

Improving Soft Skills Through Mentorship

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University mentorship programs that tap into alumni expertise produce benefits for students, mentors, employers, and the school itself.

Graduates of accredited engineering programs are typically academically capable, displaying technical prowess and problem-solving skills. Academic achievers, however, may lack valuable soft skills that aid career success and development. Soft skills are personal attributes or behaviors that enable us to interact effectively with others.

Universities can enhance graduate career opportunities by closing the soft skills gap through an active and comprehensive alumni/student mentoring program. Student participants in mentoring programs are more likely to graduate with a job than students who do not participate in such programs (1). The primary purpose of mentoring is to acquaint students with the need for soft skills and help them hone their skills before entering the workforce.

Alumni/student mentoring programs benefit the student mentee, industry, and university (Figure 1). While students benefit from enhanced career development, industry can select from a pool of more skilled potential employees. Colleges and universities also benefit, explain M. Renuga and S. Ezhilan: “Frequently, alumni want to become involved in activities that further promote and serve their alma mater, and being a mentor allows them to become involved” (2).

This article covers ten soft skill areas: communication, résumé development, interviewing, leadership, cultural

aptitude, performance reviews, conflict resolution, networking, negotiating, and career planning. While this list is not exhaustive, it encompasses the skills that hiring managers, industry leaders, and operational executives desire. An example of one effective mentoring approach illustrates the format, frequency, topics, roles, and other program aspects for those interested in launching a mentoring program at their institution.

Communication

Oral and written communication skills are essential to career growth and development, affecting project management, sales opportunities, team building, and more. In her article “Speak So Your Boss Will Listen,” Loraine Kasprzak states: “You will likely spend one-third to one-half of your career communicating with executives, as well as colleagues and direct reports” (3). Furthermore, the Accreditation Board for Engineering and Technology (ABET) requires engineering programs to produce students that are able to communicate effectively with a variety of audiences (4).

Conversations with mentors can serve as opportunities for students to practice a persuasive communication style, which is critical to selling oneself, an idea, or a product or project. Mentors can promote active dialogue and identify areas in which mentees need to improve, as well as set up sessions

to practice presentation skills. Mentees can use mentors as resources for proofreading and peer review of important documents. Sessions also afford opportunities to highlight skills such as active listening, attention to detail, and requesting feedback to ensure accuracy in communication.

Résumé development

An outstanding résumé can increase interview opportunities. In her article “Writing a Résumé that Stands Out,” Kimberly Wilson says “a résumé needs to describe the impact and value of your service and tell a story. Telling an effective story helps the hiring manager to envision you in the role, even before calling you in for an interview” (5).

It is not enough to simply focus on experience and educational background. Companies want to hear a story, which should include contributions, accomplishments, and evidence of leadership. Each bullet point should also answer why that information is important. Mentors can help guide mentees in fleshing out these bullets. Mentors can also add significant value and input, sharing their own job search experiences and perspectives as hiring managers.

Interviewing

Mentors can ease some of the anxiety of preparing for an interview by helping mentees:

- review the organization’s background, financial status, future goals, and objectives, as well as other relevant information
- identify a list of questions that may be asked during the interview
- prepare and practice responses to potential questions
- develop a list of questions to ask the interviewer
- practice listening for opportunities where they could contribute as a new employee.

Mentors may be able to pinpoint other relevant preparation strategies based on their background and mentees’ experience. Role playing is an effective way to alleviate anxiety around interviewing.

Leadership

Leadership — both professional and personal — is one of the most valuable skills, as it is critical to project implementation, problem-solving, opportunity development, team building, cost control, and a host of other priorities. ABET requires engineering programs to prepare students to have the “ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives” (4).

Mentors can encourage new graduates to seek leadership opportunities to gain experience and develop an effective leadership style. This may require mentees to step out of

their comfort zone and take on risks, but it will pay off in the long term for career development. Mentors can help mentees develop leadership skills by providing feedback, suggesting resources, offering career guidance, and acting as a role model.

