

will want to know your overall impression after you have looked at the entire paper. First, I gain an impression of the paper, enough to decide whether the paper is a good fit for the journal and I am going ahead with the process. And then I wait until I have read the paper in detail to decide on an overall opinion of the paper.

- *How do I actually referee?* That's your personal choice, but I print a hardcopy of the paper, and write all my comments on the paper itself and in the margins, so that when I am ready to write, I go comment by comment and expand on it in the report.

The referee report. It is time to write all your comments and feedback on the actual report. Your name, affiliation, and email address should not appear anywhere in the report. Make sure the report is anonymous and that you are not writing your comments in a way that will easily identify yourself. Consider adding the following components to your report:

- Title and authors of the paper under review.
- Journal where the paper is submitted (this is mostly for your records, because sometimes you get to referee the same paper twice for different journals!).
- Overview: a summary of the results of the paper, so the editor and authors know that you have actually read the paper. It is also a place to state the main results in your opinion, which may differ from the results that the authors think are the main results! This section is a neutral zone, however, so you are just stating results without colorful commentary.
- Recommendation: a narrative of the strengths and weaknesses of the paper, in your expert opinion, which concludes with a recommendation for the editors: reject, accept, needs minor revision, major revision, etc. You can include big items that the authors need to address before the paper is accepted, and general comments about the paper.
- Detailed comments: this is an itemized list of comments. Please include pages and lines and theorem numbers that you are referring to, so that the authors know exactly what you are talking about.
- Conclusion: any other general comments that may improve the paper, or thoughts about the paper itself. Once you are done, send the anonymous referee report to the editors, in their preferred contact method, probably through their online editorial system.

What happens then? After the report is sent back to the editors, the editorial team may be waiting for other referees to also send in their reports. Once they have all the reports on the paper, they will make a decision. If they ask the authors for a revision, they might ask you to look at the paper one more time. I usually agree to look at the revised version because it is efficient, since I am already familiar with the paper, but again, it is your call if you are available or busy at the time.

Finally, thanks for taking the time to do a great job refereeing papers! Authors definitely appreciate the hard work of a referee.

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Alvaro Lozano-Robledo

Credits

Photo of Alvaro Lozano-Robledo is courtesy of the author.

Be Inspirable

Allison Henrich

What is it that you'd like to do in your career? Would you like to become a better teacher? Become a powerful advocate for others? Contribute something significant to your research field? Perhaps you have your sights set on someday obtaining a large grant that could be transformative for your career, your institution, or the math community as a whole. Or maybe—and this may be the most exciting scenario—you don't know what your dreams are. You have a set of skills, interests, and values, and you don't know how you can combine them to achieve something great. Whatever you want to accomplish, I am a big believer that you can be successful at achieving your goals—both those you are concretely aware of and those that are a collection of ephemeral ideas—if you do one thing: Be inspirable.

What in the world does it mean to be “inspirable”? (That's not even a real word!) It means to be open to inspiration. Being inspirable means putting yourself into situations where you will meet new people or discuss new ideas with old friends. It means learning new things, brainstorming, considering what is possible. And, crucially, to be inspirable means that you are open to getting *really* excited about good ideas, so much so that you feel compelled to act on that excitement.

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Inspiration can come from a variety of situations. Some of these situations are ones you'd expect to be inspiring: attending a conference or a professional development workshop. Others are situations where inspiration might be more rare, but possible: a mandatory faculty meeting, a FaceTime date with a friend, or even watching an incredibly confusing talk or lecture.

In the math community, one common source for inspiration for new faculty members is Project NExT. This intensive professional development program exposes its fellows to new ideas in teaching, conversations about equity in mathematics, the nuts-and-bolts of grant writing, and so much more. It is probably far more rare for a fellow to go through the NExT program and *not* be inspired to take some positive action than otherwise. As a Project NExT Red08 dot, I took the opportunity to see Joe Gallian give his workshop "Getting Your Research Off to a Good Start" three times over the course of several years. During this workshop, Joe would point out that his more expository articles had far greater readership and vastly more citations than his traditional research papers. This inspired me to think about writing for MAA journals about topics that a broader spectrum of people would find interesting. Since then, I have coauthored papers that have appeared in the *American Mathematical Monthly*, the *College Math Journal*, *Mathematics Magazine*, and *Math Horizons*. It may not have occurred to me to try and write in such venues if Joe hadn't planted that seed in my mind early on.

For those who haven't had the opportunity to participate in Project NExT, Section NExT can be a wonderful source of new ideas. Kate Kearney from Gonzaga University, for one, feels inspired after attending Section NExT meetings. She writes, "Possibly one of the most useful things about Section NExT has been the opportunity to meet with, talk with, and learn from people across the section at many different kinds of schools and at many levels of the academic hierarchy. It's always interesting and informative to hear from people at a variety of different types of schools (liberal arts, state schools, community colleges, big schools, small schools, urban schools, very very rural schools). I can't think of anywhere else that I have as rich of a resource of contacts with diverse perspectives on many different teaching situations." One concrete change that Kate was encouraged by Section NExT to make was to try mastery-based grading in Calculus 2.

Of course, getting the most out of conferences has been more difficult in the COVID era, but it is certainly still possible. For instance, in our virtual Pacific Northwest Section NExT meeting in June 2021, we discussed a number of teaching techniques we discovered during the pandemic and shared with each other the ones we thought would be most valuable to keep moving forward. In this conversation, I learned about software I'd like to try out, assessment techniques I'll use, and I got ideas for course policies I'll implement that are more supportive of students.

