

If We Had a Chance To Do It All Over Again...

# Jump-Starting Your Career as a Professional Engineer

**ELF**  
ENGINEERS'  
LEADERSHIP  
FOUNDATION



# Acknowledgements

*This work would have been impossible were it not for the generous support of the following:*

**Patrons:** ASFE Bachner Communications, Inc.  
The DPIC Companies Gallet & Associates, Inc.  
Haley & Aldrich, Inc. Lowney Associates  
Terra Insurance Company

**Grantors:** Civil and Environmental Consultants, Inc.,  
Consulting Engineers Council of Virginia, Inc.

**Funders:** Hepworth-Pawlak Geotechnical, Inc.  
Geocon Incorporated  
Geo/Environmental Associates, Inc.

**Supporter:** Miller Pacific Engineering Group

Thanks, also, to the 195 individuals who responded to the survey, and to Engineers' Leadership Foundation (ELF) President John Philip Bachner, who personally developed this program.

# Background

- ***The Question***

*“What can we do that would be of genuine value?”*  
- ELF Board of Directors

- ***The Answer***

**Develop a program to help young practitioners advance more quickly to leadership and senior management positions by avoiding trial and error.**

# Background (con't)

## ■ Reason

*“Engineering is, by far, the most important profession on Earth, if only because it is the only profession capable of facilitating humanity’s continual presence on Earth. The sooner engineers and their technical brethren are capable of assuming leadership positions in engineering and in society, the better off we all shall be.”*

- John Philip Bachner, President, ELF

## ■ Method

- ELF conducted a nationwide survey of engineering professionals and reported the results. The FPP now continues this effort by sharing the findings.

# The Survey

- Survey of senior engineering leaders and managers to identify:
  - the courses and extracurricular activities that helped expedite their professional development,
  - the courses and extracurricular activities that *would have helped* expedite their professional development, and
  - advice for those starting out.

# The Survey Sample

- 195 leaders or senior managers in the engineering profession throughout the U.S.
  - 97.4% had earned their P.E. license.
  - 74.7% were licensed in more than one state or territory.
- Involved in engineering an average 24.3 years on since earning their degree(s).
- In senior management/leadership position for an average 15.8 years.

*It took the respondents about 10 years on average to achieve a leadership or senior management position.*

↓

# Nontraditional/Nonengineering Courses and Activities That Made a Difference

- “Did you participate in any nontraditional/nonengineering courses or activities (e.g., door-to-door sales, musicianship) while in college and/or graduate school that you believe helped you attain a senior management/leadership position more quickly than otherwise?”