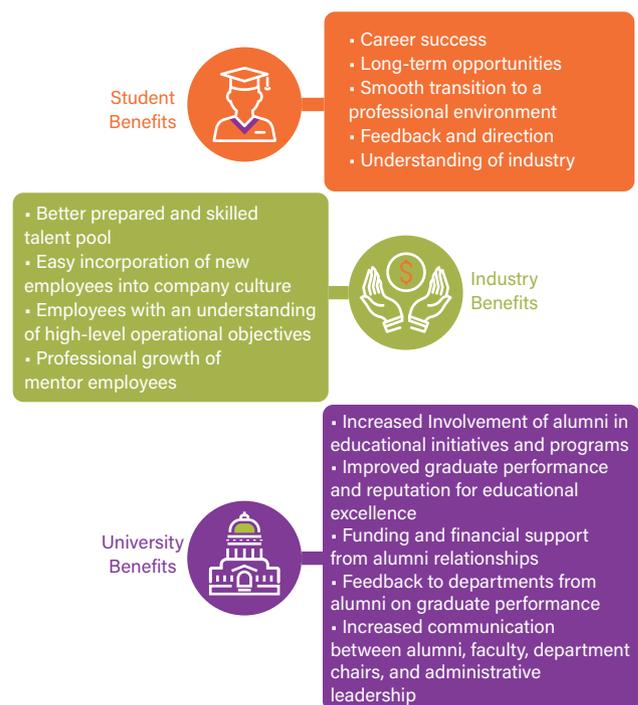
Cultural aptitude

Cultural aptitude requires being able to consider differences in work environments and colleague backgrounds. Each organization has a unique culture based on its history, size, operational and financial objectives, geographic location(s), communication approach, executive and management leadership style, etc. In addition, all professionals must work together respectfully and effectively, despite differences in cultural background, religion, gender, and other factors.

New graduates must acknowledge the importance of these cultural aspects and attempt to understand the specific environment prior to accepting a position in order to excel. Mentoring sessions should expose students to different types of professional cultures and include discussion on how cultural factors can impact their success and job satisfaction.

Performance reviews

Performance evaluations will likely be new to students and new graduates, and it is important that they understand what to expect. Typical performance evaluations focus on



▲ **Figure 1.** Alumni/student mentorship programs have benefits that extend well beyond the career development of the mentee; industry and the university also reap rewards.

both the individual's achievements vs. objectives or goals and skills such as problem-solving, decision-making, project management, communications, goal completion, and managing change.

Mentors can prepare mentees by reflecting on their own backgrounds and approaches to performance evaluations. It may be helpful to provide examples of performance review forms and possible documentation for discussion.

Conflict resolution

In his article "Transitioning to a Leadership Role," Dennis W. Hess explains, "conflict arises when opinions differ, and often can be linked to poor communication, lack of resources, opposing methods or approaches, unaligned priorities or beliefs, or contrasting personalities" (6). New graduates will experience conflict during their careers — perhaps with management, sales personnel, clients, or other key stakeholders during a project, performance review, or team effort.

Each situation is unique, requiring respectful and tactful communication, cultural awareness, effective listening, and compromise. On this topic, mentors are well positioned to provide advice. They can share some of the issues that they have dealt with and how they handled and resolved these situations.

Networking

Building a network should be a primary goal of any professional, as it shows you are engaged and ambitious (7). It is critical for mentors to emphasize the importance of networking, explaining to mentees that their classmates, professors, and professional relationships can help them to achieve career successes. A network of friends and associates may be critical in dealing with an unexpected change in organizational structure, corporate ownership, or reduction in force. If a mentee were to lose their job, they can lean on their network for job leads or references. They may also look to their network for technical advice, helping them to progress in their careers. Mentors who have experienced job loss or challenging technical problems should share their experiences to emphasize the value of maintaining an active network.

