Engineering Career Prep II: Communication

Value of Effective Communication and Techniques for Improving Your Skills

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At the end of this session, students will be able to:

• Recognize the importance of communication skills for engineers
• Identify and distinguish the 3 pillars of effective communication
• Identify and explore their major communication style
• Create and deliver their Quick Personal Pitch
I communicate most effectively when I...
True or False

- **X** Good communication skills are only important for management positions
- **X** Students and novice engineers already have good communication skills
- **X** Communication skills cannot be taught
Importance of Communication for Engineers

• Communication skills considered equally important as technical skills
• Communication skills - “lifeblood” of practicing engineers
• Engineers spend over half of workday communicating with coworkers and clients

Darling & Dannels, 2003
Perils of Poor Communication

- How the customer explained it
- How the project leader understood it
- How the engineer designed it
- How the programmer wrote it
- How the sales executive described it

- How the project was documented
- What operations installed
- How the customer was billed
- How the helpdesk supported it
- What the customer really needed
Communication and presentation skills (public speaking) are an essential component to professional success; nearly all jobs involve at least occasional presentations, whether it’s to an audience of two or two thousand.

Communication is a Process

- Increase productivity
- Collaborate effectively
- Develop professional relationships
- Thrive in their careers
The Communication Process

- **Sender**
- **Message**
- **Encode**
- **Channel**
- **Receiver**
- **Feedback**
- **Decode**
3 Pillars of Effective Communication

Knowledge

Skill

Attitude
• Beware the “Curse of Knowledge!”
• Be mindful of your listeners perspective
3 Pillars: Skill

• **Consider audience**: Knowledge, skills, attitude, values, goals, cultural background, special needs, personality

• **Listen to understand**: Do not listen to respond. Be respectful and avoid interrupting.

• **Paraphrase before responding**: Demonstrates understanding and prevents miscommunication.

• **Be clear, concise, and consistent.**

• **Recognize aspects of self**: Knowledge, skills, attitude, values, goals, cultural background, special needs, personality
Major Communication Styles

**Reflection**

- **Which communication style is most like you?**
- **How might your professors or employer interpret your communication style?**

<table>
<thead>
<tr>
<th>Direct</th>
<th>Task-oriented</th>
<th>People-oriented</th>
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<tbody>
<tr>
<td>Assertive; decision maker; risk taker; one-way communication; high achiever; talkative; gives orders</td>
<td>Persuasive; outgoing; negotiator; talkative; dreamer; big concepts; optimistic; confident; enthusiastic</td>
<td></td>
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<tr>
<td><strong>Style:</strong> likes clear, brief, bulleted memos; time conscious: “Don’t waste my time. When can you get that report to me?”</td>
<td><strong>Style:</strong> likes open and friendly talk and praise and encouragement: “This is a terrific challenge and opportunity. We can do it.”</td>
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<tr>
<td><strong>Needs:</strong> direct, brief, task-relevant information</td>
<td><strong>Needs:</strong> recognition, freedom of expression, a challenging</td>
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<table>
<thead>
<tr>
<th>Indirect</th>
<th>Risk-avoidant; thorough; adheres to the rules; factual and meticulous; neat; diplomatic; high standards; accurate</th>
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<tr>
<td><strong>Style:</strong> likes facts without a lot of personal information or questions: “Just give me the facts. Would you mind telling me what these charges were for?”</td>
<td><strong>Style:</strong> likes warm, friendly, accepting, non-confrontational talk: “Good morning. How are you feeling?” “How can I help?”</td>
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<td><strong>Needs:</strong> accuracy, organization, formal interactions</td>
<td><strong>Needs:</strong> a friendly, casual environment, to feel appreciated, any details need to be in writing</td>
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Figure copied from “The Now Habit at Work” by Neil Fiore
3 Pillars: Attitude

• Respect differences
• Create inclusive environment
• Be supportive and positive
• Be mindful of body language & facial expressions
In engineering, we communicate through a myriad of communication channels.

Today, we’ll practice the Quick Personal Pitch.
Building Your QPP – Quick Personal Pitch

• Choose scenario A, B, or C and consider the audience:
  A. Joining study group or design team
  B. Establishing rapport with professor during office hours
  C. Opening the doors to secure 1st internship
• Select 3 items you want to share about yourself
• Weave those into a short story
• Recall the 3 pillars of effective communication
• No greater than 60 seconds
• You will continue to evolve this, so no obsession with perfect…yet
• Create your QPP then practice delivery in small groups
The QPP Share

• Organize in your groups
• Each student shares their QPP followed by peers sharing encouraging critiques
• After 5 minutes, rotate to group 2, and repeat
• After the 2nd 5 minutes, return to your seat for tips on other communication venues and a short debrief

Communication is a process.
Communication is essential to professional success.
Continue to hone your Quick Personal Pitch.
• Be professional
• Turn on your camera
• Check lighting
• Adjust camera angle
• Be mindful of background noise and surroundings
How to Write Emails to Your Instructor

- **From:** Student
- **To:** Instructor/TA

**“hey”**

**lol, when is your office hours?**

**btw, where is you’re office?**

- **BEFORE ASKING YOUR QUESTION, ALWAYS CONSULT:**
  A) THE SYLLABUS  
  B) COMMON SENSE  
  C) THE SYLLABUS

- **OMG, WHAT ARE YOU, 14? WRITE FULL SENTENCES! THE INTERNET HAS ENOUGH BANDWIDTH.**

- **SIGN YOUR NAME! THIS ISN’T CHAT AND WE ARE NOT FRIENDS.**

- **AAAHHH!! HOW DID YOU GRADUATE FROM HIGH SCHOOL!?**

- **IT’S IN THE SYLLABUS!!**

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www.phdcomics.com
Communicating with Faculty & Staff

- Take advantage of office hours
- Ask questions
  - Classwork
  - Research interests
  - Book recommendations
- Be mindful of professional titles
- Assume nothing
Additional Resources

Texas A&M Resources
• University Writing Center: Writing and Speaking Guides
• Academic Success Center: Talking to Your Professor

External Resources
• Engineering Management Institute: Why Communication for Engineers is so Important

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