

Job-search basics: a scientific approach to interviewing

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Successful interviewing can be best attributed to a combination of careful research and preparation, along with the ability to connect with employers on a personal level and demonstrate value.

In career planning, it is often said that one should “do what you are passionate about.” Scientists, regardless of their ultimate career path, are nothing if not passionate about the scientific process. The scientific method is a process that consists of systematic research, hypothesis formulation, testing and experimentation, analysis and interpretation, and conclusive reporting. This process is implemented and repeated daily in laboratories across the globe. It is a skill that is instilled early and reinforced often in the execution of scientific research. However, when given a task seemingly outside the laboratory environment, such as personnel management or interviewing, scientists often abandon the process of the scientific method. There seems to be a disconnect between the approach to a scientific problem and the approach to professional development. Although this Commentary is by no means exhaustive, it does aim to provide practical and applicable techniques and advice on how to successfully approach the interview process. This particular process can be viewed as a direct application of the scientific method aimed at a professional question rather than a research question. As with the scientific method, preparation for an interview requires that the candidate systematically research, form hypotheses, test and experiment, analyze and interpret, and conclude and report.

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Research and hypothesize

Prior to the interview, candidates must go far beyond scanning the employer’s website to glean a few facts that can be recited back during an interview. Careful research and analysis of the employer is fundamental.

To craft a customized resume and cover letter, jobseekers must have sufficient background information about an employer to demonstrate suitability for the target position¹. This includes an awareness of the skills and competencies required—that is, the specific expertise needed to successfully perform the prospective job. In addition to spelling those out in application materials, candidates must clearly articulate and self-promote relevant skills and experience during the interview. With extensive background information on prospective employers, candidates will be better equipped to effectively connect prior work and personal attributes to the employer’s pressing needs. In turn, the interview process can become substantially less nerve-wracking.

After receiving an invitation to interview, the applicant should embark on a quest to obtain as much information as possible about the target employer and future colleagues. What is the employer’s research output? What meaningful data have been generated, and what projects are in the pipeline? Full immersion into the literature is essential for determining the employer’s key interests and research questions. The candidate should be prepared to discuss potential contributions, alternative approaches or new research directions for the employer’s published work. If a PubMed query yields no results, an internet search of everyone listed on the interview agenda may identify recent meeting abstracts and other

professional highlights. For positions in academia, a search of the RePORTER database of the US National Institutes of Health (<http://projectreporter.nih.gov/>) will reveal current funding and a synopsis of projects actively being pursued. If the target position does not have a ‘hands-on’ research component, the candidate should ascertain the employer’s current influence in the respective sector—that is, what is the employer best known for, and what initiatives are they focused on now? Additionally, candidates should have an awareness of how the target position directly relates to those activities. Beyond the major search engines, social media provides a useful tool with which to obtain such information. For example, a hash-tag search in Twitter can generate recent news as well as insight into the employer’s interactions with external clients and public perceptions. Such up-to-the-minute insight can be more valuable than simple facts and figures listed on an employer website.

On a personal level, LinkedIn provides an effective tool for researching people before an interview. Mutual interests, including professional groups, alumni institutions and shared employers, can be quickly obtained. If such connections and interests are found to exist, the candidate should be encouraged to address them during the interview. During the progression through the job search, candidates will be exposed to a diverse range of interviewing styles and personalities. Regardless of who is sitting opposite the table, candidates need to be equipped to carry on a conversation and interject mutually aligned interests. To achieve this, a jobseeker must perform prior research and due diligence in advance of the interview.

Test and experiment

“Tell me about yourself,” or some variation thereof, may be the first words uttered by an employer during an interview. What follows from the candidate can steer the discussion in several directions. A short and underdeveloped response will generate further enquiries from the employer in an attempt to fill in information gaps or assess the candidate’s motivation for pursuing the position. By performing a self-assessment and soliciting feedback from colleagues and supervisors, candidates can obtain insight into both their strengths and their limitations. An interview may seem to be an unending line of questions about research and experience, and having a realistic awareness of gaps in training and research will allow an interviewee to address them honestly. This will also provide an opportunity to demonstrate the self-reflective critical thinking necessary for further career and research advancement.

Candidates will be asked many questions in many different ways. It is important to have a blueprint for answering those questions. If a pattern of insufficient responses from subsequent requests emerges, the employer may become frustrated and even cut the interview short to spare both parties any further agony. On the other hand, long-winded responses that veer from the stated question can also irritate the interviewer. An effective strategy entails briefly and succinctly guiding the employer through major career milestones with an emphasis on the most relevant experience and notable accomplishments. The way an experience is framed will have an effect on how a candidate’s responses are perceived and interpreted. The candidate should develop a strategy that allows questions to be consistently and concisely answered. One effective strategy is ‘PAR’ (problem, action and result) statements. Such statements begin by defining a problem or challenge, then describe the action or approach implemented to address the stated problem and, finally, explain the end result and ultimate effect of the process. In individual interviews, a savvy candidate will explicitly detail the role they either played or would play in such scenarios. The ability to synthesize the effect of previous experience on successfully executing the task at hand allows strategic targeting of answers and focuses attention on the candidate’s strengths.

