

After 2 years of a pandemic, students are struggling to find strong reference letters

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message."

"People influence people. Nothing influences people more than a recommendation from a trusted friend. A trusted referral influences people more than the best broadcast

-Mark Zuckerberg.

regularly teach undergraduate courses in genetics and genomics. Sure enough, at the end of each semester, after the final marks have been submitted, my inbox is bombarded with reference letter requests. "Dear Dr. Smith, I was a student in your Advanced Genetics course this past term and would be forever grateful if you would write me a reference for medical school..." I understand how hard it can be to find references, but I have a general rule that I will only write letters of support for individuals that I have interacted with face-to-face on at least a few occasions. This could include, for example, research volunteers in my laboratory, honors thesis students that I have supervised, and students who have gone out of their way to attend office hours and/or been regularly engaged in class discussions. I am selective about who I will write references for, not because I am unkind or lazy, but because I know from experience that a strong letter should include concrete examples of my professional interactions with the individual and should speak to their character and their academic abilities. In today's highly competitive educational system, a letter that merely states that a student did well on the midterm and final exams will not suffice to get into medical or graduate school.

However, over the past 2 years many, if not most, students have been attending university remotely with little opportunity to

foster meaningful relationships with their instructors, peers, and mentors, especially for those in programs with large enrollments. Indeed, during the peak of Covid-19, I stopped taking on undergraduate volunteers and greatly reduced the number of honors students in my laboratory. Similarly, my undergraduate lectures have been predominantly delivered online via Zoom, meaning I did not see or speak with most of the students in my courses. It did not help that nearly all of them kept their cameras and microphones turned off and rarely attended online office hours. Consequently, students are desperately struggling to identify individuals who can write them strong letters of reference. In fact, this past spring, I have had more requests for reference letters than ever before, and the same is true for many of my colleagues. Some of the emails I have received have been heartfelt and underscore how taxing the pandemic has been on young adults. With permission, I have included an excerpt from a message I received in early May:

Hi Dr. Smith. You may not remember me, but I was in Genome Evolution this year. I enjoyed the class despite being absent for most of your live Zoom lectures because of the poor internet connection where I live. Believe it or not, my mark from your course was the highest of all my classes this term! Last summer, I moved back home to rural Northern Ontario to be closer to my family. My mom is a frontline worker and so I've been helping care for my elderly grandmother who has dementia as well as working part-time as a tutor at the local high school to help pay tuition. All of this means that I've not paid as much attention to my studies as I should have. I'm hoping to go to

graduate school this coming fall, but I have vet to find a professor who will write a reference for me. Would you please, please consider writing me a letter?

I am sympathetic to the challenges students faced and continue to face during Covid-19 and, therefore, I have gone out of my way to provide as many as I can with letters of support. But, it is no easy feat writing a good reference for someone you only know via an empty Zoom box and a few online assignments. My strategy has been to focus on their scholarly achievements in my courses, providing clear, tangible examples from examinations and essays, and to highlight the notable aspects of their CVs. I also make a point to stress how hard online learning can be for students (and instructors), reiterating some of the themes touched upon above. This may sound unethical to some readers but, in certain circumstances, I have allowed students to draft their own reference letters, which I can then vet, edit, and rewrite as I see fit.

But it is not just undergraduates. After months and months of lockdowns and social distancing, many graduate students, postdocs, and professors are also struggling to find suitable references. In April, I submitted my application for promotion to Full Professor, which included the names of 20 potential reviewers. Normally, I would have selected at least some of these names from individuals I met at recent conferences and invited to university seminars, except I have not been to a conference in over 30 months. Moreover, all my recent invited talks have been on Zoom and did not include any oneon-one meetings with faculty or students. Thus, I had to include the names of scientists that I met over 3 years ago, hoping that

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my research made a lasting impression on them. I have heard similar anecdotes from many of my peers both at home and at other universities. Given all of this, I would encourage academics to be more forthcoming than they may have traditionally been when students or colleagues approach them for letters of support. Moreover, I think we could all be a little more forgiving and understanding when assessing our students and peers, be it for admissions into graduate school, promotion, or grant evaluations.

Although it seems like life on university campuses is returning to a certain degree of normality, many scholars are still learning and working remotely, and who knows what the future may hold with regard to lock-downs. With this uncertainty, we need to do all we can to engage with and have constructive and enduring relationships with our university communities. For undergraduate and graduate students, this could mean regularly attending online office hours, even if it is only to introduce yourself, as well as actively participating in class discussions.

whether they are in-person, over Zoom, or on digital message boards. Also, do not disregard the potential and possibilities of remote volunteer research positions, especially those related to bioinformatics. Nearly, every laboratory in my department has some aspect of their research that can be carried out from a laptop computer with an Internet connection. Although not necessarily as enticing as working at the bench or in the field, computer-based projects can be rewarding and an excellent path to a reference letter.

If you are actively soliciting references, try and make it as easy as possible on your potential letter writers. Clearly and succinctly outline why you want this person to be a reference, what the letter writing/application process entails, and the deadline. Think months ahead, giving your references ample time to complete the letter, and do not be shy about sending gentle reminders. It is great to attach a CV, but also briefly highlight your most significant achievements in bullet points in your email (e.g., Dean's

Honours List 2021–22). This will save time for your references as they will not have to sift through many pages of a CV. No matter the eventual result of the application or award, be sure to follow up with your letter writers. There is nothing worse than spending time crafting a quality support letter and never learning the ultimate outcome of that effort. And, do not be embarrassed if you are unsuccessful and need to reach out again for another round of references—as Winston Churchill said, "Success is stumbling from failure to failure with no loss of enthusiasm."

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