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Actuary of the Future

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Chairperson's Corner: Actuary of the Future— Mission and Vision

By Laura Wiland

In the corporate world, the sole purpose of a mission statement is to serve as a company's goal/agenda; it outlines clearly what the goal of the company is, while a vision statement is used to communicate a company's goals and aspirations in a single, concise sentence or paragraph.

While attending the Society of Actuaries (SOA) Leadership Conference in November, I realized that there isn't a clear understanding of our section's mission and vision, or at least there isn't unilateral agreement on what our mission and vision is. Are we serving actuaries of the future in the sense that we should be focused on attracting and educating actuaries new to the profession? Or are we serving actuaries of the future in the sense that we should be focused on identifying what the actuarial profession will look like in the future and how actuaries will function in that environment?

For at least the past 12 months, the Actuary of the Future (AOF) Section Council has been focused on attracting and educating actuaries new to the actuarial profession. We hosted webcasts with various universities across the United States, led by a panel of working actuaries with different education and career

backgrounds, and we also produced several podcasts where we interviewed different actuaries on their career progressions, discussed the importance of mentorship in shaping the future of the profession and explored nontraditional opportunities for actuaries.

As I stepped back and looked at the bigger picture of what we have been trying to do, I realized that there was a lot of overlap with other SOA initiatives that already exist to attract and educate actuaries new to the profession. Two that quickly come to mind are Candidate Connect and University Outreach.

- Candidate Connect is an initiative to build and strengthen relationships with those weighing their education and career options.
- University Outreach was developed to connect with college students, their advisers and faculty. This program provides an opportunity for students, faculty and advisers to talk directly with a practicing actuary to learn about career opportunities and to discuss the actuarial education system with professional staff from an organization like the SOA.

While I think the AOF can continue to work alongside these SOA initiatives, I'm not sure it makes sense for the AOF to overlap with them.

That means the AOF Section needs to focus on defining our section's mission and vision, and we think the best way to do that is to hear from our Section members. By the time you read this article, the membership engagement survey will be closed (open from January 23 to February 12), but hopefully you were able to respond to that survey and provide the AOF Section Council with invaluable information about how we can best serve you. The AOF Section Council met in Chicago on March 1 to review the results of that survey and to redefine the section's mission and vision for 2019 and beyond. I believe there are numerous ways we can serve our members, and I am confident that our face-to-face March meeting will result in new initiatives that our members will appreciate and value.

I look forward to the next 12 months and plan to update the membership on our mission and vision in the fall newsletter. Please reach out to any committee member or send an email to the AOF (sections@soa.org) if you have ideas on how the section can better serve its members. ■



Laura Wiland, FSA, MAAA, is the chairperson of the Actuary of the Future Section. She can be reached at Wiland.Laura@pennmutual.com.

Deep Work: Dealing With Distractions in a Distracting World

By Mitchell Stephenson

If you're anything like me, there are distractions all around you. From the time I wake up in the morning until my head hits the pillow at night, if I'm not careful, my concentration is pulled in one direction after another. Recently, I concluded that this was a problem for me not because of the distractions, but because I was choosing to give them my attention.

Author Cal Newport defines the term *deep work* as “professional activities performed in a state of distraction-free concentration that push your cognitive capabilities to their limit.” This is the state we want to achieve, in order to be at our best during the workday. Whether we are at home or at leisure, we want to enjoy our rest and relaxation and to be as present as possible

with our families and friends. Allowing our attention to be diverted by constant distractions makes it harder to accomplish this. Newport's book, *Deep Work: Rules for Focused Success in a Distracted World*,¹ presents several tips that have helped me focus more deeply at work and to be more present at home. If you're interested in avoiding distractions in a distracting world, and increasing your ability to focus deeply and intently, here are some ideas to try.

- **Stop multitasking.** Studies show that people who perform a task and then move to another task immediately without finishing the initial task have a harder time concentrating on the new task. Researcher Sophie Leroy refers to this lingering distraction as “attention residue.” The more tasks that you leave incomplete before moving to the next, the greater the attention residue you experience, and the worse your performance on future tasks will be. Multitasking is an activity that causes a large amount of attention residue, and it can also be habit forming. Professor Clifford Nass, who has studied the effect of multitasking on the brain,² describes people who multitask as chronically distracted. One way to stop this habit is to apply the rule that one distraction equals many. Something I try to do is to ignore emails, texts, phone calls and instant messages when I am trying to concentrate deeply on something. Otherwise, once I let that first distraction grab my attention, I may never get back to the original task at hand.



- **Find ways to say “no.”** Whether you are saying “no” to a person or to an activity, the less you allow yourself to get drawn in by unintended distractions, the better you can concentrate and accomplish your tasks. Author Travis Bradberry writes that saying “no” to a new commitment honors your existing commitments and gives you the opportunity to successfully fulfill them.³ One thing I did recently was to turn off almost all notifications on my phone. I used to get notifications from social networking sites, work emails, personal emails and other applications throughout the day. When I got a new Smartwatch, it started buzzing at me every time my phone buzzed, giving me an unwelcome double shot of distraction. When I turned off almost all these notifications, it drastically decreased the number of times per day that these devices can grab my attention.
- **Spend time in nature.** Researchers Rachel and Steven Kaplan studied the effect that spending time in nature has on one’s ability to concentrate, and they named that effect attention restoration theory. Studies have shown that when research participants spend time walking in nature as opposed to walking in a busy city, they concentrate better.⁴ The reason for this is that spending time navigating the highly distracting city environment creates “attention fatigue.” The more your environment pulls at your attention, the less you can concentrate deeply when you need to. I try to accomplish attention restoration by running—an activity where I don’t have to expend a high amount of mental energy—which allows my mind to take a nice break and restore my ability to concentrate.
- **Tune out.** In a series of trials by social psychologist Jan “AP” Dijksterhuis, participants who had been given a complex problem and then worked on something else outperformed those who actively tried to solve the problem. This led Dijksterhuis to develop unconscious thought theory (UTT).⁵ The unconscious mind is more effective at problem solving than the conscious mind. Newport argues that one of the best ways to activate your unconscious mind is to tune out of your work as soon as you leave the office. Engage in a work shutdown: don’t check emails and don’t even think about work after normal work hours. This will give your conscious mind a much-needed break and engage your unconscious mind, diversifying your mental efforts. “Trying to squeeze a little more work out of your evenings,” writes Newport, “might reduce your effectiveness the next day enough that you end up getting less done than if you had instead respected a shutdown.”
- **Set aside time for deep work.** Psychologist Mihaly Csikszentmihalyi popularized the term *flow* in his 1990 book of the same title.⁶ The concept is that it takes some

time—usually about 15 minutes—to achieve a state of deep concentration. This is time when you must remain focused on the task at hand. When pushing hard to get better at something, scientists believe that myelin grows around the fatty tissue in your brain that helps brain cells to fire faster and cleaner. This is called “deliberate practice,” a term coined by psychologist Anders Ericsson. Specifically setting aside time each day for deliberate practice will improve one’s ability to concentrate and to return to the same state of deep flow in each future attempt. The key is to make sure to schedule the time consistently.

Newport says that the ability to perform deep work is becoming increasingly rare at the same time as it is becoming increasingly valuable in our economy. Some of these tips have helped me refine my ability to concentrate and to avoid distractions during the day. In addition—and more important—studies show that the more deeply we can focus on activities that we enjoy, the happier we are. Author Winifred Gallagher summarized this phenomenon as “who you are, what you think, feel and do, what you love, is the sum of what you focus on.” Try putting some of these tips into practice, and most important, be aware of where, when and how you focus most deeply on tasks. This will help you make changes and improve the quality of your own concentration. For in the end, the way that we choose to focus our attention can determine the quality of the lives that we lead. As Gallagher summarized about the effect of deep work on the quality of her own life, “I’ll live the focused life, because it’s the best kind there is.” ■



Mitchell Stephenson, FSA, MAAA, is chairperson of the Leadership & Development Section Council. He can be reached at Mitchell.stephenson@prudential.com.

ENDNOTES

- 1 Newport, Cal. 2016. *Deep Work: Rules for Focused Success in a Distracted World*. New York: Grand Central Publishing.
- 2 Bates, Sophie. 2018. A Decade of Data Reveals That Heavy Multitaskers Have Reduced Memory, Stanford Psychologist Says. *Stanford News*. October 25, <https://news.stanford.edu/2018/10/25/decade-data-reveals-heavy-multitaskers-reduced-memory-psychologist-says/>.
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The Lessons I've Learned

By Tim van Laarhoven

At the time of writing this article, we had just begun a new year—2019! At work, year-end reviews had just wrapped up, and I had spent the holidays with my parents and in-laws back in Minnesota. As is common with a new year, I'd been thinking a lot about my past year, as well as what I wanted to accomplish in 2019. But thinking about the upcoming year doesn't come without some healthy reflection about where you've been in the past, which takes me back to a few key points in my career and education.

