What can you do to see and address your own biases?

How inclusive is your lab group (inclusivity could be: everyone in the group knows how to pronounce each other's names and their meaning; members feel comfortable bringing meals from their own culture; sharing family information; the lab acknowledges or celebrates lab members' varying religious/spiritual faiths or holidays; people share language lessons/common phrases, or learn greetings and polite conversation (please/thank you) in others' native language)?

What can—and will—you do to mitigate barriers to inclusivity in your own lab group?

Read the following questions and address and answer those that most resonate with you:

What expressions of power do you experience in your current situation?

Is power used in healthy ways?

Is the way various forms of power are expressed in your environment contributing to your growth or challenges in your own work and development?

Do you have any reasonable options for ways to contribute your voice to making things better?



Reflection: Cohort Discussion on Power

How do power dynamics create or hinder cultures of inclusion and excellence? In your cohort discussion group, identify and explore the expressions of power in the scenes at the golf course/back in the lab.

What are the expressions of power on display? Identify and label at least three specific examples.

Are expressions of power contributing to the problems in the collaboration?

Are those expressions of power advancing or undermining the team in creating a more productive and inclusive environment?

Practice: Commit to Improvement

Refer back to your personal scripts developed earlier; do they help reduce barriers? What commitments will you make to yourself to help you become more aware of your own potential for bias, and what will you do to overcome these barriers to inclusivity in your own career?

Lab Manual: Bias and Inclusion

Look through the relevant sections in the Sorenson, Heideberg, and samples in the resource section and make notes on the passages addressing bias and inclusion that you think are particularly strong. What specific provisions would you want in your lab manual of the future? Compare your notes to what the lab you are now in says (or doesn't) in its lab manual.

Episode 2.2: Jayna's Increasing Burden



Scene Synopsis

Jules receives an email from Malcom informing her that Darren will be leaving soon, and Meena will take over the collaboration. At the Sorenson lab meeting, Jayna is frustrated by the news, anticipating even more delay in her own work while Meena gets up to speed on the project. Sorenson tries to reassure Jayna, commits to meeting with Ana Sofia, and recognizes the need to meet with Alex again.



Practice 2MC: Drawing the Line

You're relatively new to a lab and just getting comfortable with the people and rhythm of the group. Lab meetings have been focusing on problems reproducing one important line of work, and you're wondering if something might be wrong with the cell lines they have been using for several years. In your last lab, there was a problem with incorrect cell lines, and it caused the same sorts of reproducibility issues being discussed in recent meetings. You've read the [PLOS ONE paper](#) estimating that nearly 33,000 articles in the literature are premised on incorrect cell lines. What should you do?

Approach:

- 1) Identify any TRAGEDIES that might affect a) how you approach this situation and b) how others might respond to your suggestion.

- 2) Apply the DMF:
 1. What issues does this situation present?

 2. What rules and regulations apply?

 3. What questions do you need/want to ask?

 4. What resources are available to you to work through this situation?

 5. What options do you have? Who will be affected by each?

 6. What are you going to do? If you need to have a potentially difficult or awkward conversation with what exact words will you use? What is your personal script?



Reflection: Drawing the Line

It's possible, although not likely, that your cell lines are not what you believe them to be. But the consequences of that mistake are too great to ignore. The first step is to try to understand your own resistance and what you anticipate could be the reluctance of others to verify the cell lines.



How, if at all, does this situation involve your personal values?

What are the power dynamics in your lab that affect how you or others raise this issue?

Who or what are your resources in thinking this through and taking action that matches your values?



Scene Synopsis

At the tail end of a lab meeting, Meena describes an uncomfortable experience at her recent poster session. Others don't perceive her discomfort or offer support. In a discussion afterwards, Harold and Darren make it worse.



Consider Meena's situation and how it could have played out differently if any of her colleagues—or her lab head—had perceived and responded to how uncomfortable and inappropriate the interaction was.