AMS and MAA sectional meetings (and other local meetings of national organizations) can also be fertile ground

for inspiration. When I was at an AMS sectional meeting in Charleston several years back, I heard Harrison Chapman give a talk related to knot theory that wasn't really in my specific research area. Sometimes, in talks that aren't squarely in my mathematical subdiscipline, I don't expect to derive any new ideas. This was such a fantastic session with such engaging speakers, however, that I was paying close attention to each talk. In Harrison's talk, he mentioned tangentially some way of viewing knots where the trefoil knot could be interpreted as being "the same as" the figure-eight knot. This made me wonder which other pairs of knots are "the same." Fast forward a few years, a paper I coauthored devoted to exploring this question, "Knots Related by Knotoids," was the lead article in the *Monthly* and went on to win the Halmos–Ford Award.

Getting involved in organizations you believe in—for instance, NAM, AWM, MAA, CUR, SACNAS, SIAM, PME, AMS, and Math Alliance—can lead you to meet people you might not have met otherwise and think about how to magnify your impact on the math community. Pamela Harris from the University of Wisconsin Milwaukee had the following to say about her involvement in the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS): "I have been inspired by the mentoring at the annual SACNAS conference. Mathematics faculty attend the conference and spend the entire weekend mentoring students and early career faculty. Their unending mentoring has inspired me to find moments to always be supportive of others, regardless of how busy I may be. This means that when I travel and meet people I make an effort to get to know them and their aspirations. This helps me share relevant opportunities with them when I encounter them, but it also helps me feel connected to the mathematical community."

Robin Wilson from Loyola Marymount University was similarly inspired by his involvement in the National Association of Mathematicians (NAM): "A lot of my interest in outreach and general interest in supporting undergraduate and graduate students has to do with me wanting to give back to the mentorship I received from the NAM members. I had people that I knew would look out for me, and I want to be able to do the same for others." Since he initially found a home in NAM as an undergraduate, Robin has contributed to his community in countless ways. Recently, he was a co-PI for a \$1 million grant from the NSF to increase the number of underrepresented minorities pursuing Ph.D.s in mathematics. The project, called BAMB! Bolstering the Advancement of Masters in Mathematics, is a joint effort between three CSU campuses, led by Oscar Vega at Fresno State—an incredibly inspirable person himself!

Speaking of grants, perhaps the most inspirable person I know, Michael Dorff, the most recent past president of the MAA, has earned many. For instance, Michael received grants to launch and support both the Center for Undergraduate Research in Mathematics (CURM) and the Preparation for Industrial Careers in Mathematical Sciences (PIC Math)

program. Michael recounts, “About 15 years ago, a colleague of mine, Tyler Jarvis, and I were discussing an NSF program that focused on helping students make a transition from one critical phase of their career to the next phase. In writing a proposal to NSF, we knew that it would be better to think of projects we had familiarity and success with. In connection with this, the BYU mathematics department was having a lot of success with its undergraduate research program that paid students to work on research during the academic year. We also knew that math faculty at smaller universities and colleges did not have the experience or capacity to get funding from NSF to do small undergraduate research projects. This led to the creation of the CURM model which was further enhanced by reaching out to a large group of colleagues at other institutions through Project NExT to find out what they thought about the idea and what suggestions they had on how to improve it. Two significant ideas that came from that were to have a training workshop for the participating faculty and to make the program so that it was not something more to add to the already-full plate the faculty had (which is why we incorporated course buyouts into CURM).”

Inspiration can also come from unexpected places, if you are open to it. When I began my job at Seattle University, I was excited to become a part of such a vibrant math department, but unsure of how I could contribute to the Jesuit mission of the university. Initially, I thought, “If I just care for my students as people and do a good job teaching, this should count as my contribution.” During the mission-oriented part of the mandatory faculty orientation, I expected the conversation to be more applicable to philosophy, religion, and law faculty—that is, until we started talking about social justice and service-learning. This conversation led me to realize that a math class could incorporate service-learning in a way that benefitted both the community and the students in the class. Since then, I have regularly taught a course I developed called Quantitative Literacy & Social Justice with a service-learning component that has had a measurably positive impact on my students’ attitudes about math and has provided hundreds of math tutors (my students) to local schools over the years.

Motivation for change can also come from observing things going wrong and learning from those things. For instance, I am interested in hearing mathematics talks of all varieties. I learn not only from watching speakers who have spent years honing their public speaking skills and give well-crafted talks, but also from those who give talks that could be improved. I had a feeling that I wasn’t the only one who has picked up some speaking tips by observing less-than-perfect academic talks. Friends and colleagues reported to me that they learned the following from watching “bad” talks: (1) never go over time, (2) don’t put too much information on a slide, (3) practice your talks so that you know what you’re supposed to say next and how you want to explain concepts, (4) watch out for using too many filler words, like “like,” (5) try not to flip back and forth between your slides, and (6) don’t copy/paste a proof from a research paper into your

slides and go through every gory detail. For me, watching others’ (both “good” and “bad”) talks has helped me become a better speaker over the years. But more recently, I have had the opportunity to give some recorded virtual talks that have enabled me to watch and analyze my *own* performance. This has spurred me to make several improvements that will make me a better speaker.

I have dozens of other anecdotes I could share about how being inspirable has benefitted me in my career. Talking with others, attending events, reflecting on past practices, and being open has allowed me to be a research mentor in two REUs and codirect an REU on my own campus, it has led me to coauthor and coedit several papers, books, and blogs. It has transformed the way I teach. Can you think of a time you were inspirable? What impact did it have on you? How could you put yourself in situations and a frame of mind to have more great ideas and develop more connections with people?



Allison Henrich

Credits

Photo of Allison Henrich is courtesy of Seattle University/
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