
CONTRIBUTIONS

Keeping up with the Times: Equity Issue is Now Added to Our Self-Reflection Worksheet for Improving Scientific Mentoring

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Mentoring is a core activity for many scientists, and yet few of us have had any formal training in how to do it well. Most of us plod along, subconsciously drawing on our own experiences of having been mentored in the past, and relying on “learning by our mistakes.” Formal reflections on the goals of mentoring, and how they can best be achieved, are rare in the literature, and yet mentoring is a fundamental process not just in the scientific training of young researchers, but also in their personal development and in building the social fabric of the scientific community. Some years ago, my colleagues Val Eviner, Sarah Hobbie, and I surveyed the mentees of Professor Terry Chapin and developed a synthesis entitled “The qualities and impacts of a great mentor — and how to improve your own mentoring.” It was originally published in the *ESA Bulletin* 94(2), April 2013, pages 170–176.

On the basis of what we learned from that survey and our further reflections, as well as a review of the sparse literature on this topic, the above article concluded with a two-page self-assessment worksheet aimed at comprehensively identifying the fundamental features of good mentoring and providing a useful reflection guide for anyone interested in analyzing and improving their mentoring practices. The worksheet is entitled: “Mentoring self-assessment reflection exercise: Are you aware of these fundamental features of good mentoring? Which features should you focus on most to be a better mentor?”

Table 1. Mentoring self-assessment reflection exercise: Are you aware of these fundamental features of good mentoring? Which features should you focus on most to be a better mentor?

| Activity/Strategy | Question/Task | Example/ Answer | How could you improve on this feature of your mentoring? |
|--|---|--------------------|--|
| Intellectual training | | | |
| *Showing leadership | As a mentor, what do you think are your best leadership qualities? | | |
| Being available | Give an example of a strategy you use to make yourself available to students or staff | | |
| Promoting self-directed learning | As a supervisor, where do you lie on the scale from “micro-manager” to “completely hands-off”? | | |
| Teaching through questions | Describe how you last used Socratic questioning to guide a mentee’s thinking | | |
| *Showing enthusiasm for science | Describe an example of when you last communicated the joy you experience in doing science? | | |
| Assisting skills development | Describe steps you take to develop the critical thinking, writing, and presentation skills of your students or staff | | |
| *Being open-minded and creative | When was the last time you did some “out of the box” thinking that connected different science ideas or people of different expertise in ways that benefited a mentee? | | |
| Community building | | | |
| Building a scientific community | Describe a deliberate strategy you use to build an interactive, scientifically developing “sense of community” in your research group | | |
| Networking | Describe your strategies for introducing students/staff to the network of scientists in your research area | | |
| *Utilizing collaborators and close colleagues | What is your best example of a student benefiting from access to your collaborators or close colleagues? | | |
| *Actively promoting equity, diversity, inclusion, justice, and Indigeneity | What specific steps have you taken to actively incorporate the principles of equity, diversity, inclusion, justice, and Indigeneity into building your science community? | | |
| Personal relationships | | | |
| Appreciating individual differences | Give an example of an incident that illustrates your acknowledgment of individual difference within your research group | | |
| *Displaying humor | Give an example of an incident where you caused someone in your group to laugh | | |
| *Showing connectedness | Give an example of an incident where you showed empathy to someone in your group | | |

(Continues)

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| Activity/Strategy | Question/Task | Example/Answer | How could you improve on this feature of your mentoring? |
|---------------------------------------|---|----------------|--|
| Celebrating | When and how did you last celebrate a worthy achievement by a student or staff member? | | |
| Building a social community | Describe a deliberate strategy you use to build social cohesion in your group | | |
| Perspective | | | |
| *Being conscious of mutual learning | List 3 of your principal mentees, and give examples of the science you have learned from each | | |
| *Giving “hard,” even unwelcome advice | Describe an incident where you gave a mentee good but “hard” advice (that was unlikely to be appreciated, at least initially) | | |
| *Coevolving | Give examples of how your mentoring strategy has changed through your time with an individual graduate student, and over the course of your career? | | |
| Mentoring for life | What proportion of your past students are you in regular contact with? | | |

Notes. This is a revised version of the original table published in: “The qualities and impacts of a great mentor — and how to improve your own mentoring.” Grogan, P. et al. 2013. *ESA Bulletin* 94(2), 170–176. That table was developed by modifying and expanding one by Lee et al., 2007. *Nature* 447:791–797. All changes and additions to the latter are indicated by an *.

Since formulating that worksheet, sensitivities to the issues of equity, diversity, inclusion, justice, and Indigeneity have been greatly heightened among the public in many countries. Guides to improve mentoring should embrace such positive social changes. Accordingly, the revised self-assessment worksheet available here has been updated to include a new reflection question specifically focused on equity, diversity, inclusion, justice, and Indigeneity so as to raise awareness among mentors of the relevance of these important issues (Table 1; easily printable PDF version available as Appendix S1).

Supporting Information

Additional supporting information may be found in the online version of this article at <http://onlinelibrary.wiley.com/doi/10.1002/bes2.1841/supinfo>