Team Norms and Communication

Communication? Isn’t this an *Engineering* class?

Communication is something we have been doing all of our lives, so why do we spend significant effort in a *University*-level *engineering* course on communication? One reason is that employers of engineers, when asked what they look for in new employees, nearly unanimously list communication skills as a top priority (see section F – Introduction to Teams).

There are many reasons why engineers need good communication skills. Engineers need to communicate well with customers in order to understand and meet their needs (see section E – Quality). Engineers need to communicate with project sponsors to fully understand project inputs and constraints, and they need to clearly communicate their designs to the project sponsors. Engineers need to communicate with engineer and non-engineer team members in order to productively complete team tasks and to derive the maximum benefit from teamwork.

If it seems as if too much attention is being paid to communication at the expense of technical issues, consider the following:

Even the most innovative, valuable, and important technical work of the decade, inadequately communicated, will never be implemented, or even recognized.

On the other hand, flawed technical work that is well-communicated, even if it is flawed, can be improved, can be evaluated, and can ultimately be implemented.

Take a few minutes and try to recall some examples from you own knowledge or experience in which poor communication led to a problem not being solved, a problem’s solution being delayed, or a poorer-quality solution than possible being implemented.

This Workbook section will discuss oral communication in high-performing teams (Written communication is addressed in Section J). In addition to the discussion on communication, this section is also concerned with *team norms*, the mutually-agreed upon standards of behavior of team members.

Adapted from McNeill, Bellamy & Burrows, Introduction to Engineering Design, 2000
Many people have had the experience when sending electronic mail of inadvertently confusing, annoying, or offending the email recipient. Humor, it turns out, is especially difficult to communicate using printed words alone. This has led to the (spontaneous?) development of a set of symbols, called ‘smileys’ or ‘emoticons’, used in electronic mail and other electronic media to communicate emotional state along with the words being sent. (one listing of ‘smileys’ can be found at http://www.netlingo.com/smiley.cfm).

<table>
<thead>
<tr>
<th>Common ‘Smileys’</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>:-)</td>
<td>Basic</td>
</tr>
<tr>
<td>:)</td>
<td>Basic Little Kid</td>
</tr>
<tr>
<td>(:-)</td>
<td>Big Face</td>
</tr>
<tr>
<td>:-[</td>
<td>Blockhead</td>
</tr>
<tr>
<td>;(</td>
<td>Chin up</td>
</tr>
<tr>
<td>:-S</td>
<td>Confused</td>
</tr>
<tr>
<td>‘:-(</td>
<td>Crying</td>
</tr>
<tr>
<td>&gt;:--&gt;</td>
<td>Devilish</td>
</tr>
<tr>
<td>:*-</td>
<td>Kiss</td>
</tr>
<tr>
<td>:-*</td>
<td>Left Hand</td>
</tr>
<tr>
<td>:-{</td>
<td>Mustache</td>
</tr>
<tr>
<td>:(</td>
<td>Sad Little Kid</td>
</tr>
<tr>
<td>:-/</td>
<td>Skeptical</td>
</tr>
<tr>
<td>;:^)</td>
<td>Smirking</td>
</tr>
<tr>
<td>:-0</td>
<td>Surprised</td>
</tr>
<tr>
<td>:-\</td>
<td>Undecided</td>
</tr>
<tr>
<td>‘:-)</td>
<td>Winking</td>
</tr>
<tr>
<td>&gt;:-)</td>
<td>Winking Happy</td>
</tr>
<tr>
<td>:-!</td>
<td>Foot in Mouth</td>
</tr>
<tr>
<td>,:-}</td>
<td>Wry and Winking</td>
</tr>
</tbody>
</table>

Long before electronic communication became widespread, social scientists had studied the roles of verbal and non-verbal elements of communication. The figure below illustrates a very important finding: in face-to-face communication, the words used contribute less than 10% of a communication – non verbal visual and auditory signals communicate over 90% of the content!
Team Norms and Communication

their perceptions. What they heard may not be what we meant. What eventually lodges in
each person’s mind has as much to do with our internal filters, the mood we are in, when
the conversation took place as it does with words actually spoken.

