

2006-1170: THE JOURNEY TO A TEACHING-ORIENTED FACULTY POSITION: A HANDBOOK OF ADVICE FOR GRADUATE STUDENTS

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The Journey to a Teaching-Oriented Faculty Position: A Handbook of Advice for Graduate Students

Abstract

A graduate education usually trains students as researchers and scholars in their fields. Curricula of computer science and engineering graduate programs generally include courses in research methods and provide ample opportunities for students to work as research assistants. Recent research has shown, however, that graduate students are not necessarily prepared for teaching positions after graduate school. The Preparing Future Faculty program is an example intervention to assist graduate students when making career choices and preparing for a faculty career. Because graduate students generally complete an advanced degree at research institutions, there are few opportunities for graduate students to learn about teaching positions at teaching-oriented colleges and universities.

The purpose of this paper is to provide advice and information to graduate students in computer science and engineering fields who are considering a teaching-oriented position after graduate school. There is little information about teaching-oriented positions and few opportunities for mentorship between faculty in teaching-oriented positions and graduate students. Therefore, this paper presents advice about acquiring teaching experience in graduate school and more detailed advice about finding open position announcements, preparing job applications, preparing for interviews, and knowing what to expect when interviewing at teaching-oriented colleges and universities. The advice and expectations for a teaching-oriented career path were harvested from the authors' recent experiences in conducting teaching-oriented job searches in computer science.

Effective mentorship takes place when a person has access to a mentor at the next career or life stage. This paper serves as a surrogate mentor to computer science and engineering students who wish to pursue a career oriented towards teaching.

1. Introduction

In a review of recent research, Gaff reported in his article "The Disconnect Between Graduate Education and Faculty Realities" that graduate students are not equipped for the faculty positions they accept and have little exposure to other career paths outside the academy¹. Graduate students reported not having enough information to help them choose or plan for a career. One response for this lack of information is the Preparing Future Faculty (PFF) program launched in 1993 by the Association of American Colleges and Universities and the Council of Graduate Schools. The PFF program is designed to expose students to the teaching profession and provide information about academic careers. Several research universities have Preparing Future Faculty programs on their campuses; readers of this paper should inquire about such a program on their campuses^{2,3}. Another study shows the unmet need for graduate students to be supported in their professional development as teachers⁴. Several graduate students reported a lack of safe places to discuss teaching.

Meacham reports that what colleges and universities want in their new faculty hires is quite different at teaching-oriented schools versus research institutions⁵. Teaching-oriented schools include community colleges, undergraduate-only institutions, and sometimes Masters-level

granting institutions. A faculty member at a teaching-oriented school typically teaches three to four (sometimes different) courses per term. Teaching and academic advising are the primary responsibilities. On the other hand, at research schools, which typically grant Ph.D.s, professors' main teaching/advising responsibility is to prepare graduate students to conduct research. A huge disconnect exists between how research universities prepare graduate students for research and how they prepare them for teaching. In general, professors at research universities prepare graduate students for a life-long career in research but do little to prepare students for teaching. This document serves graduate students who want to pursue a faculty career at a teaching-oriented institution. This document also serves faculty at research institutions whose students want a teaching-oriented career after graduation. The advice presented here could be useful for mentoring and advising these students.

Just as Perlmutter and Porter state in their article “Thinking Beyond the Dissertation,” graduate school is a stepping stone for a person’s career⁶. Because career options are dependent upon success in graduate school, preparing for academic employment begins immediately for doctoral students. While their article presents general advice for students to begin a research career in academia, this paper serves a different population: doctoral students who want an academic career at a teaching-oriented school.

Other resources exist for job hunters, such as the article by Mullenax and the article by Biegel *et al.*^{7,8}. Mullenax depicts the job search process as a flowchart, but mainly discusses getting a job at a research institution. Much of the advice applies to students applying for academic jobs, but we instead highlight some of the differences between a research institution job search and a teaching-oriented job search. The article by Biegel *et al.* provides a repository of URLs for job seekers and is much more general than the advice included in this document⁸.

Following the introduction, the paper is organized as a timeline series, starting with preparation before attending graduate school. The remaining sections provide advice for graduate school to prepare readers for a teaching-oriented job search. Detailed sections include the application materials, phone interviews, and on-campus interviews.

2. How to Use This Document

Do you want to become a professor of computer science and engineering at a teaching-oriented college or university? If so, this document was prepared especially for you. Even if you want to become a faculty member at a more research-oriented university or become faculty in a different discipline, the advice included in this handbook could apply to you. This paper is structured as a timeline series, so you may want to start reading where you currently are in your undergraduate or graduate studies. The advice presented here is specific to preparing oneself for obtaining a teaching position after graduate school. Other resources to assist graduate students exist, such as getting through the qualifying examination and forming a thesis committee, but this document will not focus on these issues.

The advice in this document is based primarily on our own experiences. One author has recently finished the job search process and is currently a faculty member at a teaching-oriented university. The other author is a graduate student in Computer Science at a large research institution; she has successfully completed her job search using an earlier draft of this document as a guide. Both authors sought teaching careers while graduate students, and both were inspired

by the quality of instruction each received at small, private, liberal arts colleges while undergraduate students.