The first happened in April 2012. I was a sophomore in high school, and I was making a big decision—continue my studies at the private school where I could take AP classes or enroll full-time at the University of Minnesota via my state's PSEO¹ program, which came with an hour commute and total elimination of any “high school experience.” I ultimately decided on the latter, but the decision didn't come without losing touch with some great friends. Studies commenced, and I learned a lot about myself, discovering that I wanted a career in mathematics or finance but definitely didn't want to study the arts or humanities.

The next key point happened in February 2014. I was deciding between attending the University of Minnesota, where all my credits would be accepted and count toward my degree, or the University of St. Thomas—designated a Center of Actuarial Excellence (CAE)—which had a dedicated actuarial science program but wouldn't give me credit for many of the liberal arts classes I had taken. I selected the latter, which ended up working out great for me, but at the time, I was foregoing a lot of certainty in the cost of education for a shot at an actuarial program that I had heard good things about.

The final key point occurred in August 2016. I had a semester left of school, and I had just finished an internship at a consulting firm. At the time, I was living in Minneapolis, and I wanted to move to Denver to be closer to my high school sweetheart (now wife), who was still attending school. The firm that I interned at wasn't able to make that happen, so I reached out to a recruiter at my current company. They were hiring, and I managed to get a job offer. I accepted and my career was set to start.

My first two years have been incredible, but I learned some lessons fast. I hope that my sharing the things I've learned over the past few years can help you in your career or help you reflect on how far you've come.

- **Don't take more work than you can handle.** It's tempting when you first start out to pick up as much work as you can (especially in consulting), but generally that leads to a measurable decrease in quality. Give yourself time to ramp up to full capacity.
- **Double your time estimate.** This goes hand in hand with the first point. When you have no experience estimating how long something should take, you should give yourself more than enough time to complete the task. As I've started estimating the cost of projects, I've generally doubled the time I think that it will take, because almost without fail some sort of complexity comes up that I didn't anticipate at the beginning, and it's a lot easier to come in under budget than getting burned by going over. As appropriate, leverage experience of those you're working with to help review your estimates.

I hope that my sharing the things I've learned over the past few years can help you in your career or help you reflect on how far you've come.

- **Own your mistakes.** If you're anything like me, you're going to mess up a lot when you're first learning something. And there's a big difference between messing up your second time and messing up your tenth time. One of the lessons I learned was taking ownership of my mistakes and working with my project manager to lay out concise, detailed ways to improve my work in the future. Having this list helped both my project manager and myself evaluate how I improved over time.
- **Think like your project manager.** I feel this is the most important lesson that I've learned so far. When I first started, I found myself “finishing” work, hitting send on the email to my manager and moving on to the next thing I needed to complete. I didn't think about (1) what she would be checking when she reviewed my work and (2) what she would do with my finished work product. Once I started thinking about these two things, my quality of work



increased, because I was thinking through what she would be checking and doing those checks myself, and I started thinking about the exact output she would need for the next step, cutting down on her review and my work time.

- **Be reliable.** Knowing that you can be counted on to meet deadlines you've agreed to makes you a key player for your project manager and your company. Instead of having to make periodic reminders to check in on you, your project manager can just note that the deliverable is due in five days and that it's in your court, allowing your manager to focus on more pressing issues. In the event you don't think you'll make a deadline, be upfront and honest about missing it as soon as possible, as your manager may be able to help you find some help or extend the deadline.

- **Manage your to-do list.** Your manager has a to-do list, and so should you. As my role has grown at my work, more responsibilities have been assigned to me, some of which are delegated to another analyst. Keeping track of deadlines, things owed on a certain date and steps that have been assigned to someone I'm managing can be really challenging. It's painful to completely have something fall off your radar only to get emailed by your manager a day before the deadline asking for an update.
- **Master an email organization system.** Piggybacking off the previous bullet, it can come across as very unprofessional if you lose track of emails. Doing some upfront work to set up an effective system to track the status of emails, and thus tasks, will save you huge amounts of time in the long run, as well as increase your reliability.
- **Be concise in your emails and communications.** Measured as a function of salary, time is more valuable the higher up an employee is in your company. Taking 30 minutes of the CEO's time "costs" a lot more than 30 minutes of the intern's time. Remember this when asking people for five minutes of their time to quickly chat, or sending a long detailed email when a shorter email may have sufficed.

In closing, I've learned a lot from the mistakes I've made. Although it sounds trite, mistakes make us who we are: take responsibility for them, do better and move on. Hopefully, my list of lessons learned helps you in your long and successful career! ■



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ENDNOTE

- 1 Postsecondary Enrollment Options (PSEO). Learn more at <https://education.mn.gov/MDE/fam/dual/pseo/>.

Overcoming SOA Preliminary Exams

By Krissy van Laarhoven

I am currently a sophomore at the University of Minnesota, studying actuarial mathematics. I have passed four exams in just a short 16 months, and I am currently studying for the LTAM (Long-Term Actuarial Mathematics [April 2019]) exam. I'd like to share some of the tips I've developed from my sittings for preliminary exams.

One question I have often been asked in internship interviews is "How have you passed so many exams already?" My generic response was to briefly explain the steps I took in preparing for an exam—essentially a practice exam a day and then diligently reviewing questions I got wrong until I understood each concept. The interviewer usually said something along the lines of "Wow, that's a lot of work and time." My method takes a lot of time, and certainly there are many other things I would rather be doing than taking practice exams, but I run under the banner that it'll all be worth it once I'm credentialed.

THE PROCESS

Here are the high-level steps I've used to pass four exams while studying at the university:

1. Read, study and take notes on the exam's manual.
2. Use a practice exam program for 30 to 45 days.
3. Final touches before the exam.
4. Take the exam.

I understand that some readers will be employed full-time and may not have the time to study at the same level as I describe in my process. I've noted some modifications that I've made during finals or when I was too busy with sports to strictly adhere to my ideal method.

STUDY THE EXAM MANUAL

I spent 10 to 15 days reading and taking notes on each exam's manual¹—this included working through all the examples in the text. I personally used a formal study program manual, but I'm sure any study manual you use will work. While going through the material, on a printed-out formula sheet, I added my own

notes and helpful tips. For example, while studying for Exam P, I added a small note on tabular integration, which was a useful and quick way around integration by parts.

When I was short on time, I would limit my studying of the manual, prioritizing practice exams over learning everything in the manual.

I believe walking into the exam room overprepared feels a lot better than rolling the dice when you're underprepared.

USE A FORMAL STUDY PROGRAM

For Exam P, I took increasingly difficult practice exams every single day for the 30 days leading up to my sitting, with the ultimate goal of reaching a score of 70 percent or higher on practice exams that have approximately 7 out of 10 difficulty. Whenever possible, I took the practice exams in one sitting, to simulate the real exam's environment. On the first five or so practice exams, I would use the formula sheet just to start to get comfortable with it. After those initial practice exams, I no longer used the formula sheet except to add more of the obscure notes that I picked up along the way in the review process.

The key to my method was that if I did not confidently know the answer to a problem, I would leave it blank. I would still try most problems, but if I ended up not being confident in my answer, then I would leave the solution blank and mark it for review. After receiving back the graded/corrected test, I marked each problem I left blank or got wrong and reviewed them. I took special care on the problems I got wrong because, to me, that meant I thought I understood the problem, but I didn't really know what the question was asking. During this review, I make sure I fully understand how to do a problem before I move on since my review process will have me revisiting the problem in the next few days.

The following day, prior to taking another practice exam, I review each of the practice problems from previous exam(s) that I still had flagged for review. I revisit each problem and try and solve it on my own, without looking at the solution. If I answer it correctly this time around, I unflag the problem and move on. If I am still unable to solve it on my own, I *relearn* it and leave it flagged for the next day(s). I repeat this process until every flagged question on each previous exam is revisited.

Following is an example of what Day #3 would entail. I would revisit 10 flagged problems from Exam #1, successfully solving 5 of them and leaving 5 problems flagged. I would then revisit 15 flagged problems from Exam #2, successfully solving 7 of them, leaving 8 problems flagged. Then, I would take Exam #3. I scored a 17 out of a 30, meaning that I would flag 13 problems. I would attempt to learn the 13 problems during my post-exam review, leaving them flagged for Day #4's review. After a few exams, I started leaving a Post-it on my laptop with each practice exam's number and the number of questions I still had left to review from it—this ensured I wouldn't be wasting time clicking through exams without any remaining flagged problems.