Negotiating

Effective negotiation skills will be invaluable throughout a graduate's professional career — even prior to accepting their first job. Whether it is related to salary, responsibilities and goals, performance evaluations, timelines, or other priorities, the ability to effectively negotiate can help mentees establish a good reputation and achieve their goals.

Mentors can help mentees to prepare for these discussions, establishing a list of goals and priorities as well as

areas of compromise. Mentors can share their experiences and highlight approaches to negotiations that they have found to be effective. This is another area where role playing may be valuable for building confidence.

Career planning

Career planning can seem daunting to a new graduate, who may feel stressed about securing a first job. But, this is the best time to establish priorities related to geographic location, salary requirements, and family, as well as career interests, such as design, operations, or research, which can guide the job search.

Mentors should emphasize the need for career flexibility, explaining that opportunities may arise that cannot be charted in a five-year plan. Mergers and acquisitions, economic flux, and other unplanned events may have a significant impact on career development, and mentors can share their own experiences dealing with unforeseen events. Financial planning, including retirement planning, is an important consideration in the overall career discussion.

One mentoring approach

In 2015, the Missouri Univ. of Science and Technology (Missouri S&T) Chemical and Biochemical Engineering Dept. and members of the department's Industrial Advisory Council (IAC) and Academy of Chemical Engineers developed an alumni/student mentoring program. Mentors with a broad range of experience in oil and gas, chemicals, pipelines, power, engineering design, and construction joined the program.

The original objective of the mentoring program was to assist graduates with the soft skills required to secure a job, internship, or co-op position. Initial sessions addressed effective résumé writing, interviewing skills, and presentation skills, which supplemented or supported efforts by the campus career development office. Other soft skill areas, such as leadership, negotiating, and conflict resolution, were addressed to support the transition from the classroom to the work environment. The ten soft skills described in this article have been the basis for these mentoring sessions, and more than 200 students have been involved in the initiative.

Mentoring sessions of 10–15 students are typically led by two or more experienced alumni, who preferably have significant industrial experience and may be actively working or retired. Sessions are informal and comfortable to put students at ease, encouraging them to share thoughts, ideas, and questions. A conference table layout is preferable to a classroom setting (Figure 2).

Mentoring sessions may also take place when social distancing is necessary. Sessions may incorporate appropriate safety and health guidelines for in-person meetings or implement an online communications approach. A virtual

mentoring session was held that utilized virtual breakout rooms for one-on-one video calls.

Sessions are generally two hours, and mentors are typically on-site but provisions can be made for audio and/or video participation. Typically, three or four sessions are scheduled per semester, depending on student and mentor availability. All graduate and undergraduate students are welcome to join. Attendance is taken for each session and provided to the department chair, and the names and contact information for each mentor are provided to students to enable further communication.

The mentorship program at Missouri S&T has had considerable success focusing on the ten critical soft skills discussed in this article. Student feedback has been encouraging, as have the responses from mentors and department administration. The program has attracted students from other engineering and arts and sciences departments as well.

In closing

Alumni/student mentoring programs can add significant value for student mentees, mentors, industry, and universities. These programs can take many forms, and each initiative should be consistent with department objectives. Other program options might include establishing an elective course that would address soft skills in more detail, distance learning, online conferences, or credit or other recognition for students who voluntarily and actively participate. Consider involving industrial advisory councils or equivalent groups, faculty, student advisors, and career counselors to ensure the program meets diverse stakeholder objectives.

A 2014 study published in the *Journal of Leadership Education* offers an excellent statement regarding the power of leadership mentoring: “While there is a place for classroom or conferences, real workers and leaders are best developed through life-on-life mentoring. It requires us to make deposits in people, one life at a time. It is about forming a learning community involving experiences and relationship with each other” (8).

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▲ **Figure 2.** Mentors and student mentees engage in a mentoring session.

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