Although we have tried to be comprehensive in preparing this document, we recommend you also seek advice from current and former advisors, friends who have pursued a teaching career, career services, teaching centers, and other mentors.

3. Before Graduate School

If, for some reason, you know that you want to be a professor while in high school, our best advice is to attend a college or university similar to the one where you want to be a professor. Some teaching-oriented institutions even hire their own graduates (of course, after they get a Ph.D. somewhere else). Receiving an undergraduate degree from an institution similar to where you plan to apply can be a huge plus, since the search committee knows that you have experience at that type of institution.

If you are currently an undergraduate student, our best advice is to prepare yourself for admittance into a graduate school with a respected program in your field. To learn about potential graduate programs, ask your professors and gather information from the program's website. US News and World Report publishes a ranking of graduate schools by discipline, which may be a good starting point for your research about graduate programs. You do not need to attend a top-ranked school, but it is to your advantage to earn your graduate degree in a respected program.

To get into a great graduate school, ask your professors for advice. Our advice is to get as much research experience as you can while you are an undergraduate student—graduate schools like to admit students with initiative and a record of research experience. Try to do well in your coursework and develop relationships with faculty and other supervisors who can write detailed, strong letters of recommendation.

4. Graduate School

4.1 The First Two Years

Graduate programs usually employ graduate students as teaching assistants. When you have this appointment, be sure to do a good job teaching. Our advice is to take care of yourself first (your courses, your research), but try to spend quality time on your teaching assistantship duties. You might be hired to grade papers, teach sections of students, develop homework assignments, hold office hours, or write homework solutions. Do the best you can at these responsibilities without working so much that you sacrifice your achievement as a graduate student.

The second piece of advice is to document, document, document. Keep your teaching evaluations and any other solicited and unsolicited feedback from your students and the professor with whom you work. You will need this paperwork later, to start forming your teaching philosophy and to provide evidence of teaching excellence when submitting your job applications. Other pieces of information to keep include course rosters (so you will know the demographics of the course), grading rubrics, quizzes, handouts, lesson plans, syllabi, and example student work (be sure to get permission from the student).

Also, many research institutions have centers devoted to the development of teaching and learning. Inquire about such a center on your campus. They might have a seminar series and even offer classes about pedagogy to graduate students. In general, find people (other students, faculty, staff) who care about teaching and discuss your teaching interests with them.

In the computer science community, there is an annual conference for the Special Interest Group in Computer Science Education (SIGCSE). It is held in the USA in February or March. Try to attend this conference, since faculty from small colleges and universities attend this conference. You will meet great people and develop contacts that might help you land a job when you graduate. Just because you are a graduate student does not mean you cannot participate in some way. You can be a student volunteer for the conference and meet the other students in attendance. Try submitting a paper or a panel session proposal (the deadline is usually in early September)—you will get more exposure if you present at a session. A second national body is the Consortium for Computing Science in Colleges (CCSC) which tends to have members from small colleges and universities. There are several regional conferences throughout the United States. Find out when and where the regional conference in your part of the country is held and try to attend. The CCSC meetings are much smaller in terms of attendance, so you should have many opportunities to interact with the attendees.

It is never too early to start working on your teaching philosophy statement. A teaching philosophy statement is a document describing the way you approach teaching and learning and how you put your philosophy into practice. Some teaching philosophy statements also include teaching interests (courses and topics you enjoy teaching) and examples of courses that you have taught.

Think about forming relationships with faculty members other than your advisor(s). For instance, these could be professors for which you were a teaching assistant, faculty who collaborate with your advisor(s), or mentors working in industry. Ask if your school or department has a mentoring program to connect graduate students with faculty. Forming these relationships is helpful for future letters of recommendation.

4.2 The Middle X Years

At this point, you have probably passed your qualifying examination. Congratulations! Before diving into your dissertation research, consider teaching your own class. After all, this will give you first-hand experience and help you decide if a teaching-oriented career is for you. Ask your department chair or teaching coordinator if they will let a graduate student lead an entire course. If so, definitely take the opportunity. If your school does not hire graduate students as lead instructors, ask local community colleges and small colleges if they need an adjunct lecturer for a term. This might be even better experience, since classes will generally have fewer students at a community college or a small college or university. If you teach a full course, you will find that it takes much more time than being a teaching assistant. You will be making all the decisions. Be sure to document your contributions to the course, such as curriculum design, homework assignment development, project development, and new teaching approaches. Ask someone you trust, as well as potential letter writers, to observe you in the classroom. Some research institutions also have independent course evaluators—you may want to ask one of them to

observe your class and give you feedback. Keep your potential letter writers posted about how your course is going.

Keep going to seminars on campus about teaching and learning. The college of education may even sponsor a colloquium series that you can attend. Try to get to the SIGCSE conference in February or March. Try to attend your local CCSC meeting.

