

Transcript: What skills do I need to get hired?

http://www.youtube.com/watch?v=A42Tab_bu6A

[perky elevator music]

Funded by the National Science Foundation Advanced Technological Education

[Jack Walshe, Program Manager, Apple] Recognize this, being brilliant in a subject matter all by itself is just not good enough nowadays.

[Christopher Balz, Senior Software Engineer] I would guess 50% of engineering effort is wasted on, because of, poor communication. To me, it's that inefficient.

What do you look for in a new hire?

[John Thomas, Engineering Manager, Google] We look for the basic programming skills and coding skills which are needed for all engineers, but I think one of the distinguishing factors that we look for in someone who can really fit in Google, is really communication skills and working in a team or teamworking skills.

[Christopher] So when I'm interviewing a candidate, I always give them a problem to solve on the board, but I try to make it clear to them that most of the importance I'm placing is on how they describe what they are doing and their thought process step-by-step. So they can break down their thought process completely and expose it to me bit-by-bit.

[Jack] You know, what's written down on paper is what gets you to the interview, but it's communication skills that kind of get you the job.

[Nina Paolo, Manager, IBM] When we hire or when we interview students for opportunities, we certainly find that soft skills are extremely important for a technical position.

[John] So the telltale signs for someone having strong communication skills in an interview, for me at least, is really observing how they tackle even simple problems. I'll give you a classic example. So I give someone a problem saying "here's an algorithm and you need to write the code on the board". Nine out of 10 folks might get the answer right, or they might get it wrong, but you'll find a few of those people actually taking the time out to explicitly state what they are going to do and how they are going to do it. So sort of verbalizing the approach before they start. At that point they kind of pause and ask for feedback saying "you know this is what I'm thinking, does that make sense and should I go ahead with it, here are the pros and here are the cons". These are obvious telltale signs that this person is not just thinking aloud but really asking for feedback and using that feedback as part of his output for the interview.

What does it take to get promoted?

[Jack] Communication is the only way to work if you want to get promoted. Nobody is going to go looking around down there "oh look at that person down there they don't communicate well but I know they are brilliant". That just doesn't happen kind of thing, you know.

[John] The concept of collaboration at Google is given a lot of importance especially in the engineering group. A lot of people don't know this, but the reason, one of the goals that Larry and Sergei had when they thought of free lunches at Google was really that employees from different parts of the company would come and sit down at work at lunch and hopefully meet someone they hadn't met before and within the half an hour or 45 minute lunch, talk about all the great ideas they have in their minds and hopefully one of them blooms or blossoms into a full-fledged project. In fact many projects have been born at the cafeterias at Google.

[Christopher] In a team engineering situation you have to make sure that people understand what you are doing, why you are doing it, and how much time you are spending on it and why.

[Jack] I know plenty of examples of people who are in important jobs and in interesting jobs, and that have got there because they are just solid good communicators—they know how to listen and they know how to speak.

[Nina] I think about every technical role that I've interacted with in different companies that I've worked in. They've all had some aspect of having to persuade or negotiate or try to request more hardware or some aspect, or even request more funding to be able to continue development of 2.0. So in each case, they've had to be able to state their case.

[Jack] The organizations that have a good collaborative environment are the ones that are the strongest.

How has the workplace changed?

[Nina] It's no longer just programming in a dark corner and all by yourself. Interconnected means you are teaming with others, you are interacting with others, you are negotiating to get that deal, you are trying to convince your boss you need that new server.

[Jack] ...and so you just throw pizzas into a dark room and code comes out of it and everybody's happy kind of thing. But it's not as easy as that anymore. The types of work that you are doing has to be... the type of projects that you work on have to be value added projects for the whole organization. That means the business has to collaborate first to figure out well, what's of value to us? Do we need brilliant software to help us do supply chain--like how to capture orders on the Web, how to communicate that to a distribution center or a factory, and then how to deliver that out to, how to deliver that product to the customer so you can order your iPod online on a Sunday night and it will be at your doorstep on Tuesday morning. In order for that to happen, there's a lot of people who have to do a lot of talking with each other.

[John] Nowadays the way I see it is that the most effective teams are the ones who collaborate well within the company. Not just within their teams but with other groups and other teams in the company as a whole. There's a very good reason for that. In Google we use this word called information overload. It's a very popular phrase—it's very popular. It really means that there is so much information out there that if you had to spend your time just sifting through that information alone or even as a team, you probably would never get any work done. That's where the power of a network comes in. Because by reaching out to others in other groups in others

teams who might have solved something similar who might have seen the same problem before, you've basically cut through all the noise and you've pretty much reached at least three or four viable solutions out of which you can pick one. And the power of a network is when you receive something you actually feel like giving back to it and so you know at some point some of these friends or these people in your network are going to reach out to you and you would be more than happy to share your solutions with them. So, that's where it's taken us to this date as I see it and you can only imagine with the growth of more social networks and the whole concept of the Web being collaborative and sharing and user generated sort of ideas and information, I see it as becoming even more relevant, even more important going forward. Especially when geography is no longer a barrier. So the best solution to your problem that you are working on may lie in the heads of a bunch of engineers who are thousands of miles away, maybe on a different continent.

[Nina] I have development in India. I have my marketing perhaps in the US and I may have some other test specialists working in Brazil and they are continually working on a team together. So a good command of communication and understanding how to get your message across and truly communicate, is necessary when you are working with different languages, different cultures, and new ways of this virtual teaming, these virtual projects.

What should I learn in college?

[Christopher] I would actually suggest that before students begin to program they have teamwork. So that when they look back on their education in their field, the first thing that comes to mind is not how to allocate a reference to memory, but how to work with people.

[John] So you really are working with a number of different people with different personalities with different styles, with different communication styles. So there's the dominant personality, someone who kind of leads the discussion. There's the timid person who doesn't voice their opinion but has great ideas. And so learning to adapt to these styles has a huge impact on the outcome of your project.

[Nina] I think learning communication skills and presentation skills in college is a requirement. It is absolutely necessary, especially now in these days when corporations have got a lot of skills to choose from, and so they are going to be looking for those that have the broadest selection of skills and deep in their technology.

[Christopher] Where I think we can make improvement easily is in better listening skills and better writing skills.

[Jack] Because there's no point in being a brilliant subject matter expert if you are not able to use that and communicate it and understand how it can be used.

Credits

Partners: SRI International, Foothill College, De Anza College, National Science Foundation

Produced by: Elaine Haight, Ron Fried, Jane Ostrander, Louise Yarnall

Featuring: Christopher Balz, Nina Paolo, John Thomas, Jack Walshe

Special Thanks to: Apple Computer, Google, IBM

This material is based on work supported by the National Science Foundation under ATE Grant DUE#0603297. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

9/14/09: transcript by Jane Ostrander, Scenario-Based Learning Project in Technical Education, De Anza College.

9/16/09: transcript edited by Elaine Haight, Foothill College