These factors should be taken into account when clear communication is the goal.
Communication is a total of all the things said -- and not said. Signals may be sent by the
absence of communications as clearly as by any carefully worded announcement. Such
signals are all most invariable the wrong ones. In the absence of direct information that is
frequently disseminated, people will fill in the blanks themselves with preconceived
notions, hearsay, personal opinions and innuendoes. Silence is often more harmful than
simply providing people with the facts.

Communication Roadblocks

Communication doesn’t always go well, even when those communication have the best of
intentions. There are behaviors (as distinguished from attitudes) that have been found to
be particularly destructive to good communication. Can you think of any?

After you have come up with your own list, look over the list of communication roadblocks
given below. Try ranking them according to how much these behaviors bother you. Then
try ranking your own behavior – which of these are you most likely to exhibit? Consider
asking a friend or a family member to rank the behaviors according to how often they think
you exhibit the behaviors.

Listening Skills and Techniques

Clarity is a key to effective communication. All communication involves both a sender and
a receiver. As a result, not only does the sender need to master effective communication
skills, but the receiver must also master effective listening skills. Good listening means
that your mind is open to what the other person is trying to convey.

Adapted from McNeill, Bellamy & Burrows, Introduction to Engineering Design, 2000
Below is a list of behaviors that characterize good listening. Try ranking them according to how important these behaviors are to you. Then try ranking your own behavior – which of these are you most (and least) likely to exhibit? Consider asking a friend or a family member to rank the behaviors according to how often they think you exhibit the behaviors.

It is important when listening to listen for what is not said as well as what is said. The authors believe that much of engineering involves trying to define the real problem (extract real problem from stated problem). This alone makes effective listening a critical skill for engineers.

**Effective Listening Behaviors**
- Stop talking.
- Engage in one conversation at a time.
- Empathize with the person speaking.
- Ask questions.
- Don't interrupt.
- Show interest.
- Concentrate on what is being said.
- Don't jump to conclusions.
- Control your anger.
- React to ideas, not to the person speaking.
- Listen for what is not said. Ask questions.
- Share the responsibility for communication.

We all value information differently, depending on its source, and tend to voice agreement with the opinions of those whom we respect. However, the question should never be who is right, but what is right.

Not only are there behaviors that characterize good listening, there are different techniques of listening, for when the goals of the listener might vary. Some of these ‘Listening Techniques’ are given below. Although you might find a use for each of them at one time or another in team communication, Creative Listening is what makes teams so powerful, because the synergism possible using creative listening is great.

Adapted from McNeill, Bellamy & Burrows, Introduction to Engineering Design, 2000
Team Norms and Communication

Listening Techniques

In **Critical** Listening
Your Goal is to: *Separate fact from opinion*

So the Listening Behaviors that are most useful are:

1. 
2. 
3. 
4. 
5. 

In **Sympathetic** Listening
Your Goal is to:

So the Listening Behaviors that are most useful are:

1. *Don't talk, give advice, or judge - listen.*
2. 
3. 
4. 
5. 

In **Creative** Listening
Your Goal is to: Supplement your ideas with *another person’s Ideas and vice versa.*

So the Listening Behaviors that are most useful are:

1. 
2. 
3. 
4. 
5. 

Communication Tools

**Talking Chips**

One of the most difficult aspects of group communication to monitor and regulate is that everyone have an equivalent opportunity to speak. Some people, for example, think and speak quickly, enabling them to ‘jump in’ to a conversation at the merest pause; others need time to reflect and have been raised to expect a significant pause when one speaker ends and before another begins. Also, when a conversation gets team members emotionally engaged, members can be less scrupulous in ensuring that everyone get a chance to speak.