If you cannot find opportunities to give you formal teaching experience, volunteer for activities that relate to teaching. For example, you might volunteer to tutor undergraduate students in your department or to teach simplified computer science topics at local grade schools or at the local science museum. Your volunteer activity may take only a small amount of time, but the experience and initiative definitely strengthen your resume. Additionally, reaching out to younger kids will give them a change to learn about your discipline.

Keep working on your teaching philosophy statement—you might be surprised to see that your approach to teaching and learning evolves as you gain experience. Your campus may even have a program designed to help graduate students develop teaching philosophy statements and teaching portfolios. One such program is the Engineering Teaching Portfolio Program (ETPP), developed at the University of Washington ⁹.

Maintain the faculty relationships you started during your first two years. Try to find faculty mentors at teaching-oriented schools who can assist you in your job search. Keep in touch with your undergraduate professors, who can also be valuable mentors.

5. The Last Year of Graduate School

You will be graduating sometime this academic year. If you plan on starting your teaching position in the autumn of year Y, be sure you are on track to finish your dissertation and defend by the end of the summer in year Y. If your graduation prior to the end of the summer is questionable, we suggest waiting another year before looking for a job. You want to have your degree in hand before starting your job as an assistant professor, since teaching new courses and integrating into a new department and culture leave little time for completing a dissertation. Advice for this section is broken into parts of the year that correspond to the application and interviewing stages of the job search process.

5.1 Summer Before Last Year

The summer before you plan to graduate is a great time to start organizing and reviewing that documentation you created throughout your graduate studies. Find your teaching evaluations and other teaching materials you created (and hopefully documented at the time). At this point, you should start polishing your teaching philosophy statement. Show it to other faculty and students and ask for feedback. If you have contacts at teaching-oriented schools, ask them to read your teaching statement.

5.2 Autumn of Last Year

The autumn of your last year will be a busy time for you, since you will be looking for position announcements and preparing your job application materials. At this point, you should have a decent draft of your teaching statement.

Finding Job Announcements:

Most colleges and universities post job opening announcements on their school's website and on major lists. The major lists for computer science are: Computing Research Association (CRA) job site, the Association of Computing Machinery (ACM) job site, and the Chronicle of Higher Education. The American Society for Engineering Education (ASEE) has a monthly publication called Prism that has job advertisements in the back. Most of the advertisements are for engineering departments, but you will occasionally find positions in computer science, computer engineering, and computer information systems departments.

Keeping Job Information Organized:

Keep your job search information organized in some way. We recommend that you keep a spreadsheet of all the schools where you plan to apply. Your spreadsheet may have columns for institution name, mailing address, application due date, send letters of recommendation now or wait, URL for position announcement, list of items sent, date of acknowledged receipt of application, phone interview date, on-campus interview date, and the name/email of contact person.

Letter Writers:

For teaching-oriented schools, you will most likely need three letters of recommendation. By your last year as a graduate student, you should know at least three people well enough that they can write detailed letters for you. If you know four letter writers well, you may consider sending four letters of recommendation. Many job announcements ask that at least one or two of your letter writers address teaching, so you should definitely include someone who is familiar with your teaching. If your advisor is familiar with your teaching, consider whether you want your advisor's letter to address teaching in addition to your research qualifications.

We recommend that you *ask* your letter writers early. Applications at small colleges/universities can be due as early as October 1. To be fair to your letter writers, you should give them at least one month to write the letters. Letters are usually requested to be sent under separate cover, so each of your letter writers will send the letter directly to the schools. Some schools will contact your letter writers if they want the letters (called the *pull* model). Otherwise, you should ask your letter writers to send the letter right away (called the *push* model). You should try to assist your letter writers in helping you prepare a strong application. When we asked our writers, we gave them a complete set of job application materials along with letters from us asking them to focus on certain aspects of our graduate studies (research vs. teaching vs. service). To keep the writers organized, you might provide them with stamped and addressed envelopes. Give them a list of all the schools where you plan to apply, along with the distinction of “push” versus “pull”.

Deciding Where and When To Apply:

When deciding where to apply, you may consider factors such as where you want to live and the type of school that interests you most (private vs. public, liberal arts vs. comprehensive, church-affiliated vs. non-church-affiliated). You also need to decide how many schools to put on your

list. This could be as few as 10 schools or as many as 100. In general, the cost in time of preparing an application package for an additional school is quite low. The largest cost is preparing the first application. There are exceptions to this, however. For example, if you plan to apply to both research-oriented and teaching-oriented institutions, then you will most likely prepare two sets of application materials. Make sure you tell your letter writers to write two different letters. Some teaching-oriented schools may ask for specific materials such as descriptions of courses you are interested in teaching, a diversity statement, a statement of faith (for religiously-affiliated schools), a summary of recent teaching evaluations, and a summary of plans to improve your teaching.

Think carefully about the timing of your applications. Because of the wide range in application deadline dates, it can be challenging to coordinate interviews and offers. If your dream job's search committee will not start reading applications until January 15, you may want to focus on schools that have similar application deadlines. One of the authors prepared three rounds of applications starting November 1 and received multiple job offers before the end of the calendar year. The window for acting on the offers is also quite short for teaching-oriented schools: one to two weeks is a typical offer window. Therefore, you may have offers in hand before your dream job's search committee has started reading applications.

