6 Ways Young Surveyors Can Thrive in a Changing Profession

Prepared by Trent J. Keenan, PLS

An abstract of The Geoholics Podcast – Episode 149

When Michael Magyar goes on vacation, he does something unusual: he looks up surveyors in the local phone book wherever he's traveling.

The owner of Magyar Land Surveying LLC in Oregon, Michael, says it's become more and more of a challenge to find surveying offices where professionals are open for business and answering phones. In fact, the majority of fellow surveyors in Michael's Oregon community are sole proprietors headed for retirement—with no one ready to take over their business when they're done.

All over the world, the picture is the same. As a result, the number of surveyors is declining rapidly. That's why it's more important than ever to entice new surveyors to the profession and support them on their journey to becoming skilled technicians, licensed surveyors, classroom instructors, or any combination of the above.

Whether you are an aspiring surveyor or an established one, what follows is advice from four surveying professionals on how young people can enter the surveying world and succeed.

1. Recognize that Surveying Has Career Potential

Brandon Montero teaches construction surveying at Arizona State University and is the Program Director at Elevate Construction. Out of the 80 students in his current class, only one student plans to become a surveyor.

"Most of them are looking at the construction management path. And they're thinking, okay, what makes big money?" Brandon says. "They don't feel that that's something that they can earn in the surveying industry."

College students are often attracted to the high earning potential of a superintendent position or engineer, but the truth is that there are both financial and non-financial perks that come with surveying—if you are not obsessed with instant gratification.

While it's true that you might earn $2 more per hour if you choose a construction path versus a surveying path right out of college, from a long-term career aspect, there are other considerations.

"Be aware of where you go for the quick dollar versus what is actually going to benefit you. Because the benefits of a career and establishing yourself will in the future outweigh that," Brandon says.

Important considerations when embarking on a career path include the view of your employer, the mentoring they offer, and their plan for you in the future. In addition, asking big-picture questions early in your career journey may guide you past the allure of immediate earnings.

There's also the fact that surveying can indeed pay a healthy salary that can compete with roles like civil engineering—and it may be possible to advance faster on the pay scale, particularly in a profession with few bodies and sky-high demand.

2. Learn to and Ask Questions

Success in surveying relies on mastering foundational knowledge. It also depends on learning to think critically and ask the right questions.

Peta Cox is the National Training & Development Manager at Consulting Surveyors National in Australia. A surveying instructor, Peta's students are surveyors early in their careers, typically anywhere from two months to two years into the profession.

"Some of the basic stuff that I'm teaching them right now, they're doing out in the field, but they do not understand why they're doing it," Peta says.

Her goal is to change that by encouraging students to think about how to think about tasks past the surface level.

"Instead of just getting a bit of data onto your data recorder and going out and setting out or picking up, they're using their brain and thinking about what they're actually doing out there, and how they can check things while they're out there instead of just being the monkey, picking it up, sending it back to the office, and getting somebody else to look at it," Peta says.

While the classroom curriculum itself consists of immediately useful items and items that students may not use for years, Peta says the goal is to go beyond the curriculum and hone problem-solving skills.

Peta described one student who was having trouble getting direction at work. She told him it was his project, so he needed to take charge and organize the necessary meetings to help the project move forward.

"That afternoon, he went and did it, taking that step. He's already learned that he can't sit back anymore. He needs to start moving forward and being responsible," Peta says.

The ultimate key to unlocking critical thinking is learning how to own up to mistakes and ask questions that help you improve.

3. Hone Soft Skills

Learning to ask questions isn't a technical surveying skill. Instead, it's part of a broader array of "soft skills" that are nevertheless critical to advancing in any profession—surveying included.

"I think soft skills are the real answer for the surveying industry and that they are extremely under-promoted. If we're ever going to get anywhere, it's going to be through soft skills," Brandon says.

Soft skills include the ability to do things like:

- Communicate well with owners and project stakeholders
- Reliably check in at the start and end of site visits
- Mentor colleagues and employees

Whether you are out in the field, at a construction site, or answering phones in the office, those soft skills can turn a mediocre surveyor into a talented surveyor that other professionals are eager to work with or hire.

Michael's decades of experience have proven to him that soft skills are essential.

"If you don't know how to communicate effectively with people and guide people through very complex and convoluted pathways, you're not going to have that role as a leader and as a good consultant," Michael says.

Developing soft skills happens over time, and you can't always teach them quickly and efficiently in a classroom. Yet highlighting the value and long-term importance of soft skills is critical.

4. Understand How Classroom and Field Skills Work Together

In the surveying profession, it's common to hear arguments about the value of classroom knowledge versus the power of on-the-job experience. Of course, both serve a purpose, but it's nearly impossible for surveyors to agree on how much.

Ray Lillibridge is a PLS at OHM Advisors and an adjunct professor at Lawrence Technological University and Eastern Michigan University. His perspective is that a profession like surveying requires some type of classroom education.