Scanning a resume does not provide insight into a person’s motivation for pursuing a particular project, job or career path. Therefore, it is essential to offer such insights during the interview. For example, rather than simply providing an overview of data generated from a particular project, a candidate should be



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explicit in discussing the factors that influenced the trajectory of the research as well as the effect on professional development. After providing enough background to demonstrate a good fit for the position, the interviewee should use the opportunity to take the reins of the interview and, for example, tell the employer why the position is of interest and what aspects of moving in this career direction are the most exciting—perhaps it is the opportunity to work on innovative projects or join a highly regarded team or organization. Regardless of how this is achieved, it is a useful gambit, because employers are interested in hearing not only why candidates feel qualified but also what excites and motivates them. Finally, at the close of the response, posing a question to the interviewer can enhance dialog and take some pressure off the candidate. A question related to the interviewer’s published work or another salient issue in the field can produce a tangential conversation that allows the interviewee to recover and prepare for the next question. A more general approach is to ask the employer about problems or challenges currently being faced and how this position may help alleviate them. The employer’s response will give a clear indication of their expectations.

Analyze and interpret

Building credibility and visibility in a specific field is the most effective way for job-seekers to provide real-time evidence of their qualifications. Giving talks, networking at conferences, publishing consistently, participating in science outreach and actively being a well-rounded scientific citizen are just a few practices that a candidate can use to differentiate themselves from the rest of the applicant pool. Junior scientists and those interested in targeting careers away from the bench may lack direct experience or formal training for the desired job. This is commonly perceived as an obstacle, but job applicants need not be discouraged. Scientists have been trained to perform, and excel at, almost any job. The difficulty for scientists moving away from the bench lies in recognizing the full extent of actual skill sets and translating those skills into the language of the targeted position, field or organization¹. Through years of rigorous and methodical research training, a scientist has either mastered or shortened the learning curve for preferred qualifications for many positions, whether in project management, budgeting, workflow, collaborative effort, or marketing.

Being able to place research, accomplishments and experience in a broader context allows candidates to show their depth of understanding of the field, the position they are seeking and possibly the institution/company to which they are applying. It also allows them to show where the next steps, problems or breakthroughs are going to occur. When interviewing, a candidate will often be asked to give a research seminar and possibly a 'chalk talk'. Such presentations provide the most direct opportunity for addressing the question of the context and effect of an interviewee's work, experience and interpretation of findings. A common mistake in such 'job talks' is to cover too many projects over an entire research career. The focus should be on developing a single story that unifies past, present and future research plans. Delivering an effective job talk means building the talk around the 'take-home message' while connecting with the audience by, again, continuing to place the research in a context they can understand. It is the responsibility of the candidate to guide the audience through the research process and give them insight into how one specifically approaches problems and interprets results. The 'chalk talk' is a smaller, less formal seminar in the academic interview but is just as important. In such a talk, the candidate has the opportunity to outline the

vision of their future research program in a dynamic and engaging manner. Prepared slides are usually frowned on, while the ability to 'think on your feet' and command the room is expected. To gain insight into the 'job talk' as well as the 'chalk talk', a jobseeker should identify departments conducting faculty searches and attend seminars given by prospective candidates.

It is important to realize that throughout the entire interview and hiring process, the top priority of a company or institution is to find a suitable candidate they can work with for years to come. Employers are looking for a smart colleague who can solve problems, add value, train future employees and be a good fit. Identifying and sharing the relevant skills and experiences that demonstrate an excellent fit for the position is crucial for interview success.

Conclude and report

The only way to gain and hone interview skills is to be interviewed. Unfortunately, some jobseekers will discover this too late in the process, only after a job offer does not materialize. If the scientific process has anything to teach, it is that there is an opportunity to learn from and improve on an experiment when the results are negative or inconclusive. The same is true for the interview process. It is by practicing, doing and asking for feedback that a candidate

develops the necessary skill set for successful interviews. It is neither uncommon nor unprofessional to ask for feedback or tips from an unsuccessful interview experience. It is best to iron out all kinks and fine-tune the approach in a mock interview setting during which a job offer is not on the line.

After the interview, the applicant should be sure to follow up with a brief but specific note of thanks, regardless of the outcome. By emailing or writing a handwritten note to each interviewer, a candidate can make a lasting impression beyond the initial interview. The jobseeker should thank the interviewers for their time, hospitality, interesting line of questions, and/or thoughtful suggestions. To further engage the potential employer, a candidate may choose to take the thank-you message one step further by addressing lingering questions, reinforcing points raised during the interview or briefly offering solutions to meet the employer's needs. The conclusion of an interview is also a good time to touch base with the people who will serve as employment references. Doing so provides further insight into the employer's expectations and values and perhaps even the level of enthusiasm in the candidate.

COMPETING FINANCIAL INTERESTS

The authors declare no competing financial interests.

1. Haseltine, D. *Nat. Immunol.* **14**, 6–9 (2013).