Teaching-oriented schools usually invite you for on-campus interviews shortly after telephone interviews. Therefore, you will probably be interviewing much sooner than you expect and also much sooner than your colleagues who apply to research-oriented universities. When scheduling interviews, you may want to consider the order of the interviews. You may not have much control over the timing, but if you do have some flexibility, consider placing your dream job interview third or fourth in line. This will provide an opportunity for you to interview elsewhere first, giving you a chance to work out the interview nerves and providing a point of comparison. After all, your dream job may look great on paper but could be very different in person, and having multiple perspectives and multiple offers could be a huge relief.

5.2.1 Job Application Materials

Start preparing job application materials early. The earliest deadline could be as early as October 1. Teaching-oriented schools vary greatly in terms of deadlines and when they hope to invite candidates for on-campus interviews. The latest deadline could be as late as February 15. Get started on your application package very soon into the autumn of your last year. In general, the application consists of the following components: cover letter, teaching philosophy statement, research statement, curriculum vitae, and letters of recommendation. Some schools also ask for a teaching portfolio and/or evidence of excellence in teaching. Each component is described below. You can find more general advice on the web about preparing application materials. You can also find examples of application materials or ask other people who have already found positions for their application materials. When you finish drafts of your application materials, ask other people for feedback. Ask your professors, letter writers, fellow students, former classmates who recently completed their job searches, and your undergraduate professors to give you feedback on your materials.

One general piece of advice: Application materials for a research-oriented position generally place information about research before information about teaching. When you apply for teaching-oriented positions, you probably want to do the opposite: put teaching materials ahead

of research. Put teaching ahead of research in the cover letter, in your CV, and in the overall order of your materials. This sends the right message about your priorities.

The Cover Letter:

Search committees at teaching-oriented schools actually read and assess your cover letter. The cover letter provides you the opportunity to express why you are a qualified candidate for the position and why you want to teach at that school. Our advice is to write this letter after you have completed the other materials, so you can briefly summarize the entire package in your cover letter.

The Teaching Statement:

Hopefully, you have been working on this statement for some time now and it is close to being polished. You should explain how you approach teaching and learning. Take time on this document. The teaching statement is one of the most important pieces of the job application package for a teaching-oriented school. In terms of length, you probably want to keep it under two pages.

The Research Statement:

Some teaching-oriented schools do not request a research statement as part of the application package, but you should write one anyway. You might consider sending the research statement anyway, as this shows the search committee that you have given thought to your research career and how it fits into your future job at a teaching-oriented school. Research statements showcase the research you have done and describe what you plan to do in the future. Most teaching schools will require you to do some scholarship for tenure, so you should also be thinking of your research plans at a small school. You might want to describe how your research fits into the context of an undergraduate institution and how you plan to incorporate your research into your teaching. You probably want to keep this under three pages.

The Curriculum Vitae (CV):

A CV is an extended resume, highlighting your accomplishments and involvement in teaching, research, and service activities. You can find many examples of CVs on the web. For a teaching-oriented application, you probably want to list all teaching responsibilities (both paid and volunteer work) and service activities. Other standard sections of a CV include honors and awards, research experience, work experience, publications, and contact information for references.

The Teaching Portfolio:

Some schools will ask for evidence of excellence in teaching. Examples of evidence include teaching evaluations, syllabi, homework or projects you developed, written feedback from students, and reports from classroom observations. You should include the documentation you created when performing your teaching duties. Instead of just submitting the raw materials, write a half page explaining why you think the piece of evidence shows you are an excellent teacher (or have promise of becoming an excellent teacher). You might consider sending this package to every school, particularly if you think your teaching portfolio is quite strong.

Transcripts:

Some schools will request official or unofficial transcripts from your undergraduate institution and your graduate school. Request official transcripts several weeks before you plan to submit

your applications, since it could take some time for printing and delivery. You can either have the transcripts sent directly to the schools or include them with the rest of your application; be sure to follow the directions in the job announcement.

5.2.2 Phone Interviews

Many search committees start reviewing applications as they arrive. Small schools typically do not have the budget to invite more than three or four candidates for a campus interview, so they screen candidates by conducting phone interviews. For a position with an early application deadline, you could have a phone interview as early as the beginning of November.

Before the Phone Interview

Do your homework! Spend time looking at the school's website and finding out as much as you can about the department and the CS curriculum. Look at the mission of the institution and think about ways you can contribute. Anticipate the questions you will be asked by the search committee. Questions we were asked include:

- Why did you apply here?
- How did you learn about the job?
- What do you know about our students?
- How will you help recruit CS students?
- Tell us about your teaching experiences and what you hope to do in the future.
- How will you manage teaching 3-4 different classes at once?
- How will you teach students who are unmotivated and unprepared?
- What are your strengths and weaknesses in the classroom?
- What interests you about teaching at school X?
- Tell us about your experiences teaching undergraduate students.
- Describe your research interests.
- How can you contribute to the mission of school X?
- How do you plan to get undergraduates involved in your research?
- How do you anticipate balancing time between teaching, research, and service?
- What courses would you like to teach? (Use their numerical course numbers if you have access to that information.)
- What courses would you not like to teach?
- Why do you want a profession in teaching?
- What new courses would you like to develop?
- How do you plan to interact with other departments on campus?