Your score on practice exams will slowly go up after you start recognizing problem types from your reviews. For those attempting their first actuarial exam, know that when I took my first practice exam for P, I was only able to successfully complete 6 of the 30 problems. It was very overwhelming for me at first, so I highly recommend allowing more time for reviewing the

first few practice exams. It will get easier. Being overwhelmed at first is par for the course.

When I was short on time, I would alternate a day of thoroughly attempting, reviewing, and learning problems I'd missed in the past with a day of taking and reviewing a new exam.

FINAL TOUCHES BEFORE THE EXAM

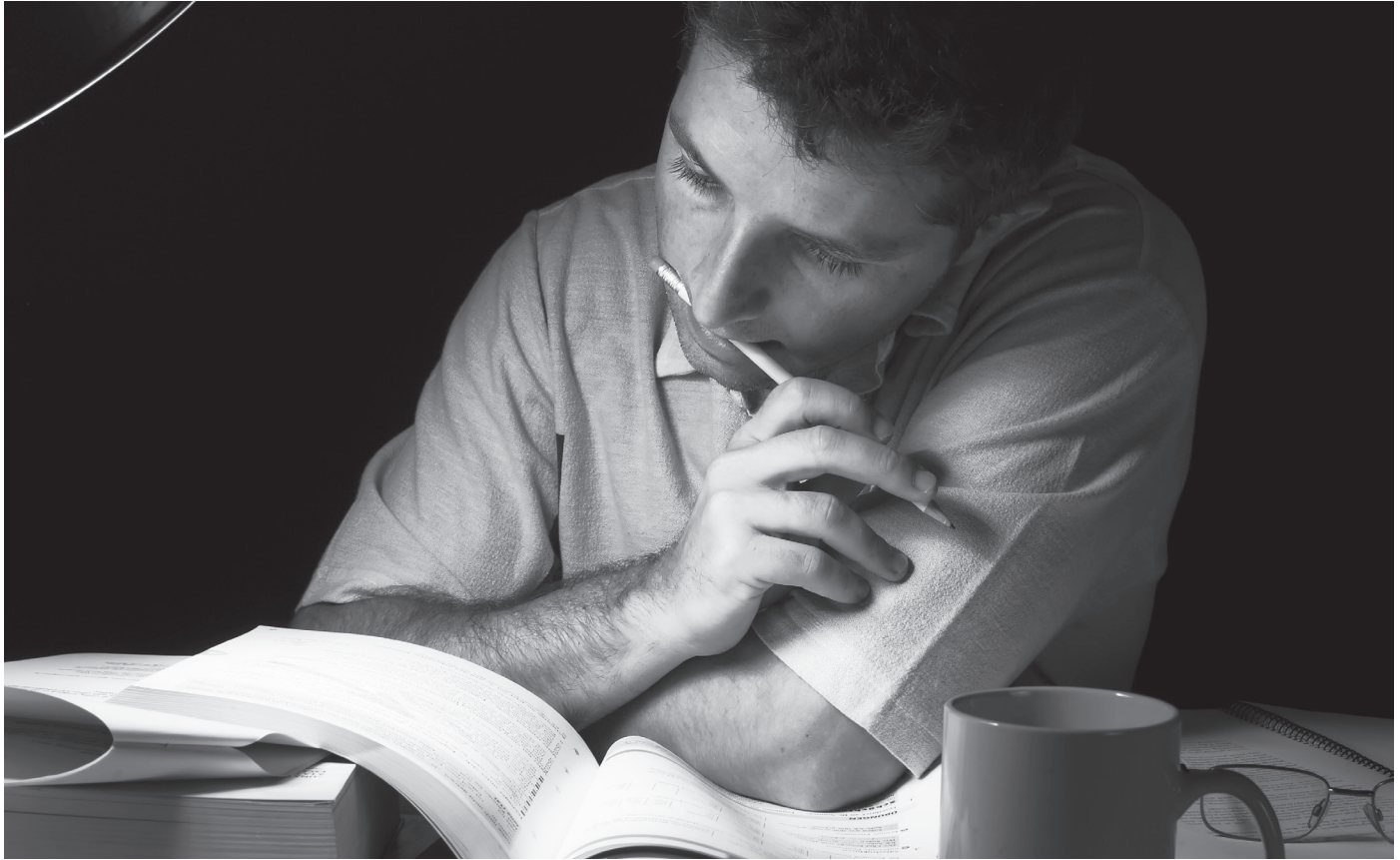
After you reach "level" 7 (out of 10) practice exams, most of the hard work has been done! Depending on how far out from the exam you are, start alternating practice exams with problem difficulty levels of between 5 and 6, as I've come to believe that spending time reviewing problems with a difficulty of 8 or higher is a waste of time. In addition, at this point, I really focused on re-creating exam conditions, such as one straight sitting, no formula sheet, number 2 pencils and unlined scratch paper. This might seem over the top, but it really helped me get over the test-day jitters.

Depending on the number of days remaining before the exam, I would take a few practice exams using only past SOA questions, just to get a feel for the types of questions that have actually appeared on past exams. I think the exam prep program I use has done a great job modeling their practice problems on the SOA questions, but doing this gave me a little more confidence heading into the final exam. I would also work on a few daily quiz topics that I struggled with (the exam prep material I used had an easy way to identify these weaknesses by topic).

Here is some more advice that you might find helpful:

- I rigorously tracked study hours using grid paper once I started taking practice exams. It kept me honest regarding how much I was really studying.
- Give yourself an off day as needed for work, school or mental health.
- Make sure to develop good habits and trust the method that works for you.
- Skip questions with a difficulty of 8, because in my experience, they are not worth the time it takes to learn them. These won't be the types of problems that are the difference between a pass and a fail.
- Take care of yourself. Don't put too much on your plate and expect to succeed. Take time for physical activity and maybe hang out with friends (occasionally).





- Hope for the best, prepare for the worst. There will be problem types that you have to repeat for multiple weeks—but if you’re patient, you’ll get them eventually.
- Learn tabular integration. It is not fun, but in my experience, it will save you time on more than one exam.
- Keep old study exam material—for me, this has mainly been formula sheets with added notes. I have found FM and P material to be an *integral* part of all of the other exams I have studied for (pun shamelessly intended).

I’ve had some other actuarial students casually dismiss my method as overpreparation, but I believe walking into the exam room overprepared feels a lot better than rolling the dice when you’re underprepared. Everyone has their own method, but I hope this

article gives you some good ideas to use in your exam preparation process. Good luck to those of you who are taking exams! And remember, a practice exam a day keeps the fails away. ■



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ENDNOTE

- 1 For Exam C, there was a very large amount of material, and I started only 45 days out, so I began taking practice exams. I would absolutely recommend giving yourself more time, considering that I scored a 6 on the exam, was stressed for that month and a half and had limited conceptual understanding.



MARK YOUR CALENDAR

ERM Symposium

May 2–3 • Orlando, FL

Life and Annuity Symposium

May 20–21 • Tampa, FL

Practical Predictive Analytics Seminar

May 22 • Tampa, FL

Accelerated Underwriting Program Development Seminar

May 22 • Tampa, FL

InsurTech LTC Conference

May 30–31 • National Harbor, MD

China Symposium

June 13–14 • Guiyang, China

Asia-Pacific Annual Symposium

June 17–18 • Bangkok, Thailand

Health Meeting

June 24–26 • Phoenix, AZ

Underwriting Issues & Innovation Seminar

July 29–30 • Chicago, IL

Supplemental Health, DI & LTC Conference

Aug. 5–7 • Nashville, TN

Valuation Actuary Symposium

Aug. 26–27 • Denver, CO

Predictive Analytics Symposium

Sept. 19–20 • Philadelphia, PA

Investment Seminar

Oct. 27 • Toronto, ON

Annual Meeting & Exhibit

Oct. 27–30 • Toronto, ON



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Changing Specialties

With Matt Easley, Dan Ryan and Laura Wiland

This article originated from a panel discussion of the same title that took place at the 2018 Society of Actuaries (SOA) Annual Meeting & Exhibit in Nashville, Tennessee. The panelists, Matt Easley, Dan Ryan, Lori Weyuker and moderator Laura Wiland, shared their experiences in changing specialties during their careers. For this article, the following panelists contributed their thoughts.