*54.2% said Yes*

# Nontraditional/Nonengineering Courses That Made a Difference:

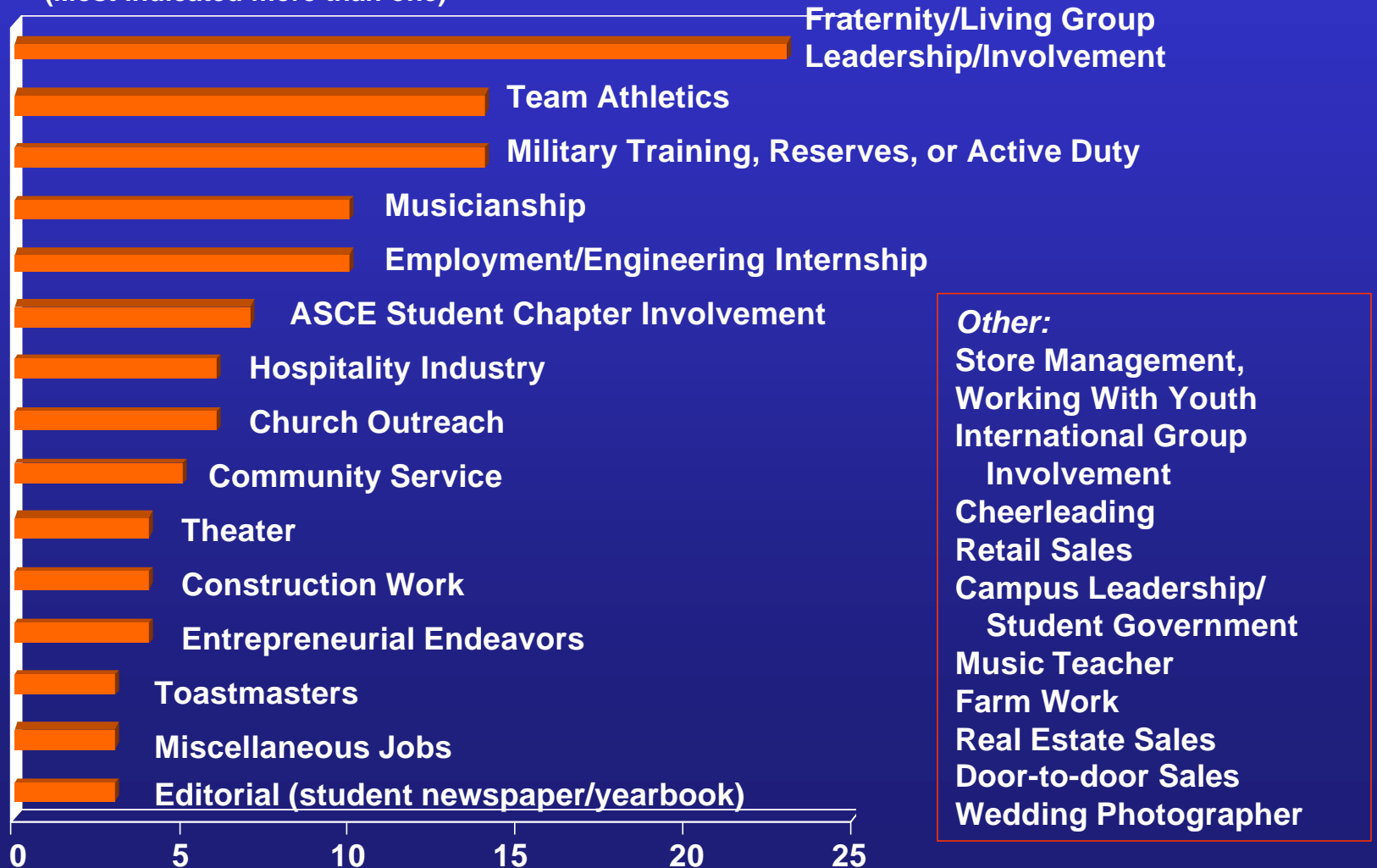
Total Respondents: 104

(Most indicated more than one)



# Nontraditional/Nonengineering **Activities** That Made a Difference

Total Respondents: 104  
(Most indicated more than one)



- **“Do you believe you would have attained a senior management/leadership position more quickly if you had participated in additional nontraditional/nonengineering courses or activities while in college and/or graduate school?”**

*41.7% said Yes*



*Believe they would have saved 3.4 years on average.*

# “What additional courses would you have taken or audited while in school (or possibly during summer, or at night even after you had graduated)?”

Total respondents: 75  
(Most indicated more than one)