You should also prepare a list of questions to ask of the search committee. Think about the issues that are most important to helping you make a decision. For us, these issues included expectations of an assistant professor, how the department embraced collaborative activities, what the students do after college, the size of their classes, and their typical teaching load. Some questions you might ask include the following:

- What are your students like to work with?
- How do your students decide to become CS majors?

- Can you tell me a little about the history of your department and why you are hiring now?
- Where do you see the department going in the next 5-10 years?
- Why did you decide to work at School X?
- Do you collaborate on teaching and/or on research?
- How do you define a successful CS graduate? What skills should a CS major possess at the time of graduation?
- What do CS majors typically do after graduation?
- What does a successful tenure applicant look like at your school?
- What is the typical teaching load?
- What is the average class size in upper and lower division courses?

During the Phone Interview

You should be ready to answer the telephone at the scheduled time of your phone interview appointment. Try to find a quiet place for the conversation. Sometimes you will be talking to several people at once and other times you will be speaking with a single person. During the phone interview, take notes! Write down the names of the people on the other side. That way, you can address them by name if you have questions for specific people. Write down their answers to your questions and any other information they provide about the school. You should take the opportunity to learn as much as you can about the school during the phone interview. You might realize that the institution is not a good fit after all. Even so, we always had friendly conversations with the faculty on the other side. Before you say goodbye, ask the search committee when they plan to get back to you.

After the Phone Interview

Finish writing any last minute notes to yourself about the school that you did not have time to jot down during the telephone conversation. File your notes away. You might keep a binder containing all the notes you acquire about the schools. Another filing system is to have a manila folder per school.

Pay attention to the questions you were asked. These questions can tell you quite a bit about the department and the school. You should get insight into what challenges the faculty face and what the committee is looking for in a candidate. Pay attention to the composition of the committee. Does the committee include junior faculty members? The entire department? Faculty from other departments? Students? Administrators? Staff? The composition of the committee can tell you about the values of the department and the school.

A thank you note is always an appreciated gesture after the phone interview.

5.3 Winter of Last Year

Whew! All your job application materials are submitted and now you think you can relax and get back to your dissertation. Or maybe not. When one of the authors went into the job search process, she thought she was going to be interviewing in March and April. Caution: teaching-oriented schools start interviewing much earlier than research universities. If you are planning to interview at both kinds of institutions, it will be a difficult task, since they are on very different timelines. You could have your first on-campus interview as early as November.

Soon after or while completing application materials, you should acquire any clothing that you plan to wear while interviewing. If you need to have alterations made, this could take several weeks, and if you need to buy new shoes you will want time to break them in. Trying to buy clothes the day before your interview could be quite stressful. As for what to have ready, a suit is appropriate for the main interview day. Slacks and a blouse, a sweater, or a nice shirt with a tie should be appropriate for travel days. Plan to wear comfortable shoes during the interview—you might be walking across campus for various meetings (with travel times of 0 minutes) and you will definitely be standing for your presentation. In addition to clothing, purchase anything else you might need while traveling: luggage, toiletries, reading material, etc.

5.3.1 Job Talk (Research)

You will be asked to teach or give a job talk during the interview. A traditional job talk is about your research: background on your topic, your research results, and your future research plans. You should start working on your job talk soon after you finish your applications. It may take a few revisions before your talk is polished.

One of the authors prepared a talk targeted at undergraduates (sophomore-level) that introduced background material for her research and a subset of her research results. The first time she wrote the talk aimed at undergraduates, beginning graduate students had trouble following the concepts. With the help of colleagues (professors, graduate students, and undergraduates), she polished a talk that was more suitable for undergraduates. She also viewed the talk as an opportunity to showcase some of her teaching skills, so she created an interactive talk. The first moral of this story is to practice your talk. The second moral of this story is that undergraduates know far less about computer science than you might expect.

In general, you will have one hour for your job talk which includes time for questions, so you should prepare a talk that will last about 45 minutes. Once you have finalized your talk, practice it a few more times to yourself, a mirror, or a good friend to get a better sense of the timing and transitions between concepts.

Tell your host about your equipment needs for the talk. If you prepare a slide-based talk, as for a room with a data projector and screen. If you plan to use transparencies, make sure you will have access to an overhead projector.

5.3.2 Teaching Demonstration

Some schools will ask you to teach a class session (real or fake), in addition to or in place of your research job talk. This could be a daunting task, since you do not know the students, the curriculum, the classroom, the classroom technology, and the context. You could even be teaching other faculty instead of students. You might not get to choose the topic, and you might not have much time to prepare. Nonetheless, you should teach much as you would ordinarily teach and strive to be well prepared. Here is a list of suggestions if you are asked to do a teaching demonstration:

- Read the class syllabus, if your presentation is in the context of a real class. Look at the class webpage to try to get a feeling for the content they have covered.