Matt Easley, FSA, MAAA, has served as senior vice president, Global Acquisitions, for RGA in St. Louis for three years. Recently, he was named as the head of innovation for Global Financial Solutions. His career includes more than 30 years of U.S. product and market background in various roles, including pricing and product development, liability portfolio management, ALM, underwriting, modeling and financial reporting for various life insurance, individual annuity, group annuity and worksite products. Prior to working at RGA, he held various roles at Nationwide, Allstate and Athene. He can be reached at measley@rgare.com.



Dan Ryan is the president and CEO of Ryan Search, which provides retained executive search services for clients in the design, construction and health-care markets. As a Vistage Chair, he teaches business leaders to maximize their own personal skill set and how to work with others to learn how to grow their businesses. Dan is a Fellow with the American College of Healthcare Executives and he also has earned the SCP designation with the Society for Human Resource Management. He can be reached at dan@ryansearch.net.



Laura Wiland, FSA, MAAA, has worked as an actuary since 2005 and achieved her FSA designation in 2009. In her tenure as an actuary she has worked for five different companies, three large stock insurers, a privately owned life settlements company and a small-sized mutual insurer. She has fulfilled more than 10 different roles, getting experience in pricing, product development, financial reporting and corporate actuarial but has remained in the life insurance specialty, with all of her roles focusing on life and annuity products. She can be reached at Wiland.laura@pennmutual.com.

Opportunities frequently come in the guise of change within a company or industry and the person who is willing and able to adapt to the changing environment can benefit from these opportunities. Whether the change is voluntary or involuntary, there will always be challenges faced and benefits reaped; and the more you prepare yourself for the possibility of change, the quicker you'll be able to adapt.

Change can include moving between product lines, between actuarial disciplines (i.e., financial reporting, pricing, product development), between actuarial and nonactuarial positions, between different types of employers (i.e., insurance, reinsurance, consulting) or between established companies and start-ups.

In this article, the authors share personal examples of change, including tips on managing in the new environment and methods to prepare for future change in advance.

Q: What was the driver of the change you made?

Matt: One of the hardest changes for me happened when I was moved back into annuities after I had spent three years learning the life insurance business. Coming out of college, I started as a pension actuary and then annuity actuary for the first 20 years of my career. I took the plunge and switched into a position leading our variable life area, which included VUL and COLI/BOLI. It was exciting to branch out into a new area and I was learning a lot.

After three years of digging in and learning about life, I was moved back to the fixed annuity area as part of a bigger reorganization. The new job was not a bad place to land, but I was disappointed to get moved out of the life area after all that work. It was not easy to keep a good attitude initially, and I had to settle a few things for myself.

- It was not a good time to make a move from a personal point of view. We had a large investment in the Columbus area, including kids in the schools and sports.
- Also, no one was asking! Starting a search from a position of weakness was unlikely to yield a positive outcome.
- I needed to engage in the new job and continue to add value. It was the smart choice.

I remained in the fixed annuity area for four years and ultimately had a great experience. Then, the phone rang and Allstate was looking for someone to head life product. After a tough decision, we made the move to Chicago. This was a move up and a move back into life insurance. It was a big change and far better done on my own terms and as a positive event.



Dan: My story is different, not having worked in the actuarial world. With a degree in physics, my initial roles were in the technical or technical leadership areas. While working for a Japanese-American joint venture in the middle 1990s, I decided to leave behind my work in the industrial space and pursue a role as an HR leader in the nonprofit world. My last industrial role was one I had pursued for two years and six months, but after getting the role, I realized that it was not what I wanted to do for the rest of my life.

I made the switch to the nonprofit world while completing a second master's degree in human resource development. There is much, much more to the story, but this period in my life is one I now look back on with great fondness, because that time and that degree changed the course of my life and my career.

Laura: I haven't had any specialty changes, but I do have experience changing companies. I have changed companies five times in the past 13 years and have found that the reasons for those changes, as well as the challenges faced when making those changes, align closely with a change in specialty.

My first company change was the result of a bad management situation. I was fewer than two years out of college and did not have the emotional maturity necessary to deal with the situation appropriately, so I decided to leave and find a new job at a different company. My second company change was the result of a geographical move to be closer to family. This move came early in my career when I didn't have a lot of roots in the current area and relocating was a simple decision of where my fiancé and I wanted to raise a family.

My third company change was made after nine months on the job and was driven by an incompatibility between the company culture and me. I knew almost immediately it wasn't going to work, but it took me more than six months to find a role where I thought I'd be successful for a substantial amount of time. My last company change came after seven years and was driven by a conflict of interest that arose from working at the same company as my husband. There were other changes going on at the company as well, and it seemed like an appropriate time in my career to make a change and get some separation in our professional lives.

On the surface, my reasons for leaving aren't likely to spur specialty changes, but in trying to seek out alternative employment opportunities for any reason you may decide a change in specialty is the best path forward. I think it's important to find opportunities that will allow you to grow and develop, both personally and professionally.

Q: What challenges did you face when changing specialties?

Dan: One of the greatest challenges I faced when changing from technical leader to HR leader was the fact that I had no peers; no network in that field. This was overcome with the help of three to four leaders in the HR world who chose to help me build that network. Their introductions and inclusion allowed me to build a really robust network that I can still rely upon today. I'll never forget the kindness of those friends who helped me build those initial contacts. As a result, I am almost always available to help others when they have the same need.

Matt: When you start in a new area, the focus needs to be on learning and staying humble. You are not the expert and no one is going to find you believable in that role.

- **Get into learning mode.** In the new area, you can learn from people in all three directions. The person who hired you has a vested interest in seeing you succeed and may be a great source. However, the people who work for you probably know more than you do. Listening to them and learning from them is generally a good way to start to lead. Finally, your peers will know a lot, and your interest in understanding their perspectives and concerns can be a great way to start those relationships off right.
- **Find ways to contribute from what you know.** When I started in the life area, I had a lot to learn. But I knew more about ALM from my annuity experience and I was able to add a lot to the conversation about the appropriate asset portfolio for the BOLI business.
- **When in doubt, ask questions rather than trying to give answers.** Your experience can give you the edge in asking

insightful questions, while trying to answer questions when you are not the best expert in the room is likely to lead to disaster.

- **Find ways to learn when no one is looking.** Reading, studying for certification exams and reviewing continuing education materials can help you stay current. Don't get so caught up in the daily routine that you forget that you still have to do your homework.
- **If the move was not your choice, the important thing is to stay positive.** Life is more fun when you stay engaged, and you need to do the same things to succeed in the new job whether it was your first choice or not.

Q: How do you think about the cost of change vs. the benefit of change?

Matt: Figure 1 is a tool that I have used in mentoring discussions with a wide variety of people at different stages in their career. It is also the way I think about managing my own career. It seems simple, but it works effectively in a variety of situations.

Figure 1
Intersection of Passion, Skill(s) and Need



- If you are not good at something, it is hard to see how that will go well. Understand your own strengths and weaknesses. Be honest with yourself and be open to feedback from others. Identify areas for improvement.

- If you don't like the thing you are doing, how long will you remain satisfied? Even if you are good at something, you may not enjoy it. I believe this is a major trap. The definition of success is frequently viewed in terms of money and status, while true job satisfaction can come from different things. Even in the same career hierarchy, the content of the work changes as you move up. Being a great actuary is different from managing actuaries or being a senior leader with an actuarial background. Everything you add comes at the price of leaving other things behind.
- If no one is willing to pay you to do something, it is a hobby! You can enjoy it, you can spend time on it, but don't confuse it with your career. Go into such a thing with your eyes wide open about the implications for your lifestyle and that of your family.

The best opportunities exist when all three of these criteria are met. Giving up too much on any of the three can lead to problems. Also, your situation can drift over time. We see different specialties go in and out of favor in the actuarial profession depending on regulatory change or hot product markets. Don't assume that your situation is the same as it was three to five years ago. And keep thinking about new areas that might fit your criteria. You never know when you might be invited to the dance.

Dan: There are many costs involved when you choose to change your career. The first is the loss of comfort in an industry or role you knew well and the second is the cost of time/money that will be incurred when you choose to retool yourself. When I think of this kind of change, I always revert to the story of explorers who "burned the ships" when they arrived in a new land. By doing this, they ensured that they would have to move forward with their new choice. I am not saying there is never a path to return to where you might have been, but I would also encourage you to think hard and plan your transition so that you minimize your interest in ever turning back.

Q: How can someone best help themselves prepare for a change?

Matt: Let's assume for this discussion that you have a particular target in mind. You are preparing yourself either in the hope of being chosen or with the knowledge that you may be called upon for a new position. What can you do ahead of the change to improve your odds of success?