"I had an entire semester in writing legal descriptions," Ray says. "Does it still need to be that way? Yes. Because there are very important considerations when it comes to legal descriptions. That is a boring class, but you've got to do it."

For example, an entire semester could easily be spent teaching a class how to lay out parking lots. But in order to take that course, you would first need prerequisite classes that teach you what control is and how it's set.

Whether that learning happens in a classroom environment or not ultimately may not matter. Yet a distinct element of "teaching" is necessary for young surveyors to succeed. And while you could have one member of a two-man crew teach the other, it can certainly be effective to teach 12 surveyors all at once in a classroom setting.

Playing devil's advocate, Michael said that probably only 10% of what he does as a surveyor today was learned in a classroom.

"I don't think I really figured out what I was doing until I hung my shingle and had to own it. And I had to own every gesture," Michael says.

But to be fair, that statement comes from the perspective of having 35 total years of experience under his belt. The metaphorical percentage point has been an ever-changing mark over the past decades.

"If I think about what experience I needed percentage-wise to do my work for the first 23 years, I could probably get all of that from school. But to do what I do now, 10%," Michael says.

Brandon agreed that the importance of education and experience is balanced somewhere on the scale.

"The regulation for filing a property or how to subdivide, all of those are things that are written down. And anything that is written down can be taught. But what made us proficient or even remarkable in our careers was the experience, hands down," Brandon says.

That's precisely why the surveying profession must focus on finding ways to teach experience effectively. In an ideal world, passionate surveying professionals should write books, consult, and spread their wisdom across multiple companies or state lines.

5. Hone Expertise With or Without a

The next area of contention in surveying is whether the surveying experts qualified to spread that type of wisdom must be licensed professionals. Interestingly, many surveying instructors are not licensed or do not practice actively in the field. On the flip side, many excellent licensed surveyors are lackluster teachers.

While the debate is fiery, the bottom line is that it is possible to be an incredible surveyor with deep expertise without possessing a license. For example, Peta says that surveying instructors do not have to be licensed in Australia. But she argues that she certainly feels qualified to teach.

"Many of us in the system have worked with registered surveyors, have worked on construction sites, have worked on roads, have done all of this different stuff. We haven't learned the educational side as you would in a university, but I learned from the surveyor that I worked with for 10 and a half years: how to run the business, order the plans, and define boundaries. So I could do it; I'm just not licensed to do it," Peta says.

Ray said that it is also possible to teach college surveying courses without a license in the United States.

"There are many colleges that have non-licensed surveyors teaching surveying. I can think of a handful of colleges in the Midwest where civil engineering teachers who are not licensed surveyors are teaching survey curriculums," Ray says.

But again, the question arises of whether or not having that license matters.

"I believe that there are people with a license that I could survey a circle around, and I feel confident saying that. And there are people that I can't," Brandon says. "But that license says he knows what he's talking about, at least to a certain point."

Ultimately a license is a helpful benchmark for the industry, but we must keep in mind that it is no guarantee of skill. There are many ways of gaining expertise in the profession, and we should explore ways to honor that fact where possible.

6. Don't Make Professional Development a "Checkbox" Item

One logical path for surveyors to hone or expand their expertise is to pursue annual professional development opportunities, from courses to certificates to conferences. In fact, it's often a requirement of State Licensing Boards that a certain number of credits be obtained each year.

Peta says that in New South Wales, professional development is valued almost to an extreme: every registered surveyor has to get a certain amount of professional development points each year. If they don't, they lose their license until they make up the points and reapply for it.

Yet while it's easy to check professional development off the list quickly, it's harder to learn from it and spread that learning to benefit others.

"The point of that is that you come back with that skill set and then pass it on to people. Pass it on to the people that you're mentoring. You should go back to your company and be like, 'All right, surveyors! Gather round,'" Brandon says from a mentoring standpoint.

From a business owner's standpoint, professional development can also provide you with a key edge. What you learn could help you refine your current practices, expand into a new market, or learn about new and cutting-edge technologies.

Parting Thought: Surveying May Change but Will Never Disappear

While it's clear that surveying is headed towards a pivotal moment due to mass retirements and few fresh faces, the profession is guaranteed to continue in one form or another. Buildings still need to get built, and the project must be completed. But the bottom line is that the greater industry will find a way to forge ahead.

Moving forward may not happen in an idealized way, but it will happen. It may mean that large contractors will begin to take surveying seriously and work to establish their own survey departments. In fact, change is already starting to happen if you look closely. Positions such as "field engineers" are becoming popular, which are nearly identical to a surveyor in many ways.

Neither new technology nor run-of-the-mill engineers will replace the value of a professional surveyor. The answer to the surveyor shortage lies in making smart programs and alliances that pass on surveying wisdom to future generations.