- You may get to choose a topic to teach. If so, choose a topic that excites you and, if possible, that you have already taught.
- If possible, reuse the same teaching demonstration on several interviews. This can save work and give you some practice. Also, the same demonstration can provide a point of comparison between students at different schools.
- Learn as much as you can about the level and size of the audience.
- Request the technology that you need, if you need something other than a whiteboard or a chalkboard. Ask about the room configuration, so you can plan ahead.
- Try to make your demonstration interactive; use it as an opportunity to demonstrate what you wrote in your teaching philosophy statement.
- Do not be afraid to explain *why* you are doing something if it will help the students and faculty understand your teaching practices.
- Practice, practice, practice! You may not have the opportunity to practice in front of an audience, but be sure to walk through your lesson plan several times with colleagues and on your own.
- You may be offered constructive criticism on your teaching demonstration while interviewing. Believe it or not, this is a good sign—it means that the faculty are prepared to help you improve your teaching. Try to accept criticism gracefully, even enthusiastically. If you have trouble accepting criticism, ask others what they thought you did well first and then ask how you can improve.

5.3.3 On-Campus Interviews

You may not get too much flexibility in terms of scheduling dates for interviews. You might want to consult the section about negotiating offers before determining your interview order. We also suggest that you return home after your first interview; you will be exhausted from the experience. Coming home after the first interview will give you time to revise your job talk and/or teaching demonstration, if needed. You may want to group interviews in terms of geography, so you can fly to one area of the country for multiple interviews.

Before You Go

Most schools will schedule a full day for the interview. When scheduling travel arrangements, coordinate with the department about preferred times for your arrival and departure. It is common for a faculty member to pick you up at the airport upon your arrival. Often, the school will make your hotel reservations and leave the airline reservations to you. Be sure to double-check that this is the case. If you need to fly to visit a school, you might want to schedule your interview for a Friday or a Monday, so you can use the weekend as part of your travel time. You may also want to stay an extra day over the weekend to get a feel for what it is like to live in the area. Besides, a Saturday night stay usually lowers the cost of the flight and many departments are willing to pay for the extra night in the hotel.

Continue doing your research about the school. Take the notes you took from the phone interview with you and review them on the plane. If learning names is difficult for you, memorize the names of the faculty in the department.

Ask your host for your interview schedule. Even if they do not have the schedule finalized before your visit, ask for the list of people you will meet. You can review their websites and acquire

more information about what they teach and their research interests. If you get a choice about the time for your presentation, try to schedule it early in the day. You will be more fresh and less anxious about the talk if you present early in the day. Also, an early presentation will give faculty members a good introduction to your research so you do not need to repeat your research interests every time you meet someone new. Make sure there is a break scheduled before your talk; if there is no break, ask for one. A break is important for getting your thoughts together and figuring out how to use the presentation technology.

If you can, try to schedule meetings with recent hires inside or outside the department to get their perspective on the first one to two years. Also, ask to meet with someone who is going through the tenure review process or who has recently received tenure. The last piece of advice about the schedule is to try to meet with students. You might have lunch with a group of students. Some of the most candid impressions about a school come from students—they really helped us make our decisions. If you do not meet students, this could signal that the department does not value student input enough to include them in the hiring process.

Ask your host about details regarding your presentation. If you are using your own laptop, ask for a data projector. If you are using transparencies, ask about an overhead projector. Be sure to confirm the length of time you have for the presentation. If you have handouts, ask about the expected number in the audience.

You might want to create a checklist of items to pack for the interview. If you prepare a slide-based talk, be sure you have your laptop (if you plan on using your own computer for the presentation), a back-up set of transparencies for your talk, and a CD or memory stick containing your presentation. Make sure you can deliver your talk in the midst of technical failures. Your talk is one of the most important components during the interview—this will be the one opportunity for many faculty and students to “meet” you during the visit. Pack your notes about the school, your interview schedule, hotel information, and, of course, your airline tickets or itinerary.

Make a decision beforehand about how you will handle alcohol at meals, and stick to that decision. Your hosts will understand. When making this decision, think about how alcohol affects your mental state, mood, conversational skills, and sleep patterns. Remember—your interview starts the minute you step off the airplane and ends when your host drops you off at the airport for your return flight.

You might find yourself not eating much at official meals. For example, you might be too nervous to eat heartily, your metabolism might be off, or your stomach could be in a different time zone. Pack high energy snacks that you enjoy and can eat without making a mess. You can eat these while walking between appointments.

The Interview

The interview actually starts the minute you are greeted by the first person affiliated with the college/university. A set of faculty (and sometimes their spouses) might take you out to dinner the day before the actual interview. These dinners are a great way to get to know the department culture before the interview. Generally, the dinners are more informal (but, remember, you are still being evaluated, so always be professional). The dinners also give you a chance to find out if you like to hang out socially with your future colleagues.