Reflection: Being an Upstander

An 'upstander' is someone who steps in to help in an awkward situation instead of just standing by—someone who “stands up” for their values and for others. *Remember Ana Sofia speaking out to Alex in 1.7?*

- To start: how do your values play into your choices about when to speak, or not?

- If you seek to support others in uncomfortable situations, how can you build your skills and comfort level to be effective?

- What kinds of questions shut people down/dismiss their feelings, and which ones help?

Now, take a few minutes to reflect on some of the topics portrayed in this scene and what it means to lead for inclusion. Pick from among the following questions and address those that are most relevant to you:

- In what ways have you encountered gender or racial bias in your own science career?

- What other areas of bias may be present which can create exclusivity in lab or research environments? Take a few minutes and make notes about biases that may be present in your current situations.

- What can you do to mitigate these barriers to inclusivity?

- What are some ways in which power might be related to creating or hindering cultures of inclusion and excellence?



Practice: Personal Scripts

It can be hard to find the right words in the moment, so it may help to think through how you might respond to different situations and have your personal scripts developed, ready, and practiced.

Come up with two to three personal scripts you can use in the following situations....

When you are in a situation where you are experiencing bias or incivility:

When you are listening to someone else talk about a time when they experienced bias or incivility:

When you are a bystander and you observe someone who is experiencing incivility:

RESOURCES

SAMPLE COLLECTED SCRIPTS FOR RESPONDING TO HARASSMENT IN THE MOMENT

- *I don't get the point of your remark.*
- *I don't understand what that means.*
- *Help me understand how your comment is relevant to our discussion?*
- *I am not available in that way.*
- *I prefer to focus on my work when I am presenting, please and thank you.*
- *Thank you for your interest; I'm just not there now.*
- *I beg your pardon! Did you really say that?*
- *Do you have any idea how inappropriate that is?*
- *Do you know that could be seen as sexual harassment?*

Personal Scripts When Hearing About an Incivility Experience

"That really sucks, and you worked so hard on that project."

"You didn't deserve that treatment, you are a scientist!"

"Do you know that could be seen as sexual harassment?"

"It's hard enough being a grad student without having to deal with remarks that feel like they are minimizing our/her value as scientists and pretend like we're just eye-candy standing modeling the poster."

Personal Scripts for Bystanders in the Moment (at the Poster Session)

"I fail to see how this is relevant - let's discuss her paper?"

"I wish we could talk more about the science."

Peer faculty member or more senior scientist to harasser:

"Wow. Did you really just say that? Want to try again?"

"I must not have understood you, as that wouldn't have been appropriate. Let's focus on the great work in this poster."

More Direct: Name or Describe the Behavior That Is Inappropriate

"That comment is offensive to all of us (not 'to me'); it is unprofessional and probably is sexual harassment. That behavior has to stop."

"This is not the first time you've said things like this which many people would call sexual harassment. It's getting in the way of your effectiveness."

Episode 2.4: Questions and More Questions



Scene Synopsis

Jules Sorenson has a mentoring meeting with Alex. She fails to hear or understand Alex's concerns. Alex leaves feeling frustrated.



Reflection

Jules and Alex left their meeting with vastly different perceptions of how it went.

- Was Alex prepared for this meeting?

- What could he have done differently to achieve an outcome that would have been more helpful to him?

- What could Jules have done differently to assess where Alex was in his project and his needs?



Practice: Personal Scripts for Effective Mentor Meetings

Before you meet with a mentor, whether it is for the first time, or for standard check-ins, your preparation can make the difference in how effective the interaction will be. With any professional from whom you seek mentoring, your goal is to establish and maintain a professional relationship that will support your professional development and help you achieve your goals.

Alex didn't have personal scripts that communicated what he felt were his needs—and he has been having a version of the same conversation with his advisor, Jules, without making much progress.

Using the listening and asking questions skills introduced earlier, prepare personal scripts for a constructive meeting if you face a challenge in your relationship with a mentor.

