

A Fun (if Snarky) Look at SAS® Certification Exams

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ABSTRACT

This discussion presents generic tips for the SAS® certification exams, as well as focused advice related to the Base Programmer, Advanced Programmer, Statistical Business Analyst, and Clinical Trials Programmer certifications. It also includes a discussion of why certification can be helpful and meaningful. The overall purpose is to inform SAS programmers of the certifications and encourage them to try for certification.

INTRODUCTION

I will begin this paper by stating that it will have a more casual tone than most of my user group papers. I am also attempting for it to have a slightly snarkier tone than usual, for the sake of entertainment. I will begin with some disclaimers:

1. I am not an employee of SAS®, nor is this presentation (other than by merit of being a presentation at a SAS end-users group) sponsored by SAS or intended as a formal endorsement of SAS certification exams.
2. I have not searched for new jobs since getting my certifications, so I cannot state with authority how helpful they are or are not in that regard.
3. While taking a SAS practice exam or certification exam, one agrees to not disclose information about the test items. I intend to comply with that lest I lose my precious certifications.
4. I am not intending to insult the SAS certification process. I think it is pretty awesome.

I am going to discuss the following topics:

1. Why get certified
2. General test-taking advice
3. Advice related to the Base and Advanced Programmer Certifications
4. Advice related to the Statistical Business Analyst and Clinical Trials Programmer certifications
5. Is certification meaningful?

TOPIC 1: WHY GET CERTIFIED

If you go to the SAS certification web page, you can get lots of details on why certification is great and what it means. I will not try to add much to what their sales and marketing team has put together. See their website for details.

However, I can say that it feels good to have a certification backing up your statements that you are a good programmer. While I admit I cannot attest to how useful certifications are in the job market, I am pretty sure that if the only difference between two candidates was one was certified and the other not, the certified one would win. It seems self-evident that certifications in SAS would help you get a job as a SAS programmer.

Also, studying for a certification means you are probably learning new skills. For example, I was a competent SQL programmer before training for the Advanced Programming certification, but there were several tricks I did not know that have since come up very helpful. Studying forced me to learn new things, making me better at my job.

And, lastly, your employer might pay for it. There's no harm – or at least, there should be no harm – in asking if they would pay for you to take a certification exam.

TOPIC 2: GENERAL TEST-TAKING ADVICE

The biggest advice I can give is to take practice exams, if they are offered for the test you want to take. They are not free, but I think they are the best study guides you can get. The practice exams are very

helpful because, in the feedback report, it discusses why the correct answer was correct. This can help you narrow in on where you need to study.

You can also review some sample questions for free online, at the SAS website. Do not look for exam questions posted online at third-party sites. Besides possibly being illegally posted, some also seem to be full of typos and just be blatantly wrong. I was helping a friend study, and he had downloaded some questions from a questionable website, and I was pretty sure a couple were just giving the wrong answer.

Another big piece of advice is to try to remember how SAS syntax generally works. Know how SAS thinks. You might get a question about a procedure or an option that you did not even know existed. However, if you are familiar with how SAS syntax generally operates, you have a good chance at eliminating one or two wrong answers, thereby increasing your odds of guessing correctly. I recall a question on the TTEST procedure, when I did not even know that PROC TTEST existed, yet I'm fairly confident I got that question right because I know how SAS syntax usually works.

Also, remember that this is not a math test. You might have to do some basic addition, subtraction, multiplication, or division. But if you are trying to solve a problem and having to do some convoluted math to get to the answer, you're probably going about it the wrong way.

Lastly, on the SAS certification website, you can download a list of topics for each exam. Go through the topic list and see what you know and what you do not know. Study appropriately.

There is also recommended training and/or reading, but I will touch on that later on when dealing with specific exams.

TOPIC 3: BASE AND ADVANCED SAS PROGRAMMER

I expect that the most beneficial certifications for a programmer are the Base and Advanced Programming certifications. Due to the agreements one signs when taking an exam, I cannot speak to particulars, but I will say a couple general things I noticed about these exams.

For training, the Base and Advanced Certification exams have a prep guides geared towards the exams. Buy it and read it. I also recommend The Little SAS Book. If you are fortunate, your office might pay for the books as a professional development resource. There are also training modules available online, and I think most if not all of them that are recommended for these exams are free. The training might be incredibly dry and boring, but it is worth making sure you have covered every topic you need to cover.

