SAS® Interview or "How to Get a Second Date"

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ABSTRACT

Job interviews and first dates have a lot in common. Each pits one party against the other in an effort to determine if they are a good match. Although each party should have a good understanding of what they and the other will do and say, this is seldom the case and critical mistakes are often made. This presentation examines the interview from both sides with a focus on "rational" expectations and questioning techniques (with examples). Hopefully anyone participating in a future interview (or date) will find it useful.

INTRODUCTION

A job interview may be facilitated by chance, through a friend or professional third party or by oneself through an advertisement on the Web or in a newspaper. Interested parties start by revealing information about them, specify what they are looking for in a potential partner and set expectations for the type of relationship that they desire. If they get a response and both parties are interested, they take the next step and arrange to meet fact to face.

Once together each projects an image of themselves often bearing no resemblance to their true characteristics or intentions while trying to obtain some insight into the mental and emotional state of the other. With many questions socially or legally taboo, second guessing and innuendo are paramount. While the interview is supposed to provide both sides with enough information to make an informed decision about where they will spend a third of their waking hours, this is seldom the case.   If the process sounds as promising and enjoyable as a blind date, that is because the two are remarkably similar and require the same skills to successfully navigate.

This discussion assumes that both parties are aware of the other's interest and are ready to take the next step.

PREPARATION

The first and often most important steps to a successful interview take place before you meet. Each party must decide what they need and what they are willing to give in exchange. The better each understands their own needs and what they have to offer, the easier it will be to fill the void.

Employer:

For the employer, the first step is documenting the requirements and deciding how the interview will be handled. Typically the list of requirements or a detailed skill matrix would already have been disseminated and compared to the submitted resume. So prior to the interview, everyone is aware of the type of job (employee vs. contract), the technical and interpersonal skills necessary to do the job, any additional skills that may be useful, any issues that may complicate the process and the appropriate level of compensation (wages and benefits).   Many companies prefer to handle compensation separately so that information may be restricted to certain individuals and require another exchange.   Although seldom done, I believe that there should be a pre-determined methodology for judging that the applicant meets the requirements. This removes some of the ambiguity and creates consistency between applicants.

Given the advent of the web, it is now very easy to obtain free public but personal information on prospective employees. Some consider such a search to be unethical or unprofessional while others consider it just another source of information. Information can vary from school announcements (can be used to confirm graduation date and major) to personal blogs and websites that contain day to day commentaries to job related material. Most of the information will be benign, but rants against former employers or information that contradicts the resume

should be taken seriously. Likewise job related information such as posts to SAS-L and information from prior employers can substantiate portions of the resume, highlight areas of interest and reveal their strengths and weaknesses.

Employee:

The process for potential employees is similar but far more personal. With resume in one hand and the job description in the other, they must figure out a way to convince total strangers that they can do the job. More to the point, they must convince them that they are the best person for the job and should be paid accordingly.   This means that the potential employee should be ready to address every item on the job description in regards to their skills and experience.   They should also have a good idea of what their skills are worth and the compensation they expect.

While searching the web may be questionable for employers, it should be considered essential for prospective employees.   In the very least they should obtain information on the company that they hope to join. This can include official news releases and other press coverage, stock information if it is publicly traded, job posting to see who else they are looking for. Companies that post two or three want ads a year will certainly be and behave differently than a company that posts dozens each month. The applicant can also use the web to obtain information on similar jobs, salaries, and competitors who may also be hiring. If the names of the people who will attend the interview are also known, they can be web searched as well to find projects that they have worked on or topics of common interest.

Skills:

I separate skills into two categories: technical and interpersonal. Technical skills relate to the application and use of specific knowledge and/or software. I include industry specific subject matter, statistics and the like in this category. Interpersonal skills determine how well we get along with and/or manipulate others. Aside from a spouse, you will probably spend more time with your employer and co-workers than any one else in your adult life. The lines between professional and social life blur as co-workers socialize in and out of the office. So it helps to be able to get along with them. More to the point, how well they "feel" about you will greatly influence their decision in the hiring process.