# “In what additional extracurricular activities would you have engaged?”

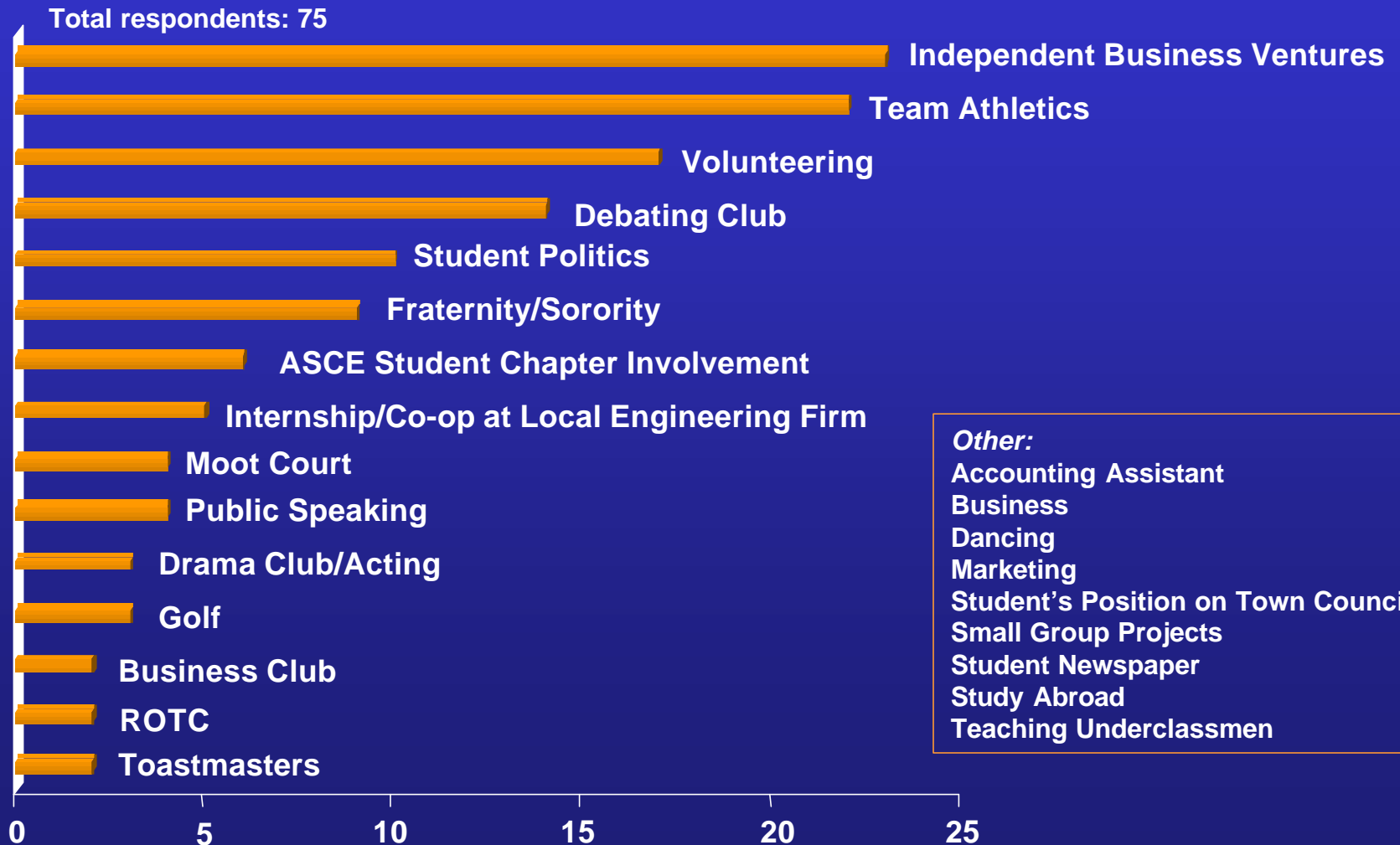


- “If you could have taken *only one* additional course and could have engaged in *only one* extracurricular activity, what would they have been?”