For these and other reasons, it is useful to have “communication regulators” available to help ensure productive team communication. The one we will discuss here is called “Talking Chips”.

---

1 Spencer Kagan describes a number of ‘communication regulators’ including Talking Chips, Colored Chips, Response Mode Chips, and Paraphrase Passport in Chapter 13 of his book, Cooperative Learning (1992, San Juan Capistrano, CA: Resources for Teachers)

Adapted from McNeill, Bellamy & Burrows, Introduction to Engineering Design, 2000
Team Norms and Communication

To use this technique, each person in the group selects a ‘totem’, for example, their pen or pencil. A person who wishes to speak places their ‘totem’ in the center of the table, or somewhere else clearly visible to all. That person speaks as succinctly as possible, but gets to have their full say, without interruption. The others listen quietly.

When that person signals that they are done, the next person who wishes to speak places their totem onto the table, and has their full say.

This continues until every person in the group has spoken. A member of the group who does not wish to speak must say so, and then place their token on the table.

The important rule is that no one may speak a second time until all totems are out. This prevents one or more group members from dominating the discussion; gives quieter or more slowly speaking members a full chance to have their say, and helps create an environment where anyone who is not speaking can listen carefully without needing to be ready to ‘jump in’ at their first chance.

One all have had a chance to speak, then the totems are taken back, and another round of speaking can occur.

Paraphrase for Understanding (Seek First to Understand, Then to be Understood\(^2\))

Often when we speak in conversation, we spend the time that we are not actively speaking in preparing our reply, instead of carefully listening. One method of assuring that non-speakers are actively listening, is to listen with the intent of paraphrasing what the speaker is saying. This method, used often during professional mediation and conflict resolution, goes like this:

- The speaker explains their idea/position/opinion
- The listener paraphrases what they heard the speaker say
- If the speaker agrees that the listener has fairly represented what they said, then the listener has a turn to speak (and the first speaker then paraphrases)
- If the speaker does not agree, then the speaker attempts to clarify, and the listener again tries to paraphrase until the speaker agrees that the listener has fairly represented what they said.

Listeners must not add anything or embellish the material, but must paraphrase as exactly as possible. It is especially important for listeners not to imply content that the speaker did not say. This approach is sometimes called ‘empathic’ or ‘reflective’ listening. The technique takes a bit of practice but can open up a conversation – both because the listener must listen carefully, and because the speaker hears back exactly what they said.

FIRST Seek the ‘Intersection’

A recommended or example social norm for overcoming ‘deadlock’ or ‘gridlock’. The basic concept is to begin by determining what are the core areas of agreement and then proceeding to move carefully outwards towards the areas of disagreement when seeking consensus.

\(^2\) Covey, Stephen R., The 7 Habits of Highly Effective People, (1989), Simon & Schuster, Habits 4 and 5.

The technique is fairly straightforward:

- First, see the problem from the other point of view; really seek FIRST to understand!
- Second, identify the 'Intersection' (i.e., where the 'positions' clearly overlap).
- Finally, select ONE issue at a time from outside the 'Intersection' to discuss and resolve.
- Select the issues that are 'closest' to the 'Intersection' and work 'outwards' from there, alternating between 'their position' and 'your position'.

One of the authors (Bellamy) saw this technique work in oil negotiations in the Middle East. The negotiating parties went from confrontation to agreement in about 11 days by starting with what they agreed on.

This process is one you can try when the discussion is clearly going no where

**Constructive Feedback**

Constructive Feedback is communicating the effect that another person’s or team’s behavior has on you, and listening as that person or team communicates their reactions to, feelings about, and perceptions of your message.

Most of us would agree that at its best, communication must be honest and sincere; however, think about how often it is not. We are often tempted to take the easy way and say things we don’t mean or to avoid telling someone what the problem really is or that his/her performance is lacking. Honest, direct communication often demands courage.

Thus, constructive feedback is also a key component of effective communication.