People tend to hire those with whom they are "comfortable", and for most people, that means people similar to themselves. Of course this is a huge generality, but one I believe to be true. You don't necessarily have to look or even act like them, but they do have to be comfortable with you and to have some degree of trust in your skills and behavior. So both technical and interpersonal skills are important, with the correct composite depending upon the technical requirements of the job and the degree and nature of any required personal interaction.

Normally the more detailed the skill list, the better. A comprehensive list on both the requirements and resume allow each party to pre-qualify the other. Not every skill needs to match, but *if the lists are accurate*, a close match is highly desirable.

Accuracy or rather the lack of accurate information is an important factor. Some ambiguity is natural as information may be lacking and both parties will try to present themselves as best they can.   But inaccurate information on the requirements list, the resume, or relayed during the interview can lead to serious misinterpretations.   Deliberate inaccuracy or lying by either party can have serious repercussions. If detected during the interview, it will weight heavily on the decision making process.   If detected after the fact, it may become an issue of contention and be grounds for termination or early departure.

"What's in a name? That which we call a rose / By any other name would smell as sweet" (Shakespeare's *Romeo and Juliet,* II, ii, 1-2)*.* The same goes for skills and software, because figuring out what something is called **will** be a problem. While those working with SAS software know that products may go by different names and may change names over time; those outside the industry are still stifled by how to pronounce "SAS". This means that one or both parties need to make an effort at translation or skill mapping.

To add to the complexity, common terms may have different meanings to different people. This is particularly true with levels of competency and incompetence. This is often a reflection of the individual's personal experience and skill level. For example, someone with little knowledge of SAS may consider anyone who can write a macro to be an "expert"; those working the field for an extended amount of time may consider them only "intermediate".

Compensation:

"Money, Money, Money". This is not always the primary concern, but normally ranks at or near the top of the list. It is also one of the most frequently asked questions about an interview. Employers normally have an advantage as they know what they are paying others doing similar jobs. They may have also been in the situation of offering positions that were turned down due to the low rate. Like almost everything else, supply and demand drives compensation. Employees can get a good idea of what to request from sites such as *www.sconsig.com*. However such sites do not normally include information on benefits, training or the possibility of advancement. Consultants and 1099s will receive few if any benefits, but they should also consider the 'big picture' in respect to future business, expenses and expanding their expertise.

A wise applicant will consider everything possible when making their decision and walk into the interview with a set minimum, an asking price and a good understanding of what they expect in regards to working conditions, advancement and benefits. They should know in advance what they are willing to do without, and what they consider essential. For consultants and those confident about your skills and opportunities, the minimum and asking price may be the same figure. I suggest that the minimum figure be written down as reinforcement of its importance. Similar tactics are used at auctions as it is all too easy to get carried away in the heat of the moment and commit to a figure that will be seen as unacceptable as soon as the ink dries.

THE INTERVIEW

Timing:

Employees should always be on time. It shows respect, time management skills, thoughtfulness, and positive image. Employers have more leeway and may use this as part of their strategy. Letting the interviewer wait or having the interviewers arrive at staggered time with comments of "really busy" can work to their advantage. First of all, it may add just a little more stress to what the applicant is already going through. It may also reveal how the interviewer handles interruptions, having to repeat themselves or feels about a less than perfect environment.

Appearance:

The consensus is that regardless of the company dress code, show up for the interview in a **CLEAN** coat and tie or equivalent and be well groomed. As with showing up on time, it may not count in your favor, but it will not be counted against you.

Behavior:

- **Be Honest**: This is perhaps the single most important behavioral trait. I suggest that you present a positive image, but that you also exhibit your true personality (warts and all) and be as honest as possible. It is much better to admit that you don't know something now than to try to bluff your way through. This may not help you get the job or hire the employee of your choice, but it will allow both sides to make a well informed decision. If the party is deceptive and it fails, the other may be able to use it to their advantage and will certainly examine other claims more closely to confirm their validity. If the deception works, the other will eventually find out and feel betrayed, insulted or tricked and be more likely to harbor bad feelings, perform poorly or to terminate the relationship.

- **Relax:** Interviews are stressful for both sides, so some stress is expected. However signs of too much stress or not handling it well may leave a negative impression. People who exhibit stress are often considered to be less competent, dishonest and unreliable. Mock interviewing a coworker to try out questions or doing mock interviews with friends

are good ways to get practice and to reduce the stress. Having an alternative in mind before you walk into the interview can also help remove the "I have to get this one" feeling that is interpreted as desperation.

