TO MASTER ENGINEERING YOU NEED TO LEAD

By Patrick Sweet, P.Eng.

IT IS WELL known that an engineer's success is contingent on the depth and breadth of his or her technical knowledge. There's a reason we slave for years over second-order differential equations, C++ and the like while in school. Our technical skills are necessary for our success as engineers, for the success of the products we design and the services we provide. This being said, I believe engineers need something a little more to master their domain. Technical skills are necessary, but not sufficient. Engineers must also become leaders to thrive.

This might come as a bit of a surprise to you, as an engineer. The link between soft skills like leadership and technical domains like engineering isn't immediately clear. Most engineers are of the opinion that leadership is something for management to bother with. This likely comes from a general misunderstanding of what leadership really is, and what effects a strong leader can have on a technical team. My goal here is to help engineers better understand leadership, why it's important to engineers, and how to develop leadership skills.

SO, WHAT IS LEADERSHIP ANYWAY?

The first problem we need to overcome as engineers is making sense of what leadership really is. It's easy to see the concept as being a bit nebulous, and, in truth, it's more of an art than a science. Despite this, there is some widely agreed-upon understanding of what leadership is, and what leaders do.

In the past, I've taken a stab at defining leadership on my own site (www.engineeringandleadership.com). There, I define leadership as follows: Leadership is the personal habit of taking selfless action to support the goals and needs of your team.

Before moving too much further, I'd like to expand on this definition and why I see leadership this way.

Leadership is personal

When I say this, I mean to say it's something a single person owns. It's not something that can be assigned to someone. Of course, an engineer can be assigned to a role that requires leadership, but that doesn't mean he or she all of a sudden inherits leadership skills. People can choose to act like leaders or not, regardless of what's written on their business cards.

Leadership is a habit

Aristotle once said: "We are what we repeatedly do. Excellence, then, is not an act, but a habit." You need to act like a leader day in and day out if you ever expect to become one. The same goes for any personal development–from developing time-management skills or communication skills, or anything else. Practice makes perfect.

Leadership is selfless

Leaders are concerned first and foremost with the success of their teams (or families, organizations or departments, etc.). They do not concern themselves with collecting accolades or praise, and their actions support that. Business researcher Jim Collins has said leaders have "deep personal humility combined with intense professional will." Leadership isn't about promotion of the self, it's about supporting your colleagues.

Leadership is action

Leadership is about *doing* things. Nobody ever won a contract, built a bridge or delivered a product by just *planning* to do it. Of course, you have to start with a plan, but a plan without action is a waste of time. Your actions don't have to be grandiose, they just have to be meaningful. Leaders add value to their teams by taking action on a daily basis. Remember, Nike's slogan isn't "Just plan it," and there's good reason for that.

Leadership is supportive of goals and needs

This is key. Leaders don't tell people what to do. They help people get things done. Leaders empower, teach, guide and otherwise make it easier for teams to do what they set out to do. Leaders have a keen understanding of what their team is trying to accomplish, even if the team itself has lost sight of the end goal. Everything a leader does is in some way supportive of the goals and needs of the team. True leaders never see themselves as being above the team, rather, they see themselves as being behind their teams.

Leadership is focused on people

Everything I've said up to now falls like a house of cards if you forget the fact that leadership is a service to *people*. Excellent leaders never forget that their purpose is to serve the people around them. That means treating their teams, families and organizations with dignity and respect–treating them as they themselves would want to be treated. A leader will not last very long if he or she forgets this critical element.

LEADERSHIP VS. MANAGEMENT

One thing that may jump out at you about my definition of leadership is that it makes no mention of management or authority. I don't believe people need to be in positions of authority to be true leaders. This is a major difference between leadership and management. While managers have the formal authority and responsibility to exercise power, leaders may not. A manager's job is to direct and control a team. A leader exercises influence over a team through their own behaviour and disposition.

The take-home message here is clear: management and leadership are different skills. With this distinction in mind, it's easy to differentiate between average managers and great managers. The best managers are those who are also leaders. This also leads to an important opportunity for engineers. It means you don't need to be a manager to be a leader and you can have a profound influence on your team regardless of the title on your business card or the number of years of experience you have.

LEADERS ARE PASSIONATE ABOUT THEIR TEAMS, ABOUT THEIR PROJECTS AND ABOUT THEIR GOALS. THEY CARE DEEPLY ABOUT THE SUCCESS OF THEIR WORK AND ALSO ABOUT THE PEOPLE AROUND THEM.

WHY SHOULD ENGINEERS BECOME LEADERS?

We've established so far that leadership is about taking action to support those around you, and that leadership need not be restricted to the ranks of management. We also know engineers have the opportunity to become leaders. This brings us to an important question: Why would an engineer want to become a leader?

I believe engineers should indeed strive to become leaders, and it is worth the added effort. Leaders have the ability to amplify their own success, and the success of their teams. Being that transformative individual can multiply the value you bring to a team. All of a sudden, it's not just your own work you're bringing to the table–everyone's work is better as a result of your support. Engineering leaders become the linchpins of their teams.

The result? Engineering leaders have higher job satisfaction because they orient their work to something greater than themselves. They get noticed by their peers and their managers. They earn more respect, command higher pay and have better job security. They become indispensible to the teams they work with. The end result is win-win-win for their colleagues, management and themselves.

HOW TO BECOME AN ENGINEERING LEADER

Becoming a leader doesn't have to be difficult. In fact, there are a few simple things you can start doing immediately that will help you become a leader, regardless of your role or experience in your organization.

Become a role model

Leaders are role models. They conduct themselves in such a way that serves to inspire those around them. That doesn't just apply to their behaviour and actions at meetings; it applies to how they interact with people in the lunch room, how they speak about their spouses, how they treat the custodians…absolutely every aspect of their lives contributes to their ability to lead.

Probably the best way to become a role model is to choose your own role models and to consciously emulate them. What is it about your role model you value? Try to pick things out that are actionable and build them into your daily routines.

Be passionate

Leaders are passionate about their teams, about their projects and about their goals. They care deeply about the success of their work and also about the people around them. They go out of their way to support your goals and your ambitions, and challenge you to be a better you. Being passionate yourself gives others permission to get excited about their own work. Passion can lead to amazing things, even in highly technical endeavours like engineering.

Put others first

As I have mentioned, true leaders see themselves as being behind their teams, not on top of them. Leadership is about service, not about being served. True leaders make it their business to make it as easy as possible for the team to succeed. Try to think about what the team's goals are, and what your engineer colleagues are trying to achieve. What issues are they trying to solve? How can you help? Make an effort on a daily basis to put those needs ahead of your own.

In conclusion, leadership is a critical component of engineering success. Technical skills alone aren't enough for true mastery of engineering. Luckily enough, leadership isn't restricted to the domain of management–anyone can become a leader in their own right. I believe with leadership, engineers have a golden opportunity to get more out of their careers, help others do amazing things and become truly indispensible members of their organizations. Σ

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