An important word of warning: the questions in the certification prep guides are not meant to reflect the questions on the certification exams. A single question in the certification exam might combine topics from two or three chapters in the prep guide. While the prep guide questions do help you evaluate your knowledge of SAS, rely on the practice exams to get a feel for how the actual exam will be.

For the Base exam, remember that there are lots of ways to read data into SAS through the DATA step. In my job, I usually use one method for reading in data from CSV or text files. However, the exam asks about the plethora of ways you can do that. Take the time to memorize and practice reading data in different ways. You should also review any common procedures, and compare them to the certification guides, to see if they have a feature you might be tested on that you generally do not use. For example, the CONTENTS procedure can do a lot more than just show you the variables in your dataset. Be aware of what it can do.

For the Advanced exam, keep in mind that it is basically divided into three sections: the SQL procedure and language, the macro language, and other random junk. Be a good SQL programmer, learn all the weird and funky ways macro variables can resolve in and out of macros, and memorize the random topics. With that, you should be fine.

TOPIC 4: STATISTICAL BUSINESS ANALYST AND CLINICAL TRIALS PROGRAMMER

Although these two exams are very different, I am combining them into one topic because they share the same recommended online training modules. I took the training for the Statistical Business Analyst exam

because, although I have studied statistics, most of my studies were using R. I was curious to learn how to do similar things in SAS. So I paid attention to the two rather boring online modules, studied and practiced some, then passed the exam.

Then I realized that the Clinical Trials exam shared the same recommended training. But I knew nothing about clinical trials, and I did not want to read the series of books that SAS recommended on its website. Thus I went to Wikipedia and read up on SDTM. Between that and the practice exam, I got a good enough knowledge of the clinical trials data and procedures to be able to pass the exam.

As an aside: a good thing to remember is that the clinical trials rules are basically centered on the concept “do not accidentally kill anyone.” If you remember “Safety First!”, you can probably guess a few policy questions. Also, if you are good at memorizing acronyms, that will help you a lot.

So, my recommendation for these is: learn the SAS code via the online training, and then study up on clinical trials so that you know enough to answer the content questions.

TOPIC 5: IS CERTIFICATION MEANINGFUL?

I just talked about how I passed the Clinical Trials certification exam while my only knowledge of clinical trials came from Wikipedia. That makes it sound like that certification does not mean much. However, I will argue the opposite by presenting the exam I did fail: the SAS Platform Administration exam.

I took this exam because I had a promo code for a free exam, and this one seemed to have enough materials online that I could do one training module and then read up on the SAS documentation, and hope to pass. I failed the practice exam, but figured I could use that as a study guide. And it did help a lot, but not enough. I failed the real exam. But I found a promotion for a free retaking of an exam, so I studied up on things I hadn't studied earlier, like Environment Manager and Deployment Manager, and took the test again. And failed again.

Failing that exam made me think about the meaningfulness of the exams. I think it was good I failed, because I really did not know enough to be a platform administrator. The test results accurately reflected reality in giving me a failing score, which is part of what a good test should do. (Look up Item Response Theory or Psychometrics on Wikipedia if you want an overview of testing theory.)

And, reflecting on the Clinical Trials exam, I think I did learn enough for that certification to mean something. I learned the SAS code through the formal SAS training. And, despite my source being Wikipedia, I did have to study up on the processes and conventions of clinical trials. If I were interviewing for a job that handled clinical trial data, I think I could honestly state that I am familiar enough with the broad overview of the process that I could pick it up rather quickly. And I think that's about what anyone could honestly say about doing work they have only done academically.

So, in conclusion, yes, having a certification does reflect actual skill and knowledge.

CONCLUSION

My hope is that this paper gives SAS programmers helpful tips in passing the certification exams as well as motivation to try the certification exams. To reiterate from the beginning, two of the biggest general pieces of advice are to take the practice exams and remember how SAS thinks. Good luck at guessing!

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RECOMMENDED READING

Add base certification guide & the Little SAS Book in final version

SAS Institute Inc. 2011. *SAS® Certification Prep Guide: Advanced Programming for SAS®9, Third Edition*. Cary, NC: SAS Institute Inc.

SAS. "SAS Global Certification Program." https://www.sas.com/en_us/certification.html. Accessed 18 December 2018.

Wikipedia. "Clinical trial." https://en.wikipedia.org/wiki/Clinical_trial. Accessed 18 December 2018.

Wikipedia. "SDTM." <https://en.wikipedia.org/wiki/SDTM>. Accessed 18 December 2018.

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