- A concise summary of your career, research, and teaching goals. Do you have specific, measurable and realistic individual development goals for the future? If so, seek your mentor's feedback. (Alex is having trouble narrowing his focus and starting his project and seeks direct guidance.) Share the areas in which you particularly seek advice, or clarify the scope of this mentoring relationship.

Episode 2.5: A Sympathetic Ear



Scene Synopsis

Meena talks to Ana Sofia about her frustrations with the poster session. Ana Sofia coaches her on personal scripts and helps Meena process the experience.



Practice: Personal Scripts for Support

Come up with two to three personal scripts you can use in the following situations. Choose surrounding circumstances or context that best matches what you are most likely to encounter or scripts you could need.

- Difficult conversation with supervisor (for instance, how Alex might have told Jules that he needed a different kind of interaction):

- Difficult conversation with peer (as when Meena needed to tell Darren his response was not helpful):

- Admitting you don't know how to do something/asking for help without putting yourself down (a script Harold needed):

- Acknowledging a mistake:



Reflection

Ana Sofia mentions two organizations in which she's involved, that she's found to be helpful in dealing with frustrations of lab life; for her, those frustrations come from being a woman in science. Pause, and think about the parts of lab life that are currently the most frustrating for you (tedium, stress, lack of progress, bias, preconceived ideas about your work, etc.), and then list two specific organizations or activities that might help support your values, alleviate some of those stressors, and contribute to your professional development.

- 1.

- 2.

Episode 2.6: Another Day, Another Indignity



Scene Synopsis

Jayna encounters racial microaggressions in the department mailroom. Loretta commiserates and provides support. Darren deflects any responsibility for problems with the compound.



Reflection: How Traumatic Experiences Affect Lab Culture

Everyone deals with these indignities in different ways. Some people prefer to deal with them privately, while others prefer to share their experience/s with others.

- Have you endured a discriminatory incident or exchange? If so, think of one instance now, and write it down. How did it make you feel? What would have helped you handle this experience better?

- How do you deal with such occurrences when they happen? I.e., do you talk to a friend, exercise, meditate, keep a journal, etc.? What helps you cope?

- When these indignities occur to those around you, how do you handle them personally? What, if any, responsibility do you feel to speak up?

- How do these experiences undermine a culture of excellence, and what lab practices could help you or others better handle these situations?



Lab Manual Review: Lab Culture

Look through some of the sample lab manuals in the resource section, and see if any have sections addressing lab culture that you think are useful and well done. Make some notes for yourself on the elements you particularly like for building your own inclusion section later.



Practice: Personal Scripts

Revisit the personal scripts you developed after Episode 2.3 and see how it might be different if the person to whom you are responding is of greater power or status than you are?

- What do you say after someone has said something offensive to you?



- What do you say if you are bystander when someone has said something offensive to a friend or colleague in or outside of the lab?

- What do you say to the person who has just experienced bias or incivility?

Episode 2.7: Harold Pushed to the Limit



Scene Synopsis

Meena fails, as Harold did, to make the compound. She seeks help from Darren, who insists that all necessary information is in the notes. Harold arrives late to lab and is called out by Malcolm for his tardiness. Meena persuades Harold the two of them should talk to Malcolm tomorrow to ask for help.



Reflection

- Have there been moments in your career when you have been disappointed by a person or had an unpleasant professional development? If so, how have you handled this experience?

- Looking back, do you feel that you handled this situation well? If so, what did you do that proved effective in helping you through this challenging time? If not, how did you react/ behave, and how might you now handle this situation differently/more effectively ?

- Do you have a good system or process in place that helps you better handle disappointments in your career?

- Remember that the fourth step of the Decision-Making Framework (DMF) is to identify your resources. Where can you turn for support, advice, or working hard issues through? Identify resources available to you on your campus. (*Hint: do a search of the student services and graduate college websites.*)



Practice: Personal Scripts

Scripts that you could practice when you find yourself in this situation:

- What do you tell yourself after going through a professional disappointment/setback?

