<u>**Selected Excerpts from Article:**</u>
Where Did Your Graduate Students End Up? LinkedIn Knows
By Stacey Patton
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It started with a question, "Where are all the Ph.D.'s?"

Karen L. Klomparens, dean of the graduate school at Michigan State University, wanted to find out where 3,000 doctoral students who had graduated in the last 20 years were living and working. Knowing what kinds of jobs students are getting, she says, would help her learn more about how well the university's graduate programs are teaching students the professional skills they actually need.

Sheila Tobias had a similar mission. She has a grant from the Alfred P. Sloan Foundation to develop professional science master's degree programs, known as PSM's, which prepare students for professional work in business, government, and nonprofit organizations. Started 15 years ago as an alternative to Ph.D. programs in the science and mathematics fields, the programs now number 247 and operate at 111 universities. Ms. Tobias wanted to prove that most of the first wave of the program's graduates who went on the job market starting in 2002 secured good jobs.

But she didn't have any numbers.

Sheila Tobias analyzes data collected using social media to track graduate-student job outcomes. The chart shows data collected on graduates, including their institution, degree program, and the company they work for.

"Our stakeholders wanted to know whether the graduates remained in the states where they got their PSM degree, what their job titles were, and the type of employers they were working for," says Ms. Tobias. "Business leaders, governors, and university-system heads want to know if graduates are contributing to job creation and work-force enhancement in their states."

Those questions are being asked as graduate programs nationwide face growing pressures to be more open about completion and job placement. Few programs have the money or the staff to track and report data about their graduates' careers.

But Ms. Klomparens and Ms. Tobias say they have found a solution that costs relatively little time or money. To find their graduates, they are mining social-networking sites like Google +, LinkedIn, and Facebook, a search they say allows them to find each graduate in about one minute. They are among the first to embrace social media on a broad scale for official tracking of graduate students. While the approach has limits, they say that collecting some information on student outcomes is better than having none at all.

Although social media are quick and easy tools, many program directors are sometimes reluctant to use them in official ways because online profiles are self-reported and might be out of date. The sites also do not provide the kinds of qualitative information that a scientific survey, a thoughtful questionnaire, or a phone interview can capture. Others who choose not to use social media for tracking cite time constraints and lack of personnel and financial resources. Even though the approach is faster and cheaper than other tracking methods, deans and department chairs juggling multiple tasks still have

trouble carving out time to search for hundreds or thousands of online profiles, or finding the money to pay someone else to do so.

Some graduate programs maintain databases and post job-placement data on departmental Web sites. However, that information is sometimes incomplete or skewed. Although many graduate programs track students into their first jobs, they rarely have information on graduates' subsequent jobs. Some students might not want to report their job information, and faculty may be worried about what it would show: that their programs are producing too many advanced degrees, or that their students are landing careers outside of their academic discipline.

Program administrators often complain that their traditional efforts to keep in contact with graduates through newsletters, e-mails, surveys, and annual scholarly meetings don't yield adequate responses. The Council of Graduate Schools, too, says it struggles with low response rates from students who aren't motivated to fill out surveys. Last fall the council surveyed graduate deans about their level of satisfaction with their institution's ability to track graduate students' job outcomes. Of the 213 deans surveyed, 85 percent indicated they were either somewhat or very dissatisfied with their ability to track outcomes.

The deans also said they faced a number of barriers to collecting information about graduates. More than half indicated problems with time, money, and available personnel. The most overwhelming problem, cited by 90 percent of the deans, was the lack of accurate contact information.

A Cyberpresence

Five years ago, using social media to track students was unimaginable. But now, almost one billion people use Facebook, a cyberpopulation that includes large proportions of undergraduates and graduate students and whose number would constitute the third-largest nation in the world. As students approach graduation and begin their careers, they also begin to participate in more online professional networks like LinkedIn, as companies increasingly use these sites to find employees.

That means that growing numbers of graduate students have uploaded profiles with personal information that is publicly accessible. And that is information that university program directors and alumni offices can mine, analyze, and distribute.

"Social media is one way to get data that we haven't had in the past," says Ms. Klomparens. "It allows us to gather more information that people want at a time when there is more focus on outcomes, and people are legitimately wanting more evidence on how you know you have a quality program."

Ms. Klomparens says it took a year, five paid undergraduates, and $30,000 to track down 3,000 of Michigan State's Ph.D.'s.

Ms. Tobias turned to social media to get around the limits of more-traditional approaches to gathering information about professional-science-program graduates.

The Council of Graduate Schools, which manages PSM programs, used a grant from the Sloan foundation to develop a survey to track graduates. The council, relying on enrollment data provided by program directors for the Classes of 2010 and 2011, asked graduates to report where they found their first jobs. It now plans to follow students for up to five years after graduation.

Nathan Bell, director of research and policy analysis for the council, says the council would like to know more about older graduates, too, but program directors say they have lost contact with their students from earlier years. "We had to make a decision to start with the current class and use a solid methodology, move forward, and track students over time," he says.

But Ms. Tobias needed to know the job numbers for older cohorts of students so that she could market the PSM programs to potential students, and to leaders of university systems. Having data on where PSM graduates are working would particularly help her appeal to campus officials, who are under pressure to produce more highly trained workers specializing in high-demand fields like biotechnology, financial mathematics, and forensics.

She had no money to devote to tracking graduates, but she was able to get help from Susan E. Richards, a researcher and assistant dean in the College of Education at the University of Arizona, who was curious about using social media to find students. Together they set out to find 2,400 PSM graduates nationwide from 2002 to 2010 across all fields. To do so, they say they needed just four key pieces of information: the student's name at the time of enrollment, the year of graduation, the name of his or her program, and the name of the university where he or she earned the degree.

With social media, they didn't need to persuade graduates to provide contact information or coax them to fill out surveys by offering chances to win sweepstakes prizes like iPads or Kindles, as the graduate-school council did for its PSM survey.

Ms. Richards relied on Google and LinkedIn's "advanced keyword" search features to find people. "It was not necessary to create scripts, to scrape the Web, or to pay a professional data miner to do the searches," she says. "It was very low tech but efficient."

Ms. Tobias said they located about 80 percent of the 2,400 PSM graduates whom program directors could not find. Once the students were located, each was given a code number to protect his or her privacy and that of the university, which was then entered on a spreadsheet.

With the first phase of the project complete, Ms. Tobias and Ms. Richards next want to look more closely at the companies that have hired PSM graduates to see how frequently they hire people from the program.