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Searching for a Diamond in the Rough:

Finding and Integrating SAS® Programming Talent

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ABSTRACT

Although the current economy has seen a lot of companies cutting back on hiring programmers, there is still a high demand for talented SAS® programmers. It can be a challenge to find highly qualified candidates and then determine which would be the best fit for your team. This paper will detail some of the things a manager looking to hire SAS® (programmers should be keeping in mind.

INTRODUCTION

When it becomes necessary to add a new SAS® programmer to an existing group, the hiring manager has a crucial task in front of them – finding an ideal candidate for the position, preparing for him/her to join the group, and ensuring their quick assimilation into the department/project they will be supporting.

In order to find a good SAS® programming candidate and get them to join the company, the hiring manager needs to plan ahead. They need to know exactly what qualifications they will be looking for in order to fill the role, they will need to ensure a quality interview that will not only weed out poor candidates but engage good ones, and they will need to have an orientation plan and assign a mentor that will help integrate the newcomer into the group.

KNOW THE ROLE

Assuming that there is approval to hire for a new position, the first step in the process should be identifying what qualifications the SAS® programmer should have. The hiring manager should have a good idea of what work the new programmer would be doing - what projects they would be working on and what their responsibilities on those projects would be.

The manager should take a good look at documented position descriptions to determine if a junior level programmer would be able to perform the functions for which there is a business need. Senior level programmers can handle a larger workload and more complex tasks, but their experience can come at a premium. In addition, senior level programmers may be more resistant to changing the way that they work, which can present problems if their working processes won't fit well with the way the rest of the group functions.

On the other hand, junior level programmers require more training than senior programmers and may not have as much confidence in their skills. They would require a more hands-on manager than a senior level programmer who could take a project and run with it.

CONSIDERATIONS FOR LEVEL OF ROLE:

- Years of experience

- Types of projects

- Relevant experience outside of project work

- Interactions with other departments

- Project organization and QC abilities, as required

- Ability to work within a team

One of the first considerations should be how many years of experience the candidate should have, both SAS® experience and experience within the industry. A junior level programmer would probably be considered to have less than two years of SAS® experience and be relatively new to a particular industry. There is the potential of finding a candidate who has a fair amount of SAS® experience but is new to the industry. If such a candidate would be considered, their training would have a more narrow focus than an individual who would need to learn SAS® techniques as well as industry standards.

Within the pharmaceutical industry, there are many different types of projects that a SAS® programmer may become involved with and these can differ in complexity, so it is essential to know what types of projects the new programmer will be working on. For example, if the work will be standard and of low volume, it will require a different skill set than a project involving the integration of several studies of different database formats. In addition, if working in an industry regulated by the FDA, it would be important to know if the new employee would be expected to submit data or documentation to the agency. If that is the case, there should be some questions during the interview regarding their familiarity with industry standards and expectations.

As a programmer progresses through their career, they are often asked to take on increasing responsibility. Sometimes, they may be asked to do things that are not related to actual projects but that will benefit the department. Whether it is application development, documentation, training, or working to facilitate interactions with other departments, programmers will sometimes be expected to do more than just generate SAS® programs. If the position that is being hired for will require programming work exclusively, the interview can focus on SAS® skills rather than also taking writing, presentation, or project management skills into account.

Another thing to consider should be how much the programmer will be interacting with others. Is the position a highly technical one, where a programmer would be expected to work individually, or would they be working as part of a team? Communication skills can be more important for some positions than others, so it is important to consider the expectations for this up front. Also, if the programmer will be expected to be interacting with other departments, it may be important to look for someone who has this type of experience and will know how to productively communicate with non-SAS® programmers.

If there will be project management or QC responsibilities for the new position, it will be important to find someone who has coordinated a project to meet milestones and to determine what experience they have with checking other people's work. Some programmers are very detail oriented and will excel at QC tasks, others find it boring and prefer to concentrate on developing complex analyses. It is beneficial to find a programmer who understands the importance of QC and how it can improve the likelihood of quality deliverables.

Finally, some thought will need to given as to whether the new programmer will be working individually or as part of a team. If they will be working on their own, the hiring manager should be looking for someone with proven independence and self-motivation. If they will be working on a team, the hiring manager should be looking for a personality which will fit with the rest of the team.

KNOCK THEIR SOCKS OFF – A WELL-PLANNED INTERVIEW

A good deal of thought needs to be put into planning and scheduling interviews. It is always helpful if the same individuals will be interviewing all of the candidates for a position, as it makes comparing candidates a lot easier. There should be agreement among the people conducting the interviews as to who will be asking specific questions. For example, one person may be asking technical questions whereas another may ask questions designed to test a candidate's interpersonal and teamwork skills. In addition, it may be beneficial for the interviewers to discuss potential questions ahead of time to see if the questions would be relevant for the candidate's experience level.

It is essential to ensure that all interviewers have been trained on interview skills. There are certain questions that can not legally be asked during an interview and it is crucial that interviewers are aware of what their responsibilities are during the interview. Any uncertainty about question legality should be directed to the Human Resources department.

It is important to be aware of the impression interviewers are making during the interview. If the interviewee sees that an interviewer does not make eye contact, is constantly taking notes, or sits with arms crossed, it will make the candidate nervous and it may become more difficult for a candidate to open up and ask questions.   Instead, the interviewer should keep a relaxed posture, make as much eye contact as possible, smile, and refrain from writing notes during the interview as it lets candidates know the interviewer is focused solely on them. To put them at ease, it may be beneficial to open with friendly questions not related to their SAS® experience but showing interest in them as a person (i.e. "How was your trip?", "Have you been here before?").