- **Be Positive**:   Smiles are contagious. This goes back to the interpersonal skills and making others "feel" comfortable in your presence.   Attitudes are often reflective, so if one party is positive, friendly and upbeat, the other party will instinctually move in that direction. The reverse is also true, so signs of negativity, stress and anger will be reciprocated.

- **Be Direct:** Ask and answer questions clearly and concisely. Rambling and evasiveness are clear signs that something is not right. When asking questions, keep them fairly short and concise so that the answer is a reflection of the person's knowledge, not their inability to follow your train of thought. A well publicized trick is to repeat the question before answering. This confirms that you were listening, gives you a moment to think and should help to direct your thoughts.

- **Reveal Yourself**: The purpose of the interview is to let the others know who and what you are... what you can do for them and what they can do for you. This is the perfect time for both parties to ask questions and to offer information. Prospective employees may have information on the company prior to the interview, but they will know little about the job and their co-workers. Information on the group and job, both positive and negative will set the tone for an honest exchange and good working relationship. Likewise the employer may not be aware of certain skills or job related issues that could work to your favor. It is a fair assumption that if something is not stated, the other party will interpret it as missing, negative or at best just a neutral response. Skills will not be assumed to be known if they are not on the resume and benefits not specified will be considered non-existent.

If the interview is taking place over the phone, being positive and direct are even more important as the other side can not read your body language. Anything normally conveyed by visual clues (eagerness, energy, attitude, etc.) must be conveyed verbally.

TESTING

It is my belief that the best interview is a combination of traditional banter and hands-on test of pertinent technical skills. While the dialogue follows traditional interviews, the hands-on test should closely resemble the work the individual will be expected to perform. This provides information on the applicant's interpersonal skills and an extremely accurate indication of their technical skills and a fair indication of how they will perform on the job. It also will provide the applicant with a small taste of what they will be expected to do on a day-to-day basis.

If the job entails mostly ETL tasks, then the test should be to sit down at a computer and process data according to some pre-set conditions. I typically require that data sets be merged / joined along with the resolution of common issues such as having the same variable in both data sets, by variables being of different types, dates needing to be converted, and of course the presence of missing values.   If the task is mostly analytic, they will be required to run the procs of their choice so that they can answer a series of questions, very similar to what will be expected if they are hired.

The ground rules are that the test should reflect the skill set and type of work required by the job, they can use any tool they deem helpful other than involving another directly and the evaluation will be based primarily on accuracy rather than methodology. Although requiring hands-on evaluation is not always well received (several have refused and others have given up and walked out), it has been a very helpful and accurate tool.

COMPENSATION

As a consultant I frequently sit on both sides of the table, occasionally returning to the same table several times and even being interviewed by, or interviewing people that I know well. This exposure has given me an opportunity to critically examine the issue.

This is where preparation and research pays off. With adequate preparation, neither party is likely to make or accept a substandard offer. The amount offered, requested and accepted will depend upon the applicant's skill set, experience, interpersonal skills, negotiating skills, balanced against the employer's requirements, budget and negotiating skills. The best outcome is when both feel that they "won" and are satisfied with the results.   The worst situations are those where both sides feel that they have "lost" and will soon be looking for a remedy to the situation.

My opinions on the subject were greatly influenced by my exposure to a very well developed and organized hiring process. It was not unusual for us to interview two or four candidates a day for an extended period. Applicants were provided a packet of information on benefits and such by HR and then subjected to "tag team" approach where they were led from one short face to face interview to another (think "5 Minute Dating" or "It's Just Lunch"). As the applicant was passed off, the interviewer would report the evaluation to the team lead. If the applicant was deemed acceptable, their last ordeal was to discuss the compensation they expected to receive. This was always handed by the same individual and always followed the same format. It is important to note that an acceptable rate range for the job had already been established. The primary goal was to obtain the best candidates willing to work within that range. A secondary goal was to place the candidate as low as possible within the range (saving more of the budget for others hires, bonuses, overhead, etc.) or to save even more money by going to a lower range.