- What do you tell others after you have gone through a professional disappointment/setback?



★ Concept: Supporting Mental Health in Lab Members

What can we do to ensure we and others remain productive scientists operating in a culture of excellence?

We invest in lab members and coworkers in pursuit of producing strong science. Failing to attend to the mental health and well-being of lab members and coworkers may be sabotaging all of the other investments we and they have made in their training as scientists. Some people struggle with negative emotions, an absence of positive emotions, being overwhelmed, and feeling hopeless. They may have trouble with how they perceive and/or process the stress inherent in a research environment. People who struggle may not be able to bring their best and most productive selves to work. Nevertheless, they are valuable members of the research team. To support their well-being, their careers, and our own careers—and to prevent unnecessary setbacks—it is important to recognize this stressful, yet usually temporary, situation can be addressed in the collaborative spirit that characterizes good scientists.

✕ Reflection: Supporting Colleagues, Reframing to Cope

Think about your colleagues: can you identify signs of struggle in a colleague? How would you respond to different signals?

Human beings perceive stress as either a *challenge* (something that we can overcome and will benefit us) or a *threat* (something that we cannot overcome or that holds no benefit for us or our goals).

Briefly describe an event you experienced that matches the definition of a threat stressor (e.g., rejection of a manuscript, inefficient administrative processes, disparaging comments from a coworker, etc.).

Now, reframe and write out that experience as fitting the definition of a challenge stressor (e.g., improving that manuscript from reviewer feedback, find out if you can alter that administrative process or recognize that it has little impact on your day, spend more time and focus on supportive coworkers, etc.).



Scene Synopsis

Ana Sofia looks over the electronic notes for her lab and cannot make sense of them. She shows Jules the notebook she finds confusing. Jules and Loretta agree this is a problem and decide to overhaul the lab's data management protocols.



Reflection: Better Lab Practices?

Thinking about your iREDS discussion on data management, and reflecting on this scene, how might the data management issues discovered by Ana Sofia have been averted?



Lab Manual Review: Data Management

Review the data management sections in the sample lab manuals, and what domains they focus on. Make notes about elements and sections you would include in your lab manual of the future.



Practice: The Grad Student's Dilemma

Your first thought was: “I can’t be right. I’m just a grad student, after all. Could an entire sub-field of research really be based on a fundamental error?” And yet, the conclusion is unavoidable. You’ve checked and rechecked your analysis, and a central analytical approach your group used in several publications (indeed, one used by scores of other research groups, as well) is vulnerable to bias. It dawns on you that the problem could compromise hundreds of related articles from other labs. What do you do?



Apply the DMF to this situation:

1. What issues does this situation present?
2. What rules and regulations apply?
3. What questions do you need/want to ask?
4. What resources are available to you to work through this situation?
5. What options do you have? Who will be affected by each?
6. What are you going to do? *What (exact) words will you use? What is your personal script?*



Reflection: Cohort Discussion on 2MC

Compare your responses to each step to those developed by others in your discussion group. Did you or others distinguish between finding support for the stress and fear of raising an unwanted conclusion from the process of bringing it forward?



Scene Synopsis

Loretta notices that Alex is still struggling to get started on his project. She persuades him to have another conversation with Jules and offers support to facilitate the conversation. Jules is surprised as she'd thought the previous meeting with Alex went well. Loretta suggests that Alex might need more direct guidance.



Concept: Asking Questions as a Foundational Skill

Different situations warrant different kinds of questions. Do you need to understand more about a process? Diagnose the problem at hand? Or perhaps confront an issue? As a reminder, here are the categories of questions referenced in the online video you saw earlier in Episode 1.6:

Confrontational Inquiry

(insert your ideas in the form of a question)

Did that make you angry?
Why didn't you say that in our meeting?

Humble or Pure Inquiry

(access your own ignorance)

What is the current situation?
Can you give me an example?