Remember, the interview is a two-way street. The school is trying to see if you are a good fit for them while, at the same time, you are trying to see if you want to work at the school. Be ready to ask lots of questions during your on-campus visit. Think about what you really care about in terms of your working environment and colleagues and make sure you get those questions answered during the interview process.

Be courteous to all people you meet, regardless of whether the meeting is part of the formal interview. This includes hotel staff, your taxi driver, university staff, and people you meet while walking across campus or in town. Many teaching schools are in small towns where everyone knows everyone and your casual meetings could influence the search committee. We even know of a large research university whose search committee asks the hotel managers about the behavior of faculty candidates. Also, take advantage of meeting local townsfolk—they often have a different opinion of the college or university than those who work for the college or university. In the authors' experiences, a taxi driver and a local architect were great sources of information.

Turn off your cell phone during all interview meetings, formal and informal.

Do not be afraid to ask to use the restroom when you need it, even if you are running late. It may be the only time you get to yourself all day. You can use the restroom break to really rest—stretch and take deep breaths. Along the same lines, ask your host for water if you need it. You will be doing a lot of talking and you will probably need something to drink.

The formal interview day will be a long one. Your days could start by 7:30 AM and finish (after dinner) around 10 PM. Try to get a good night's sleep before the interview. This could be challenging, especially with time zone adjustments, but try to get as much sleep as possible. You will be fed breakfast, lunch, and (usually) dinner during your interview day and usually these meals are attached to one of your meetings.

Interview Components

The interview will generally consist of several meetings (with half hour and one hour durations). You will most likely meet with the following groups of people:

- You will meet with the entire CS department in one-on-one meetings, at dinners, or in small groups. If you do not meet a faculty member in the department, ask why. Not meeting with someone could be a warning sign.
- You will probably meet with the search committee as a whole or individually during one-on-one meetings. You may have a large group meeting with the entire search committee, who has prepared questions for you to answer.
- Most small schools have external members on their search committees, which could be professors in other disciplines. We met with faculty from electrical engineering, chemistry, math, gender studies, English, French, German, and Spanish during our visits. The role of these outside members is to provide feedback about the candidate's fit with the university as a whole. These meetings are a great opportunity for you to get an outside perspective about the CS department.
- You will meet with the Dean and/or Provost during your visit. In general, these meetings are centered about the mission of the school. In the case of church-affiliated schools, the

Dean and/or Provost will discuss the church affiliation and how it affects the community and professors on campus. The Dean/Provost may ask you about your teaching philosophy. Sometimes the Dean/Provost may present the HR aspects of the job, such as health insurance, retirement, tuition exchange programs, and contract length. Warning: If interviewing at a religiously-affiliated school, you will probably be asked by the Dean/Provost about the mission of the school. Be sure to have the mission statement memorized and have an answer for how you can contribute to the mission. Knowing the mission statement for secular schools is probably less important, but do think about how you would fit into the institution.

- Sometimes you will meet with someone from the HR department, who will discuss benefits related to the position. Usually, this meeting is not part of the interview. The HR department usually does not report to the search committee.
- You will give your job talk at some point during the day. Encourage people you meet, especially students, to come to your talk.
- Hopefully, you will have a chance to meet with students. This is your chance to find out if they are students you want to teach. Students are generally quite candid, too. Be sure to both ask questions and encourage students to ask questions of you.

Interview Questions

It seems that many schools do more “selling” than “buying” during on-campus interviews. The phone interview is where they buy and once they invite candidates to campus, they try to convince the candidate that their school is the right fit.

We were pleased to see schools do more “grilling” during on-campus interviews. We felt the search committees were trying to get to know us to see if we would be successful at the institution. We respected the “grilling” meetings and were actually less comfortable at schools where few questions were asked.

Throughout the day, you will probably be asked similar questions from a variety of people. You should be consistent with your answers. (Small schools are quite small— people do talk to each other.) Below is a list of the types of questions that we were asked during the interviews:

- Why do you want to work at school X?
- Tell us about your teaching experience.
- Describe a particularly successful teaching moment that you have had.
- Describe a teaching moment where you failed.
- What are you looking for in your colleagues?
- What skills should undergraduates majoring in CS possess at the time of graduation?
- How do you want students to remember you?
- Tell us how you enacted your teaching philosophy in a concrete way.
- Where do you see yourself in 10 years? in 20 years?
- What is your research plan for the next 5 years?
- How would you convince an undergraduate student to take CS 1?
- How do you plan to get undergraduates involved in your research?
- What resources do you need to conduct your research?
- How do you define a good leader?

- How would you describe a successful student?
- What recommendations do you have for improving our curriculum?
- What courses are you excited about teaching?
- What special topics courses would you like to teach?

There are some topics that are legally off-limits for the search committee to ask about during the interview. They are not supposed to ask about your family/marital status, plans for having a family, your age, your sexual orientation, religious affiliations (except at some church-affiliated schools), nationality, race, or disabilities. If you, as the candidate, would like to bring forth some of these issues during the interview, it is your choice. If you prefer not to, that is fine, too. We differed somewhat in our approach to these topics; you need to figure out what will work best for you.