Constructive Feedback is a very important tool but also one that is very hard to do. It is important that you only give constructive feedback to someone when you care about that person’s feelings and how they think about you. If you do not care about the person then attempting this technique can exacerbate communication problems, rather than improving them. For this reason, at a very early stage of team training it makes little sense to practice this technique, and it can be considered as a technique to be used by people in fairly strongly-established relationships. Constructive feedback can be one component of a process check.

Adapted from McNeill, Bellamy & Burrows, Introduction to Engineering Design, 2000
### Constructive Feedback

<table>
<thead>
<tr>
<th>You are an expert on:</th>
<th>You are NOT an expert on:</th>
</tr>
</thead>
<tbody>
<tr>
<td>how other people’s behavior affects you, and on your feelings.</td>
<td>how your behavior affects other people, nor on other people’s feelings.</td>
</tr>
</tbody>
</table>

How to Give Constructive Feedback

1. “When you . . .”
   Start with a “When you . . .” statement that describes the behavior without judgment, exaggeration, labeling, attribution, or motives. Just state the facts as specifically as possible.

2. “I feel . . .”
   Tell how their behavior affects you. If you need more than a word or two to describe the feeling, it’s probably just some variation of joy, sorrow, anger, or fear.

3. “Because I . . .”
   Now say why you are affected that way. Describe the connection between the facts you observed and the feelings they provoke in you.

(Pause for Discussion)

4. Let the other person respond.

5. “I would like . . .”
   Describe the change you want the other person to consider . . .

6. “Because . . .”
   . . . and why you think the change will alleviate the problem.

7. “What do you think . . .?”
   Listen to the other person’s response. Be prepared to discuss options and reach consensus on a solution.

How to Give Constructive Feedback: An Example

1. “When you . . .”
   “When you are late for team meetings,

2. “I feel . . .”
   I get angry . . .

3. “Because I . . .”
   . . . because I think it is wasting the time of all the other team members and we are never able to get through all of the agenda items.”

(Pause for Discussion)

4. Let the other person respond.

5. “I would like . . .”
   “I would like you to consider finding some way of planning your schedule that allows you to get to these team meetings on time . . .

6. “Because . . .”
   . . . because that way we can be more productive at the team meetings and we can all keep to our tight schedules.”

7. “What do you think . . .?”

Adapted from McNeill, Bellamy & Burrows, Introduction to Engineering Design, 2000
Team Norms and Communication

Step 1 utilizes the fact that you are an expert on other peoples behavior, and Step 2 utilizes the fact that you are an expert on your feelings.

The last four steps of the process i.e., requesting a change in another person’s behavior, is the most difficult part. The discussion cited in step 4 is an essential step in ‘clarification’ and ‘check for understanding’. Once again, consensus decisions are required.

When starting this process, it is a good strategy to start with POSITIVE feedback first, that is, telling someone how something they do makes you feel good. This technique can be combined with ‘Paraphrase for Understanding’

Team Norms

Social norms are the agreed upon behaviors, attitudes, values, etc. which hold ‘society’ in general, and teams in particular, together. In society at large these may be implicit or explicit; however, they must be commonly understood, reinforced, and taught. In the team environment, they also must be explicit, reinforced and learned by all team members.

Sociologists believe that it is upon the ‘norms’ that a society is built. They see these ‘norms’ as the ‘glue’ which holds society (culture, subculture, team, etc.) together. When establishing a team, the Code of Cooperation is one way to explicitly develop norms and serves to create a basis for organization and social interaction. When agreed upon norms start to fall apart or people disregard them and there is nothing to take their place, cohesiveness ceases. The disintegration of norms creates disorganization, which may lead to a the team losing its sense of purpose. Then the team is really in trouble!

All of the issues and problems that can, and do, arise as a natural consequence of using teams need to be addressed by the team; preferably using a standard process. In this section, we will present a process for improving and maintaining team communication skills.