- **Consider what new demands will be placed on you in the new job.** Are you being asked to lead a team (or a larger team) for the first time? Are you going to be shifting from doing things yourself to getting them done through other

people? Are there new technical specialties that you will need to master? Are there new people that you will need to get to know?

- **Create a development plan for these areas.** Think about how you can learn about them during the period before you start the new job. The technical material is the easiest, but there are books on being a new manager that only take an afternoon to read. On the people, setting up time with some of the key people may be possible. If not, see what you can learn about them from their bios, by Googling them and through other people. Read articles that they have written and be aware of anything larger like a published book.

Plan your transition so that you minimize your interest in ever turning back.

- **Plan with your new boss.** They have a vested interest in seeing you succeed. Get their input into your preparations. You may never be in a better position to look at doing an outside training class. Your new boss is likely to see the connection between a particular class and your success in the new position. They may not pay the entire cost, but it may be worth it if they allow you the time and help with the cost.
- **Think about what your role will be in the new position.** Be ready to ask dumb questions; don't feel compelled to be the "answer person"; think about what you bring to the position and consider how you want to be perceived. Also, be ready to bring energy to the position starting out. Get your diet, exercise and sleep in order if you have been slacking off. You will need to be at your best to make an impact.

Laura: Again, I haven't technically switched specialties, but I can speak to some of the things I've done throughout my career to make sure I'm always ready for change—whether the change is to a new company, a management position or to a new role internally.

MENTORING PROGRAMS—FORMAL AND INFORMAL

- I've been at two companies that have had formal mentoring programs and I got involved in both of them (as someone seeking mentorship).
- I've also had informal mentor relationships, mostly from role changes where I made sure to stay in touch with my previous manager.



- Mentoring, whether formal or informal, gave me a way to seek guidance and learn from others outside of my immediate area of focus. It also helped me build my network.

BUILDING/MAINTAINING A NETWORK OF ACTUARIAL CONTACTS

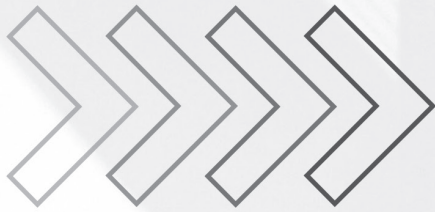
- Through my various company and role changes, I have built a large network of actuarial contacts. Subsequently, these people have changed jobs or companies and the network keeps growing in terms of areas of expertise or geographical location where I know people.
- A large network of contacts comes in handy when you're looking to make a change because it gives you a wide array of people to contact for advice, personal experience or even a referral.

VOLUNTEERING FOR ASSIGNMENTS OUTSIDE MY IMMEDIATE JOB RESPONSIBILITIES

- I've volunteered for assignments outside my immediate job responsibilities a couple times in my career, and it is a great way to expand your knowledge, build your network and develop yourself personally and professionally. All of which will be benefits if you have to make a change (either voluntary or involuntary).

Dan: Change is hard and anyone who says it is not is either dishonest or unaware. One of the best ways to prepare for change is to think about what you wish to accomplish by making a change and visualize how you will grow and improve and affect those you support. When we change, our change not only impacts our life, but also affects the life of those around us. In 2006 I gave up my day job and embarked on a full-commission career in the executive search world. This also happened to be the first year of a six-year span where I would have a son in college. While we had saved for years in preparation for this moment, there would also be ongoing expenses to be incurred. Did I mention that this six-year span also included 2009–2010, the two worst economic years of my life? I could have never done this successfully without having kept my wife fully involved and listened to her input both before 2006 and during this six-year span. My change impacted our entire family and I always kept this in mind.

Coworkers or friends going through change will go through psychological and physical challenges as they consider, enter and sustain their change effort. As a manager you can become a great resource by being a sounding board, coach, mentor or just a friend. Many times your colleague will be looking for pure, unadulterated feedback. Learning how to provide this feedback can help you as well as being a great assist for your friend. ■



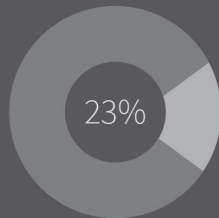
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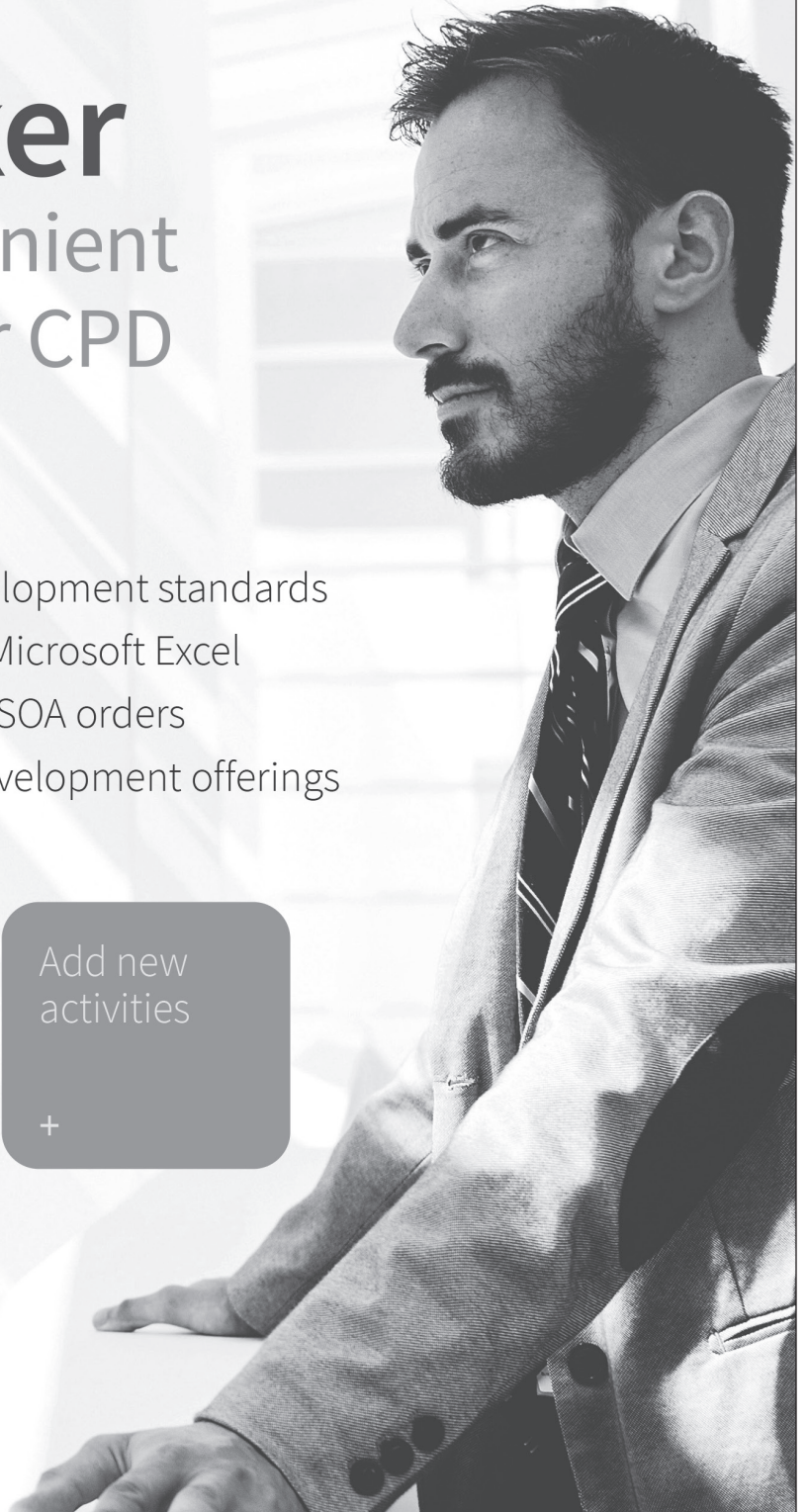
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Applying Predictive Analytics for Insurance Assumptions Setting

By Lenny Shteyman

Isn't it amazing that online retailers seem to know so much about us? I recently bought a new phone, and the next time I logged online, the retailer showed me samples of phone cases. As my niece's birthday approached, the site knew I might be looking for another gift online and showcased a few ideas. This is not your old-fashioned customer profiling of the 20th century. This is a fully automated and *individualized* customer-level calculation, designed to predict short-term spending interests *in real time*. For millions of customers, this process miraculously refreshes again and again, based on the new information it receives.