One author introduced the topics of her spouse and plans for children herself, with faculty who seemed appropriate for the discussion. These topics were very important for her decision, and she felt she would not be happy at an institution where spouses and children are seen as a problem.

The other author was not shy about letting the search committee know she was married. After all, she wears a wedding ring. Some schools asked about marital status (but she believes this is because they wanted to help her husband find a job in the area) and if she was planning to have children. Most schools brought the topic of children up because they wanted to share information about family leave policies at the institution. She did not find the questions offensive.

If you are asked about an illegal topic, and you feel that the question is not asked in innocence or to be friendly, you can politely decline an answer and explain to them that you are not sure how the information will affect your job duties.

You should have a list of questions (on paper or in your mind) that you want answered before leaving the interview. Ask the same question to multiple people—you will get different perspectives and sometimes the differences of opinion can be quite illuminating.

Be sure to ask your host or the chair of the search committee when you can expect to hear back from him/her. Most places also welcome email messages and telephone calls after the interview, if you still have questions for them.

After You Return

Send a thank you note to the search committee chair, thanking them for their time and inviting you for an on-campus visit. Take notes about your visit. Airplane rides back home are good times to debrief with your notebook. You may think you will remember everything about the interview, but four interviews later you may not remember every detail about your first interview. Write down any questions you still have about the institution and make a plan for getting these answered. Search committees are usually very happy to answer any questions you forgot to ask during the interview.

5.3.4 Offers and Negotiation

Hopefully, you will have successful interviews and you will receive job offers. The offer stage could surprise you. One of the authors got her first offer two days after returning from her first interview, the other the day after her second interview. Most schools will give you the initial offer by telephone (usually a call from the Dean or Provost) and then send you a formal offer letter in the mail. Do not make a verbal acceptance until you have the offer in writing.

Warning: Most small schools will give you a week to decide on an offer. You might think this is an unreasonable amount of time, but it turns out to be the norm. The schools need to hire someone and they cannot wait too long before moving on to the next candidate. You may ask for extra time if you cannot make a decision within a week, for instance, if the offer is made right before the holidays or if you have another interview coming up shortly. Be aware that schools operate in different modes: some schools will interview everyone before making an offer decision while others will make offer decisions a few days after the on-campus interview. Unfortunately for you, the candidate, the schools do not coordinate their timing with respect to offers.

You definitely should consider negotiating about your offers. At many institutions, you have much more power now to get a higher salary or funding for equipment than you will after you start your faculty position. But, remember you are setting the tone for your future relationships with the administration. Be thoughtful in justifying your requests, and be firm in ensuring you get what you really need, whether it is part of your start-up package or available through some other resource. At the same time, listen to what the Dean or Provost has to say. Be willing to compromise. Be pleasant and collegial. Reiterate your excitement about the position.

You may not have much room to negotiate the starting salary, as teaching-oriented schools must adhere to a budget. At the same time, remember that your starting salary will be compounded by raises; underselling yourself will have long-term impacts. Our advice is to be honest with the Dean and have evidence ready for why you want a certain salary. To get a sense of salary ranges at various types of institutions, you can look at pay scales put together by the American Association of University Professors. Computer science generally pays more than the average salary. You can also look at the Taulbee Survey for computer science pay scales, although this includes only Ph.D.-granting institutions. Most offers from teaching-oriented schools are for nine months, meaning that you can subsidize your salary through summer grants. You should ask the Dean about summer stipends for teaching and/or research. Most teaching-oriented schools have money available for summer research support or can match funds with external grants.

Offers also typically include an allowance for moving expenses and start-up funds for equipment and software that you need for your teaching and research. You should certainly ask for start-up funds for software and equipment even if they are not offered. Think carefully about what you will need for successful research and teaching; do some research about what particular items will cost. You need to be able to justify the figure for which you are asking. If you are comfortable asking for a start-up package, your future colleagues in CS can be a valuable source of advice and feedback on your start-up package.

While course releases and funding for students are often negotiable at research institutions, our experience is that they are not subject to negotiation at teaching-oriented schools. Ask about what programs are in place for pre-tenure leave and for funding student research.

If you decide to negotiate, consider making your initial counter-offer by email. This will let you state your requests and your reasoning in an organized way.

Once you make a decision to accept an offer, you must inform other schools where you have offers or interviews, so they can choose a replacement candidate.

5.4 Spring of Last Year

At this point, you have hopefully accepted a position. Now it is time to get that dissertation finished before the end of the summer so you have time to prepare for your classes in the fall. We advise to give yourself at least a month between when you defend your dissertation and when classes start. After all, you will most likely be moving to a new city, getting some much-needed sleep after the defense, and preparing for your classes.

6. Conclusion

This handbook of advice for finding a teaching-oriented job is based on the experience of two successful job searches. Just as in any job search, preparation is a key to success. Because most graduate students are at large, research universities, finding mentors who can coach graduate students through the job search process can be challenging. This handbook cannot replace a personal mentor, but we hope the advice proves helpful for your job search.

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