Diagnostic Inquiry

(understand the other person)

How did you feel about that?
How would you do that differently?

Process-oriented Inquiry

(focus on the conversation at hand)

What is happening right here,
right now, between us?

What kind of questions do you use most? What kind would you like to use more?

How will you practice to develop the habit?



Practice: Asking Questions

Construct two questions in each of the four categories, and note when they would be useful to you.

Develop or mark with an asterisk three questions you anticipate finding valuable in an initial meeting with a mentor.



Scene Synopsis

Meena works all night in the lab. Later, she tries to convince Harold to talk with Malcolm about the project, but he cannot face it and hurries away. Meena talks to Malcolm about needing Darren to help figure out the synthesis problem. He reluctantly agrees and puts the responsibility back on them.



Practice: Asking Questions

1. Put yourself in the position of a principal investigator or senior researcher.
 - You have just been approached by two graduate students who have not been delivering
 - One of the students is new, and the other student has a track record of underperforming
 - Instead of solving their own problem, the students are asking you to take the valuable research time of a senior post doc to help them

Consider the four categories of questions from the previous exercise, and consider what you need from these two students.

Write out **at least two questions** you can ask the students in such a situation to get closer to your goal.

What category or categories did you choose for your questions and why?

2. Put yourself in the position of a new graduate student in a lab.
 - You and a fellow student have been failing to deliver on an assignment despite your best efforts.
 - You have been following instructions from a senior post doc who has been successful with this technique in the past and asked the principal investigator if that post doc could be assigned to help the two of you figure out what you have been doing wrong.
 - The PI refuses and has put the responsibility back on your shoulders.

Consider the four categories of questions from the previous exercise, and consider what you need from your PI.

Write out **at least two questions** you can ask the PI in such a situation to get closer to your goal.

What category or categories did you choose for your questions and why?

Act Two: Integration

Integration

Consider the developments in Act Two: there were frustrations in the lab, disappointing and antagonistic interactions with colleagues, and problems with data management. Harold's stress substantially damaged his mental health. Take some time to reflect on elements of the lab cultures that didn't support good scientific practice, which requires more civil, inclusive, and respectful interactions.



Practice: Second iREDS Discussion on Data Management

Acts One and Two introduce the importance of lab manuals to help establish expectations and to structure the work of the lab. An important part of the work you do in the lab is managing your data. Your lab should now be holding a second iREDS discussion about data management. This second iREDS discussion about data management can help you to develop sections of a data management plan, either for your current lab, or to include in your lab manual.

After you have completed your second iREDS discussion please address the reflection questions.

Reflection: Your Lab Manual

What are some of the domains you identified as critical to focus on in your data management planning?

What are some specific items discussed for each of these critical domains?

Lab Manual: Section Inventory

Thinking back through all the lab manual reviews you did in Acts One and Two, list the sections you believe are important to include in your lab manual.

Episode 3.2: Jules and Loretta Make Plans



Scene Synopsis

Jules Sorenson engaged in self-reflection and realizes that her students have gotten a bit lost in the shuffle. She and Loretta agree to work together to create a better mentoring system and data management protocols.



Lab Manual: Draft Lab Philosophy Section

At the beginning of this program, you reflected on what a culture of excellence is and where you have seen such a culture in labs. Review your notes on lab manual sections you have been developing through Acts One and Two. Reflect on how the iREDS approach to deliberative lab conversation and other methods of communication fit into your lab values. Leverage everything you have encountered in this program and be specific and thorough.