# The *One* Nontraditional/Nonengineering Course That Would Have Made the Most Difference



# The **One** Nontraditional/Nonengineering **Activity** That Would Have Made the Most Difference



# Our Advice, In 50 Words or Less

**“Relate the most important advice you possibly could to today's undergraduate/graduate engineering students, with respect to leadership of the profession.”**

## **Overview**

*Your technical education is extremely important, and you need to keep at it on a lifelong basis. But lifelong learning applies to more than technical issues. To become a leader, you also need to develop “people skills”; the ability to relate well to other people, and especially to communicate effectively, in writing and orally. Learn teambuilding skills, the respondents said, be ethical, and become involved in community and/or professional organizations.*

**Here's what respondents said:**

- **“If you want to be a leader, be prepared to spend half of your time in “business” functions; training and refining your talents, scheduling, communication, and selling. Being a leader is more a perspective than a position. Leaders are those who see the problems...and are busy solving them.”**
- **“Learn to relate to other people. Learn people skills.”**
- **“While in college, take part in some things other than academics. Never turn down an opportunity to lead.”**
- **“Pursue a broad curriculum. Stay involved in student activities and organizations like ASCE, NSPE, and ASFE.”**

- **“Learn how to communicate well, both in writing and orally.”**
- **“The profession continues to evolve as technology develops (computers). Things have to be done faster, cheaper, and better than in the past. Clients expect that technical skills are a given in the business. Clients now look for partnering skills for help with liability, legal, regulators, and the public. To be the trusted advisor is to meet the client's needs.”**
- **“Start early by getting involved in activities beyond class work. Volunteer to serve on a committee. The experience in organizing and developing action plans is as good as class work.”**

- **“Engineering is a technical field, but success as a leader is strongly tied to your skills in the areas of interpersonal relations and communications. Become interested in others; you need them. Become a competent writer and presenter.”**
- **“While success of the individual is important, success of the group is more important. Always be a player interested in the success of the team and you will become a leader.”**
- **“Work hard in the “softer” courses (English composition, human relations, psychology, etc). Excelling at those skills is often a differentiator in moving up the career ladder.”**

- **“There are two main activities that will enhance you professionally. One is to develop excellent writing skills coupled with technical competence. The other is to become a very active member in a professional society. Take an active role by serving on committees/boards. These activities will develop leadership skills.”**
- **“Understand what leadership is: listen, be responsive, care, encourage, be consistent and fair, take action, and reward.”**
- **“The course work you complete in your discipline will train you for only one aspect of the multi-faceted arena which you will enter after graduation. Develop an understanding of business issues, interpersonal relationships, and teamwork. They are necessary to succeed.”**

- **“Communications and people skills are as important as, if not more important than technical competency.”**
- **“Engineering students should learn the key elements of leadership: creating a vision and communicating it, and developing and empowering a team. Practice leadership skills through extracurricular activities.”**
- **“Listen to and respect the people you work with, communicate clearly, and build team participation.”**
- **“Students should understand that engineering is a people business. Even if you are very good technically, your career path will be severely limited if you cannot work with, communicate with, motivate, and lead people.”**

# Conclusions

- Clearly, to become an engineering leader, one needs to be a skilled practitioner and needs to stay abreast of technical developments over one's lifetime. But technical knowledge alone is insufficient. To be a leader, one needs to attract followers.
- **Attracting followers requires effective interpersonal skills and the ability to communicate effectively.**
- Those who strive to gain the requisite “nontraditional,” “soft,” or “people” skills early in their professional development will attain leadership positions that much sooner.
- **Active participation in volunteer groups, student chapters of ASCE, fraternity/sorority management, or athletic teams can be particularly worthwhile.**

# Conclusions (*con't*)

- **The strategies engineers need to apply to attain leadership skills are not much different from the strategies other professionals need to apply to attain leadership skills.**
- **Other professionals do not face the awesome responsibilities and challenges that confront engineers.**
- **If engineers do not acquire the skills they need to become leaders, others will gain the vanguard by default.**

IT'S  
UP  
TO  
YOU



1801 Alexander Bell Drive

Reston, Virginia 20191

(T) 703-295-6410

(F) 703-295-6411

(E) [fppnet@asce.org](mailto:fppnet@asce.org)

[www.fppnet.org](http://www.fppnet.org)