Insurance companies are now looking to catch up with big tech to enable them to make better, faster and bolder decisions. Actuaries, responsible for pricing or assumption setting, are evaluating opportunities to integrate predictive analytics into their work. For those who have not yet switched from traditional actuarial techniques to a 21st-century toolkit, let's first start with professional geography:

- **Short-term versus long-term products.** Elaborate predictive techniques became a staple for Property & Casualty (P&C) and health-care insurance companies, largely due to data availability and projection horizons. Unlike life insurance companies, which experience fewer transactions but often focus on long-term risks and predictions, P&C and health-care companies have many more transactions per client.
 - **Company size.** Larger companies typically have more mature governance models and could experience a larger financial impact from an assumption switch. If the in force is small, on the other hand, it's easier to accept material changes in methodology. All else equal, there will be fewer challenges to make a switch in a smaller company, although own data of a smaller company might be insufficient for building a predictive model.
 - **Pricing versus valuation.** A product cannot be priced and launched without new assumptions, which can make it easier to adopt a new technique for pricing. The financial reporting function, on the other hand, already has an established assumption for its in force. Switching away from established assumption will require a justification and business case.
- There are many benefits of using advanced techniques: using own data more efficiently, consistently capturing insights into main drivers, discovering new predictors, developing a more granular view, reducing future reliance on business experts, repeatability and reproducibility of research, and so on. With that said, for an actuarial assumption-setting purpose specifically, I believe it is reasonable to suggest exhausting “small data” solutions before jumping into “big data” ones. Not every actuarial problem merits a build of a statistical model, although the most interesting and complex problems are certainly good candidates. Whether tackling the advanced techniques on your own or collaborating with IT and data scientists, consider this high-level list of questions:
- **Success definition.** What will make this project successful?
 - **Data availability.** Do you have enough clean and relevant data?
 - **Granularity.** Will you need a granular answer? (e.g., customer or producer level)
 - **Problem complexity.** Are you solving a complex multi-dimensional problem?
 - **Prediction period.** Will you need a short-term prediction or classification? (versus long-term prediction)
 - **Calculation frequency.** How often will you be repeating this calculation?
 - **Business impact.** Are you ready to justify the cost and duration of a predictive analytics project?
 - **Implementation constraints.** Are you free to implement the solution as you see fit (versus how actuarial projections software recommends)?
 - **Transparency.** Can decision makers accept complexity or reduced transparency when the model is first developed or enhanced?
- If you answered yes to at least six of these questions, you should consider adopting a predictive model.

Let's elaborate on these high-level dimensions.

SUCCESS DEFINITION

Data scientists are not magicians; they are business professionals and success definition is critical to all projects, not just predictive ones. Even though deep learning allows one to search for relationships not previously known, and artificial intelligence sounds like a self-improving magical golem, success of a predictive project needs to be specific and measurable. What do you want to learn more about? Are you looking to make predictions for probability of a customer buying a product? Assign an underwriting class? Determine a price? Determine expected success rate of a conservation effort? Achieve a certain minimum financial impact? In addition to success being measurable, it is crucial to communicate what insights already exist, why they are insufficient for the big question and most important, what will you be able to accomplish with the future predictive findings and insights?

DATA AVAILABILITY

Data scientists cannot provide quality insight without a large amount of relevant data. Further, quantity of data is not the only dimension to consider. For example, male data would not be relevant for predictions made regarding females, and nonsmoker data would not be relevant for predictions made regarding smokers. Another example—some interest-rate-sensitive products use dynamic lapse formulas that depend upon the level of

interest rates. Since we have not observed 10 percent—or zero percent—interest rates during the lifetime of such products, even if general amount of lapse data is satisfactory, the amount of lapse data in the high and very low interest-rate environment is nonexistent. Any model making extrapolation predictions based on nonexistent data will be weak.

GRANULARITY

A prime example of granularity is predictive underwriting that could lead to customer level pricing. If the business decision is made at a granular level, the prediction must be made at that level as well. In some cases, however, granularity isn't always needed. The assumptions for financial reporting are often set in aggregate. While it might be tempting to set assumptions at the most granular level possible to use as building blocks for all future uses, this could be prohibitive due to data availability and project costs. At the same time, a more granular assumption would be beneficial for a scenario when conditions change, or population mix shifts over time.

PROBLEM COMPLEXITY

There are many dimensions and potential predictors of customer mortality or behavior. If current assumptions are no longer satisfactory, it might be more efficient to capture all such new insights in a predictive model. Another reason why a classical technique might be lacking is due to interdependencies. Size of a policy, for example, could signal a customer's ability



to access higher quality medical care, efficient decision making while utilizing riders, and so on.

PREDICTION PERIOD

As previously mentioned, there is a distinction of short-term versus long-term products. Even with long-term products, some questions focus on the short-term horizon. Predictive underwriting is an example of a classification problem, which identifies the underwriting class and price level to assign to a customer. Similarly, predicting a customer's propensity to react to an in-force management action could work very well for a short-term horizon, provided the model is sufficiently trained, but not necessarily for a long term. The long prediction period challenges could be partially mitigated if the observation data period is long enough.

CALCULATION FREQUENCY

Each year, assumptions are updated for financial reporting. The customer-level pricing engine, however, could be run multiple times per day. For example, companies that have success in automating pricing on smaller contracts, which would be otherwise cost-prohibitive to bid on, demonstrate this is a clear win for predictive analytics.

BUSINESS IMPACT

The timeline of a predictive project is not short. The process includes understanding the data and performing the analysis, performing data cleaning as necessary, understanding known insights and achieving a satisfactory solution for the stakeholder. Obtaining a buy-in from the decision makers can also be challenging and time consuming. Some useful models could be built relatively quickly; however, a complete timeline of a successful project end-to-end could sometimes span nine to twelve months.

The cost estimates of a predictive solution need to factor in data storage, acquisition of new data sources, more powerful computers and talent with subject matter expertise. It's not inexpensive to hire data scientists, either. Only the most important and complex assumptions would likely justify the cost and timeline, with understanding that additional insight and granularity will add incremental business value, not just precision to a financial reporting calculation. One also needs to factor long-term benefits of switching to predictive techniques in decision making, instead of short-term gains only.

IMPLEMENTATION CONSTRAINTS

Once a solution passes all the previous tests, it will need to be "productionalized." Ideally, by the time the research is complete, the testing code can be elevated to production. If the assumption must be implemented in an actuarial software package, however,

a few challenges may arise: modeling resources may have other competing priorities, or the package may not be flexible enough to easily adopt a predictive model. There may also be challenges with input complexity, model validation, runtime or model convergence.

One solution is to simplify the assumption used in the actuarial software package. Another is to perform elaborate calculations outside of the software package, such as in an executable file and feeding calculation output into the software package.

TRANSPARENCY

Some nonparametric predictive methods lack transparency. If the assumption model is a complex black box without a strong validation of business sense, the management team needs to decide if they are comfortable using it for pricing decisions. If only the predictive power is demonstrated without clear-cut first principles logic, such a solution may be acceptable for the management of a proprietary trading firm, but culture constraints will make it difficult to adopt such a model for pricing decisions in insurance companies.

A chief financial officer for a life insurance company who focuses on quarterly earnings may not see the value in a logistic model with 50 predictors. However, a simpler model with five key drivers will capture most of the predictive power and stands a greater chance of providing assurance for the CFO. An assumptions model with unpredictable outputs conflicts with the transparency your CFO is looking for from the actuarial team.

It is easy to see why predictive underwriting application for life insurance became popular. It promises economic gains and its customer-level risk selection and assumption setting is closest to what online retailers benefit from. While some precision may be lost early in the process, new pricing insights and operations efficiencies will make up for it. Yet, not all assumption-setting situations are as clear-cut in terms of having the benefits outweigh the costs. In addition to exploring the data, it's as important to use solid judgment, as well as leverage actuarial standards of practice (ASOPs) for assumptions setting, modeling or use of data. Some situations will require quicker and directionally appropriate decisions, based on limited data. Such an environment is potentially more fit for actuaries than it is for data scientists, as actuaries are accustomed to using their deep business knowledge, sensitivity testing and professional judgment. ■



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10 Things You Should Know Before Taking Exam P

By Liji Huang

On my way to obtain the Fellow of the Society of Actuaries (FSA), I made a promise to myself: after crossing the finish line, I would write down things I wished I had known at the beginning of this long journey, to help others who are just starting out. I hope you find the list useful, or at least an interesting read.