It started off with the applicant being told that they had both strong and weak points, but that the company was interested. They were then asked if they were aware of the benefits employees receive, both immediately and over time and if they had any questions about them. They were then finally asked what they considered an acceptable salary.   If anyone tried to be evasive or to have him set a rate, the question would be repeated with a slight increase of intensity. Regardless of the amount specified, it would be followed by a distinct pause and something along the lines of "That is more than what we had in mind" or "Would you consider a lower rate, considering everything else we have to offer?" Depending upon the circumstances, this may go back and forth as each side tries to gain ground.

The decision to extend an offer was then reduced to a simple rule: If the amount is within the company's pre-determined range, extend an offer. Otherwise thank them and send them on their way. This should in no way be taken as a negative commentary against the company or business in general; it is the very nature of business.

QUESTIONS

Examples of questions to evaluate interpersonal skills: What are your strong and weak points?

1. How do you solve problems (given an example)?

2. What were your best and worst jobs related experiences?

3. How do you handle difficult co-workers?

This material is general in nature and well covered by numerous books and websites. Therefore it will not be covered further here.

Examples of questions to evaluate technical skills from *sconsig.com*:
1. Briefly describe 5 ways to do a "table lookup" in SAS.

2. What versions of SAS have you used (on which platforms)?

3. What are some good SAS programming practices for processing very large data sets?

4. What are some problems you might encounter in processing missing values? In Data steps? Arithmetic? Comparisons? Functions? Classifying data?

5. How would you create a data set with 1 observation and 30 variables from a data set with 30 observations and 1 variable?

6. What is the difference between functions and PROCs that calculate the same simple descriptive statistics?

A number of websites contain lists of interview questions, and requests for additional lists (with answers) are a frequent SAS-L post. I don't think that there is anything wrong with asking these questions during an interview or using them to rehearse prior to an interview **AS LONG AS YOU KNOW THE MATERIAL**.

If you are asking questions that you don't understand, you can't properly evaluate the response. Nor can you determine if the question was appropriate to ask or if it even makes sense. Many of those on the web are poorly designed or focus on obscure knowledge or tricks not related to being able to work with the software. At best, using questions without knowing the material will demonstrate how well the applicant handles difficult situations or deals with incompetence. Unfortunately the person asking the questions will not be able to comprehend the distinction.

Applicants can use questions from such lists to rehearse or to refresh their memories on key subjects. This may remove a little of the stress and make the applicant more comfortable with the process. Doing so with poorly defined questions may also create anxiety, confusion and do more harm than good.

But knowledge and understanding are not the only considerations. It is not uncommon for applicants to be asked questions by someone very knowledgeable on a given topic, but the questions have nothing to do with the job the applicant is applying for. This is normally a sign that the interviewer is uncomfortable with the subject matter or has lost sight of the purpose of the interview.

So what should be asked?

1) Anything related to the job?

2) Anything related to a past job?

3) Anything (legal) to get a better "feel" for the other?

This means asking questions that relate to the goal of the interview which is to match someone to a specific job. If the job requires the use of macros, ETL, certain stats, etc, then the questions should be focused accordingly. The applicant should be expected to

1) Supply examples of their work from a past job or something written specifically for the interview.

2) Write something on the spot that demonstrates their skill as it relates to the job (and confirms that they wrote the code in #1).

3) Explain WHY something was done a certain way either in their code or code related to the job.

4) Discuss alternatives and explain the reason for or against them. Although not essential,

it gives an indication of the applicant's versatility.

The applicant should also ask the employer questions and expect honest and direct responses. What they ask will depend upon their goals and can also be used to reveal more about their own interests and traits.

1. Who will I work with?

    a. Part of a team, solo, multiple bosses, with other departments, etc.

    b. If a "boss" is not in the room, there is a serious problem; you are a generic resource or both.

2. How does the job relate to the company's business model?

3. Is the position new? (Try to find out if someone quit, was promoted, or if the task was expanded).

CONCLUSION

Preparation, research, practice and a positive attitude all help to get us through the interview process. Nothing trumps actually being able to get the job done. The closer the questions are to revealing that information, the better for both the applicant and the employer.

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