During the interview, it is important to have a series of questions in mind that can start a discussion. However, interviewers should not to be limited to those questions. The goal of the interview should be to come up with new questions based upon the candidate's responses, adjusting lines of questioning on the fly. For example, after a candidate tells about one of their successes, the interviewer could follow up with a question asking what they feel made it successful, looking for an answer detailing teamwork, explicit expectations, or efficient communication.

Open ended questions (i.e. "Tell me about a successful project at your current job and what made it successful.") are useful because they force an interviewee to open up. Closed questions (i.e. "Have you used SAS/GRAPH®

before?") can be useful for gaining information, but only for getting specific information rather than letting the interviewee talk and raising the potential of new discussion topics arising.

SAMPLE INTERVIEW QUESTIONS

- Tell me about a successful project at your current job. What made it so successful?

- Tell me about a recent project you've worked on. What went well? What could have gone better?

- Tell me about an instance where you've been asked to do something outside of your normal role as a SAS® programmer.

- Have you ever had to speak before a large group of strangers?

- How have you interacted with other departments outside of statistics and SAS® programming groups?

- Have you ever been a part of or led a team which you thought was well-managed? What made you think that?

- How do you keep current in your field?

- Have you ever trained someone or served as a mentor?

- If you were not a SAS® programmer, what else would you like to be doing?

- What makes you an excellent SAS® programmer?

- What do you want to learn more about in SAS® programming?

Finally, all of the interviewers should get together after the interview to discuss their perceptions. As each interviewer should have had a different focus, it is very possible that there will be a difference of opinions about the candidate. It is up to the hiring manager to balance the feedback and determine if the candidate would meet the position requirements or if more candidates should be brought in.

ORIENTATION

Congratulations on bringing your new SAS® programmer on board! Now comes the fun part… bringing them up to speed so that they are comfortable doing project work according to your group's expectations. A cohesive orientation plan will help them adjust to how you expect them to work. There should be priorities defined by timeframe, tasks/skills that they need to learn right away - how to use the phones, how to use the email system, location of facilities/amenities, etc. Some other items might also be important, but don't need to be discussed their very first day - how the group uses SAS®, directory structures, how to set up printers, etc.

SAMPLE ORIENTATION TOPICS:

- Corporate training

- IT training

- Office procedures

- Department processes and tools

- Overview of other key departments

The company will most likely have its own orientation for new employees to discuss the company, policies, and benefits. There may be training by the IT department as well to discuss email and network standards, policies, and expectations.

Office procedures should be discussed relatively soon after the employee starts. It should be decided ahead of time who will be instructing the new employee on these, whether it is the hiring manager or a designee. Some topics to consider would be usage of phones and voice mail, office supplies, travel policy, time reporting, and holiday schedule. In addition, a tour of the office including kitchen/break rooms, mail rooms, and the nearest printer are important to help orient a new employee within their new work environment.

For department processes and tools, there may be several training sessions. Key controlled documents such as SOPs and Work Instructions will need to be covered as soon as possible. Any applications or tools should be discussed and the employee should be asked to demonstrate understanding of them. In addition, if there are any processes around delivery of data or programs to outside agencies, these should be discussed (i.e. data and programming standards, electronic submission conventions).

If the candidate will be interacting closely with other departments, it is important to introduce them to individuals they will be working with in those departments. Whether they are taken around to meet the other groups or they are introduced in meetings, it will make the new programmer feel more comfortable when they can actually meet the other team members that they will be working with on a regular basis. It is helpful to have a key contact in those departments who can give an overview of other departments to new hires and explain how the groups will be interacting.

Finally, once the new programmer has been trained appropriately, he/she should be assigned their first project. Hopefully the orientation plan has covered the basics, including how project work is done and what documentation is required along the way. The new programmer should be expected to have questions as they dive into their first project and they should know what resources are available to them for answering these questions. The hiring manager should detail their expectations up front - what should be done, by when, how their work will be checked, and how they will be evaluated.

MENTORING

There is only so much that someone can assimilate quickly when starting a new job. One helpful orientation tool that can help a new programmer adjust to the group is to assign them a mentor. It is crucial to choose a mentor who will be a good fit for the new employee and who can exhibit skills in which the new employee will need to gain experience. Between knowing what skills are needed for the role and the new employee's current skill set (based on the interview), try to find a mentor who will be a good role model for the new employee.

The mentor should be a SAS® programmer in the group who not only has excellent experience but has strong interpersonal skills as well. The mentor should be expected to show the new programmer the ropes – how the group functions, what processes need to be followed, what standards are used, and what tools are available to them.

The mentor should be someone who is open to new suggestions as well – the new programmer may suggest different processes that may even work better than how the group currently works. They should be able to bring the new ideas and questions to managers within the group.

The mentor should be the key to integrating the new SAS® programmer, enabling them to start working as soon as possible and being a resource for any questions the newcomer may come across. As the new programmer works on their first project, the mentor should be the first point of contact for any questions or problems that are encountered.

CONCLUSION

It is not an easy task finding and integrating strong SAS® programmers in the current economic climate. To do so, it requires a lot of thought and planning. Knowing what programmer skills are needed, having a well-designed interview, a comprehensive orientation package, and assigning a mentor to the new programmer can go a long way to identifying key talent and integrating them into the group.

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