GENERAL ADVICE

1. Age Does Matter to Some Extent

As you age, your concentration, memory and health start to go downhill, yet you are competing with people who are much younger to pass exams that are designed to fail around 50 percent of the test takers. For anyone who is not a university

student anymore, especially if you already have children, you should think carefully before choosing this career path. As a career changer, I wrote exam P when I was almost 29. Looking back, I was lucky to have received a lot of help along the way that allowed me to make it to the finish line. I have no kids, I have an extremely supportive partner, I work for a company that supported me with abundant study days and paid for all the study materials, I have a background (mathematical research) that trained me to “buckle down and study” and I passed the FSA exams only with 6–7s.

2. Learn From Failure

If you learn from your failure and keep working hard, then you will have a greater chance to be successful next time. I still clearly remember, when on July 15, 2016, I found out that I failed my first five-hour FSA exam in the morning, and I failed my FAP final assessment in the evening. But I learned from my failures and kept working hard and was able to pass all the remaining modules and exams on the first try. In addition, my feeling is that most FSAs have failed at least once on their way to fellowship; it shouldn't be a surprise that failing is part and parcel of obtaining a prestigious designation.

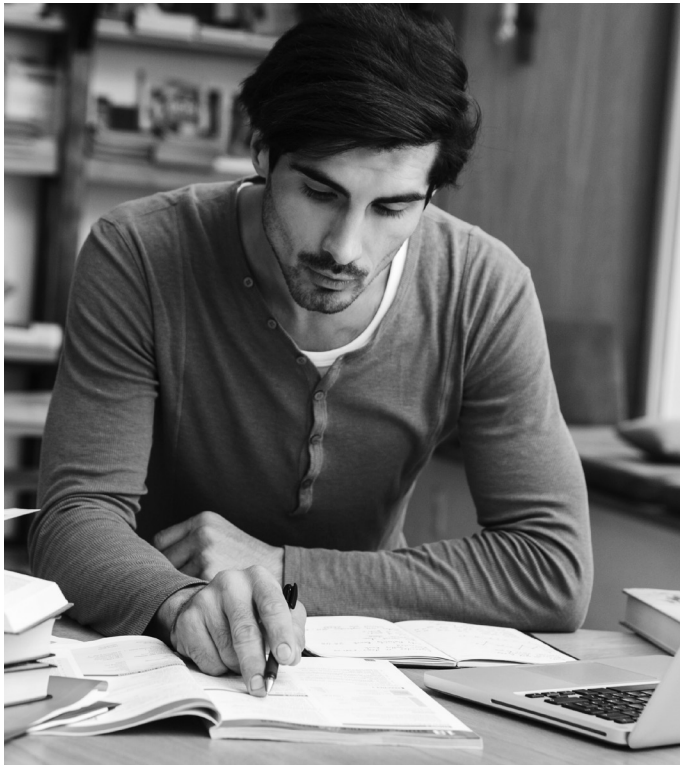
3. Allow Enough Time to Prepare for Exams

All exams require a certain number of hours of preparation to pass. The rule of thumb I use is up to 300 hours for ASA exams, 350–450 for ERM and 450–550 hours for the five-hour FSA exams. Be sure to start early so that you have enough time. However, if you start too early (e.g., more than 20 weeks to prepare), you run the risk of getting burned out and losing steam toward the end, as well as forgetting what you learned at the beginning. In addition, do not sacrifice sleep or your health for exam progress. In the grand scheme of things, the travel time of your FSA designation isn't really that important. On the other hand, any damage to your body will have a lasting and often irreversible effect. This does place emphasis on time management, as it can be difficult to balance work, study, gym and personal life altogether.

4. Avoid Taking off a Sitting

Try to avoid taking off any sitting because you are burned out from studying or want to “focus on the modules”:

- Even if you fail a sitting, you end up going through the material once, taking the exam and getting some feedback on your performance. This would give you an edge on the next sitting over first-time test takers.
- Some sittings are easier *for you* than other sittings. Although Society of Actuaries (SOA) tries to make all sittings equally difficult at a high level, your comprehension of some objectives is better than other objectives, or you might prefer



a certain threshold of qualitative versus quantitative mix. Whenever you skip a sitting, there is always a chance that it is one on which you would have, for whatever reason, performed well.

- You can do the modules at your own pace, but exams only happen as infrequently as twice a year. When I took a sitting off to work on the modules, I eventually realized that it was just an excuse.

I have taken, in total, three FSA exam sittings off for various reasons. Looking back, I regret all three decisions. You can certainly take a sitting off for unforeseen circumstances such as drastic changes in health status, life/work responsibilities and so on, but skipping a sitting should only be your last resort.

You can certainly try to memorize more items once you master the top three of all lists; however, start with three.

EXAM ADVICE

5. ASA Exams Require Practice

The ASA exams require a lot of practicing. There is no magic trick to passing these exams, which is why most of this article focuses on the FSA exams. However, make sure you use the approved calculators to their maximum potential. This is especially true for TI-30XS. I will list a couple of things that most people aren't aware that TI-30XS is capable of:

- Under Table interface, you can enter any one variable (say, x) function f , and then input any value of x and it will spit out the value of $f(x)$:
 - Sometimes you know the equation that the final answer should satisfy, but solving the equation requires a lot of time. If this is the case, then all you need to do is enter the equation into the Table interface, and then use trial and error to test each choice.
 - Sometimes, you forget the appropriate formula, but know how to do a question from first principles, which usually would take a lot of time manually, but the table function makes it possible. I remember a question where I had to calculate the area under a curve of a function (the integral of some function), say, from 2 to 4. I entered this function into Table and wrote down everything from

$f(2)$ to $f(4)$ with a step of 0.25, so $f(2), f(2.25), f(2.5), \dots, f(3.75)$ and $f(4)$. Then I estimated the area assuming that it is formed by a bunch of rectangles. I was able to make the correct choice.

- Under Data interface, a lot of statistical measures can be calculated. I won't list them here but basically, think of it as "Excel" with some predefined statistical functions available.
- The store numerical value to variable function is amazing (the *sto*→ key). When you have to use a specific value over and over, instead of typing it out, store it as, say x , and then you can simply input x every time you use it.

6. FSA Exams Require Memorization

The FSA exams require a lot of memorization, which can be a painful experience. However, there are ways to make the process more pleasant. You have to figure out your own approaches. One of my approaches was creating acronyms. For example, I used "AGRIculture" to help me remember the key points of a good risk *culture*:

- *A*ppetite framework for risk
- *G*overnance and organizational structure of risk
- *R*eporting and communication of risk
- *I*ncentive compensation structure

7. Identify the Most Important Items

For most lists that require memorization, your initial goal should be the three most important items. You can certainly try to memorize more items once you master the top three of all lists; however, start with three. Here are the reasons:

- This is a much more achievable goal than memorizing everything at once.
- You often have to pick three items out of a long list. This process forces you to think about each item and their relative importance. This process also helps you understand each item and make combining items possible. After using this method repeatedly, you will start to see "patterns," that is, when you can draw links between similar lists and topics, you are starting to learn in a qualitative and comprehensive way instead of through mechanical routine and repetition.

Rote learning works perfectly for the ASA exams, but it does not work well for the FSA exams. You should watch every video provided by the SOA before you prepare for FSA exams.¹

8. Don't Try to be Perfect

Never try to be perfect when writing an FSA exam, and manage your time well. Getting a minimum threshold of partial marks



for all questions is extremely important. It takes much less time to score 6 on three questions than to score 10 on one question and 3 on the other two. The former is likely a pass, and the latter a fail. This ties back to my three-item approach already mentioned, as it is much easier to expand on what you know about a question, albeit little, than to make up things about a question that you know nothing about.

9. Know the Syllabus

For the FSA exams, you should know the syllabus very well. I personally found that having a deep understanding of the syllabus helped me build links between different readings and learning objectives. Knowing the syllabus inside out not only helps you see the big picture but can sometimes help you “predict” the afternoon session after you complete the morning session. When I wrote exams, I would always use the time in between to reflect on what objectives from the syllabus have not been tested in the morning and prepare for the afternoon accordingly.

10. Use the ASA Approach for Quantitative Learning

For quantitative learning objectives of the FSA exams, use the same approach as for the ASA exams. That is, do a lot of questions (from old exams, study manuals) and force yourself to know the underlying processes and formulas extremely well. Keep practicing until you can rapidly and accurately solve all past quantitative questions. You often have to do each available

question more than once, because unlike the ASA exams, the amount of available quantitative questions can be quite low. This is especially important if your handwriting speed is slow or your case-writing skills are lacking. If you can get 9–10 for all quantitative questions, and 5–7 for qualitative questions, then you have a good chance to pass.