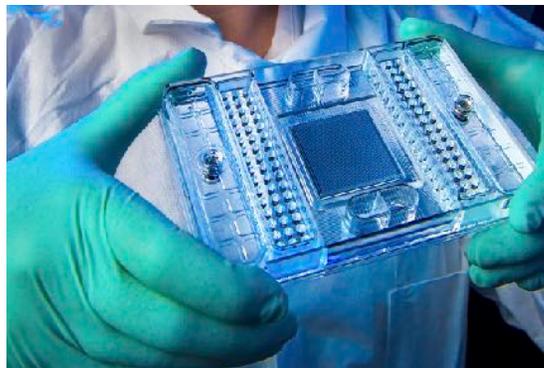
Draft a lab philosophy section describing what a culture of excellence will mean in your lab..

Episode 3.3: Resolving the Issue



Scene Synopsis

Darren and Meena go through the synthesis together and discover an error made by Darren. It doesn't explain everything; the compound's color is still off. Together, they discover that the base material is incorrect. Darren doesn't want to share that with the Sorenson lab. Heideberg insists on transparency. Darren realizes the complications of this as it relates to Harold and rationalizes that he would have washed out anyway.



Lab Manual: Considering Data Management

You have had the opportunity to work with iREDS discussions focused on data management in a laboratory environment and to carefully consider how data management will look in your lab.

Review the data management section(s) of the lab manuals you preferred as examples and start listing items to address.

Review your notes from the two iREDS discussions around data management. What procedures and information do you think should be included in your lab manual?

Writing it down isn't enough: what daily practices do you adopt to assure that your procedures match your written values and aspirations for good data management?



Lab Manual: Being Transparent about Mistakes

One of the ways TRAGEDIES arise in lab environments is when we as researchers attempt to minimize or cover up our mistakes, hoping that they will go unnoticed or that we can fix them before anyone realizes we aren't perfect.

Review the section(s) of your lab manual where you explain how you want mistakes handled in your lab to determine if it is as clear and strong as you want it to be. Note any needed changes here. If this section does not yet exist, sketch it out here.

Episode 3.4: A Better Understanding



Scene Synopsis

Malcolm emails Jules to explain the problems with the collaboration. The two of them have coffee to establish how their labs will work together going forward.



Reflection: How to Reset a Collaboration?

- Consider an instance where you are collaborating with another lab or with a colleague and you feel the expectations are not clear or have not been met. What can you do to move the project in a constructive direction? What would you expect to see in a collaboration agreement or compact in place between labs—from the beginning? What expectations should be discussed and/or recorded?



Lab Manual: Collaboration Arrangements

- Draft a lab manual that addresses how you will approach collaboration agreements. What might such an agreement include to avoid the adverse interactions that Jayna and Darren have had?

Lab Manual: Listening and Communications

In this program, we have discussed the art and science of listening and communication.

Review the section(s) of your lab manual where you explain how you want listening and communications handled in your lab to determine if the manual clearly conveys what you want it to. Note any needed changes here. If this section does not yet exist, sketch it out here.



Scene Synopsis

Jules meets with Alex and Loretta. Alex explains how he needs a firm hand to help kickstart his project. Jules realizes that she needs to adapt her mentoring style.



Reflection: Mentoring Philosophy

Take a moment and think about your understanding of mentoring. Call to mind and consider at least two mentors from whom you have learned either positive or negative lessons.

What does good mentoring look like? What does good mentoring feel like?

Write out some key phrases that define what mentoring means to you.



Practice: Personal Scripts for Mentoring Conversations

Leverage the work you just did on your mentoring philosophy and the outline below to create an approach to what you seek from a mentoring relationship and what your personal scripts are for getting started.

Shared expectations for your mentor/mentee relationship can be key to its success.

Mentee name:

Mentor name:

The primary goals for our mentor/mentee relationship are:

We collectively define the success of our work together as:

We agree to work together for the following, specified amount of time:

Our preferred form of communication is:

If one of us faces a barrier in our effective interactions, we will:



Lab Manual: Professional Development and Goals

Now that you've considered how you will approach your own mentor and mentoring relationships, draft a lab manual section for your lab of the future that describes how the professional development of lab members will be addressed.



Scene Synopsis

Jules talks to Ana Sofia about their mentoring relationship and taking the lead on a data management plan. Ana Sofia is excited to start her first major project.