This list is not meant to be exhaustive or universal, but I hope you find at least three items helpful. In closing, I’d like to point out that you are committing at least four years of your life to achieve a prestigious designation. (In fact, for most people, it is six to seven years.) Therefore, be ready for a long, yet rewarding journey. Do not get overconfident or frustrated by any particular module or exam along the way; focus on the journey and not the results. ■



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ENDNOTE

- 1 See <https://www.soa.org/Education/General-Info/edu-guide-written-exams-seminar-vids.aspx>.

Reflections From Volunteering With the Actuaries Without Borders Global Mentorship Program

By Michael Mendel

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Like many actuaries, I have always had a passion for travel. Early in my career, I always tried to take at least one international trip every year. These vacations produced cherished memories, but I never stayed long enough to really learn a lot about the places I was visiting.

While working for a large, international consulting firm, an opportunity arose to travel to India for a month to work with our offshore actuarial team. I quickly raised my hand.

After completing my fellowship in 2015, I took a short break from my career to embark on a journey around the world. Upon my return, I was interested in ways to get involved with the international actuarial community. This interest, and the International Actuarial Association¹ (IAA) Council & Committee meetings in my home city of Chicago in 2017 led to my involvement with the Actuaries Without Borders² (AWB) Global Mentorship Program (GMP).

For those not familiar with the IAA, it is a not-for-profit organization that serves as the global association of member actuarial organizations. As of November 2018, there were 74 full member (including the SOA) and 25 associate member organizations. It is served by approximately 800 volunteers across the planet and an administrative secretariat based in Ottawa (Ontario, Canada).

Actuaries Without Borders was founded in 2003 and is a section of the IAA. AWB's focus is supporting the IAA in the development, organization and promotion of the actuarial profession in countries in which it is not present or fully developed. AWB provides support, advice and education but does not provide direct actuarial services on a consulting basis.

The Global Mentorship Program was started in 2015 to connect experienced actuaries in mature markets with aspiring actuarial

professionals in countries with fewer actuarial resources. Since its inception, we have paired nearly 100 mentees based in five continents.

As I already mentioned, I first became involved with AWB in 2017. I had been serving as a mentor for several months when I took over as Deputy Program Manager. I was tasked with pairing mentors and mentees. My job seemed deceptively simple at first: create a list of mentors and a list of mentees and make some pairs!

In one sense, this was correct. There were some commonsense criteria to consider. For example, we should pair mentors and mentees who speak the same language and practice the same actuarial discipline. We should try to pair mentees who are seeking assistance with passing exams with mentors who are comfortable tutoring.

However, it wasn't quite so simple. I wanted to take this opportunity to discuss some of the lessons I've learned in my time volunteering with this program both as Deputy Program Manager and as a mentor.

Now imagine you are transported to a company where you are the only actuary.

LESSONS LEARNED AS DEPUTY PROGRAM MANAGER

Many of our mentees face a daunting set of challenges. They often must allocate a substantial portion of their salary to pay for exam registration and materials, although some associations and vendors offer discounts to developing nations. They generally are given no time at work to study, and unpredictable, long commutes to and from work are a staple in many developing nations. Furthermore, they are one of the few people in their company—or even in their city or country—who know what it's like to struggle with actuarial exams.

We receive mentee applications from aspiring actuaries of all experience levels from all over the globe. Through this program, we aspire to help as many as we possibly can. However, it is important to also consider the experience of the mentors when pairing applicants. Developing a solid process to triage incoming applications has made a significant difference in building successful pairings.

It is critical to, as best we can, determine who is serious about participating in the program. Often, it is apparent from an application through an applicant's responses and/or through their career accomplishments. Other applications are missing

critical information or don't show as much effort. We have brought on two assistants to help with this process and reach out to all of our applicants. While this has meant slowing down the process between application and pairing, we believe it has dramatically improved the mentor experience and led to more fruitful relationships.

Provide Clear Instructions

Early on, we had the odd experience of sending an email introducing mentors and mentees and then . . . nothing happened. No one would send the next email, and we had a failure to launch.

It turned out that the vast majority of these instances were due to one of two reasons. The first was the topic already addressed: insufficient vetting. This improved our response rate somewhat but did not explain all of the nonresponses.

After speaking with AWB leadership, we discovered the other reason: our instructions were not clear enough. In the United States (as in other countries from which we receive the bulk of mentor applications), it is generally understood that mentees are responsible for initiating contact with mentors. However, this is not necessarily customary to our mentees. In many countries, junior employees do not typically reach out to their seniors without being specifically prompted to do so. Once we made our instructions clearer, we greatly reduced the number of pairs who did not make initial contact.

Learn to Accept (Some) Failure

Despite our best efforts, it won't always work out between a mentor and mentee. I often took this failure personally, thinking "if I had only made a more logical assignment, it would have worked out better." This way of thinking was paralyzing at times. Why bother doing this work if it will not go anywhere?

While I still struggle with this at times, I have come to accept that some level of failure is inevitable. Some people will apply to the program with the best of intentions only to have life get in the way. Some pairings will never establish the chemistry needed for success. It's important to learn from these failures, accept them and move on.

LESSONS LEARNED AS A MENTOR

I've had the privilege to work with three incredible mentees throughout the past year and a half. In addition, I've spoken to others affiliated with the program. I believe I've improved considerably as a mentor throughout this period. It sounds cliché, but I really feel that I have learned as much or more from mentees as they have from me. The following were some of the most interesting things I've learned.



Challenges Faced by International Actuaries

Most of us start our careers with little knowledge about how to perform actuarial work. Throughout my career, I have relied upon senior actuaries to show me the ropes. Even with more than 10 years of experience, not a day goes by where I'm not asking another actuary for advice or to review my work.

Now imagine you are transported to a company where you are the only actuary. To make matters worse, your boss is a businessperson with little understanding of actuarial science and who has aggressive growth goals to meet. This situation is a typical one for our mentees to face.

The most important task for a mentor is to provide much-needed guidance to our mentees. This can take many forms. I've discussed detailed reserving methodology, Excel best practices, how to be an effective manager and much more with my mentees. Being a mentor is tremendously rewarding, and it is great preparation for newly credentialed actuaries looking to gain experience as managers.

Barriers to Passing Exams

Complaining about actuarial exams with our peers is a time-honored tradition. The exams are extremely challenging and one can work very hard and still have nothing to show at the end of the day.

But we often take for granted certain advantages that do not exist in many developing nations. Most companies offer study time during work hours and pay for actuarial students' exam registration and study materials.

Many of our mentees face a daunting set of challenges. Imagine risking a substantial portion of your salary to pay for exam

registration and materials (it is worth noting that the societies and some vendors offer discounts to developing nations). You are given no time at work to study and you have an unpredictable, one-hour commute each way. You are one of the few people in your company or even in your city or country who know what it's like to struggle with the actuarial exams.

As a mentor, you have the opportunity to help bridge these gaps. We ask each mentor who applies if he or she wishes to tutor a mentee. Through your relationship, you can teach exam concepts, work through problems, and provide emotional support for your mentee.

Recurring Meetings With Clear Goals

I've found, through my own experience and from the experience of others, it is important to schedule recurring meetings with clear goals. I've found every two weeks to be a good frequency, knowing that some meetings will inevitably need to be canceled.

Setting a default meeting time helps make sure the lines of communication stay open. There are often substantial time zone differences, so available meeting times can be limited. The mentee should plan topics for discussion for each meeting. This

doesn't have to be time consuming, but a few minutes of planning can dramatically increase productivity.

It has been a wonderful journey so far with this program, and I look forward to it continuing in the future. Please consider applying to the Actuaries Without Borders Global Mentorship Program. You can find both the mentor and mentee applications online.³ ■



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ENDNOTES

- 1 See <https://www.actuaries.org/iaa>.
- 2 See https://www.actuaries.org/IAA/IAA/Sections/AWB/AWB_Projects.aspx?WebsiteKey=ff59269c-4928-4369-a169-03e74a6bd8ca&hkey=7b07c407-3b06-4b70-a87b-6adc5dfef032&New_ContentCollectionOrganizerCommon=4#New_ContentCollectionOrganizerCommon.
- 3 See https://www.actuaries.org/IAA/IAA/Sections/AWB/AWB_Projects.aspx?WebsiteKey=ff59269c-4928-4369-a169-03e74a6bd8ca&hkey=7b07c407-3b06-4b70-a87b-6adc5dfef032&New_ContentCollectionOrganizerCommon=4#New_ContentCollectionOrganizerCommon.

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