Lab Manual: Data Management Plan

Review your notes on approaching data and data management and now draft a data management section for your lab of the future.

Episode 3.7: The Consultant Comes In



Scene Synopsis

Sylvie Peterson, a lab safety and culture consultant, is introduced to the Heideberg lab and starts her talk to the lab members.



Lab Manual: Draft a Lab Manual Section on Wellness & Inclusion

Review the notes you made on section(s) of the lab manuals you reviewed addressing personal wellness and inclusion. Draft sections addressing what you would like to see in your lab of the future, or a lab you would be happy to join.

Episode 3.8: Jayna's Future



Scene Synopsis

The Heideberg lab has figured out the problems; Jayna is vindicated. Jules advises Jayna about next steps in the collaboration and suggests a colleague of color to augment Jayna's network.



Reflection: What Might Have Been?

Think about the events in the episodes you have watched. While Jayna didn't test the compounds, other characters, especially Darren and Malcolm, were dismissive of Jayna's warnings and had major blind spots (or worse). Darren had mistakes in his recordkeeping and completely ignored Jayna's input that she was seeing differences and impurities. Throughout, the collaboration was not approached as intellectual colleagues working together, respecting each other's work.

Let's focus on our central character, Jayna: Ultimately, her paper will be better with the hard won knowledge gained. Once it was traced to its source, the error offered a richness she hadn't foreseen (the shape of the antimere is important to whether the drug works) and will lead to a better paper. At the same time, there were methodological approaches neither she nor anyone else thought to take.

Look back over the events in the collaboration between the two labs: at what point would you have done something different that might have changed and improved how events unfolded?

What use could Jayna have made from this curriculum?



Practice: Start Your Own Individual Development Plan

Prepare an Individual Development Plan (IDP) for identifying your personal and professional goals over the **next academic semester or year**. Please specify for yourself which you select; your goals may differ, depending on the timeframe. This starting place is intended to be for near-term goals, not career-wise.

Your goals should be *specific, measurable, and realistic*. They should focus on skills and knowledge you believe will complement your current strengths and be valuable in meeting your career goals as a leader in research environments.

You can find valuable resources in many places. Look through some of the links in the resource section.

For each of your goals, please address the following:

- What, specifically, is your purpose in selecting this goal?

- How will you know that you have succeeded in achieving the goal? What would you be doing that you're not doing now? what will you NOT be doing?

- What are interim steps you believe you'll need to take to achieve the goal? Set milestones for checking in on each step.

- Record your plan and set calendar dates for assessing progress on each element.

If you think it would be helpful for you, you may send us your goals, and we will return them to you at the end of the period you identify so you can assess whether or not you have met them. We will not use them for any purpose other than returning to you.



Integration

Step back and think about the events in this scenes you watched. Have you seen things like this happen, or had similar experiences? What tools could be useful to you? Have you been practicing them? If not, how will you start? Can you see how a lab manual could be useful in sustaining a culture of excellence in a lab?



Reflection: Pulling it All Together

- Do you have a sense that the alignment of your values with your work is at the heart of all that you do?

- Look over your lab manual, see if you are happy with how you have developed your sections. Compare your included sections and their wording with examples in the resources, and with the elife template lab manual.

- Compare your lab manual wording with your values statement. Are they consistent? How can you assure that it will be a living document, not just words on a page?

- Have you identified the TRAGEDIES in yourself and found ways to control your responses at work to work towards your best professional approaches to reach your own goals—ones that you set, matching your values?

- Do you use the DMF (or another analytical framework) to slow yourself down and consider all aspects of situations before deciding how to react?

- Review your personal scripts: have you used them? Adapted them? What steps will you take going forward to continue to develop and improve your personal scripts?

- Finally: list your takeaways from this program:

- What would you like to learn more about?

- Answer this final question for yourself: what is the most useful thing from this program I can apply right now, in my current situation?