The process presented in this section includes the development of ‘team norms’ that can be used to reduce, if not eliminate, the impact of these issues and problems on team performance. This is your opportunity to learn how to effectively (or affectively) address many concerns you may have about working in groups; e.g., ‘He is always late or skips scheduled meetings,’ ‘She is never prepared,’ ‘He never completes his part of the problem or assignment’, ‘She always wants to copy my work and that’s cheating’, etc.

Adapted from McNeill, Bellamy & Burrows, Introduction to Engineering Design, 2000
A Process for Generating Team Norms

The process traditionally used in ECE100 for generating a set of team Norms begins with an out-of-class assignment in the Concepts or Laboratory session. Each student is required to come to class with an individually-prepared set of:

- Promoters of Effective Teams
- Barriers to Effective Teams

These are compiled on individual index cards or Post-it® notes; one item to each card or note. The barriers and promoters must be stated succinctly (seven or fewer words is best), using a noun and a verb (e.g., a promoter: “Celebrate the completion of every task.”). Each student is responsible for coming to class with at least 10 Promoters of team Success and at least 10 Barriers to Team Success.

When students meet in teams, the process development of a set of team Norms proceeds through the following process:

- Team roles are assigned
- The Boggle® process is used to eliminate duplication of promoters and barriers
- Modified Multi-Voting is used to prioritize the lists
- One at a time, a promoter, then a barrier is selected from the list
- Potential Norms are developed achieve the promoter or prevent/alleviate the barrier
- Potential Norms are refined into a set of Team Norms accepted by Consensus decision of the Team.

Adapted from McNeill, Bellamy & Burrows, Introduction to Engineering Design, 2000
Team Norms and Communication

It is important that the team members have roles. The facilitator should check to make sure the roles while monitoring team progress during the activity. Each team needs to have a leader, recorder, encourager, time keeper, perhaps a devil’s advocate.

The Boggle® method is a good way to eliminate duplicated ideas. In this method, a team member reads aloud her Post-it® notes or cards. The other team members eliminate any of their Post-it® notes or cards that duplicate what has been read. Once the first team member has gone, then the second team member reads his cards and the remaining members eliminate any duplicates remaining in their Post-it® notes or cards. This continues until all members have read their list, and the remaining list contains no duplicates.

Modified Multi-voting (see page K-15) is a good technique to be use to prioritize of a number of options. It is helpful when:

1. the team disagrees on the impact of the options
2. a limited number of options can be implemented
3. there is a need to easily prioritize the options

This method works because there is no discussion (justification) for the votes. It almost always turns out that the top priority items rise to the top for a variety of reasons. This voting eliminates all discussion on items that are of little importance. The voting part of the multi-voting process really does need to be done silently for maximum effectiveness. Discussion is reserved for the top-priority items

In the last stage of norm building, teams select one topic at a time from their lists and then develop ways to encourage the promoters and reduce the barriers to effective teams. For each promoter selected, teams develop an operational statement of a team norm (an action, response, or behavior) that will be used to achieve the desired result. For each barrier selected, teams develop a set of actions, responses, or behaviors that will:

✓ ensure that the barrier does not occur (prevention)
✓ eliminate the barrier if it does occur (mild intervention, contingency plan)
✓ (What Kepner-Tregoe tool is this related to?)

‘Operational’ Team Norms Example

Be on time for team meetings!

Versus

Be

at the designated meeting location,
at the time specified in the agenda,
in your seat with your elbows on the table,
with a pencil or pen in your hand ready to write,
with a note pad on the table,
with the agenda and other materials for the meeting to the right of the note pad, and
in eye contact with the Team Leader!

(Can an ‘average person’ use this checklist to determine if a team member is ‘on time’?)

Adapted from McNeill, Bellamy & Burrows, Introduction to Engineering Design, 2000
Team Norms and Communication

The team repeats this process with the top priority items on the barriers and promoters lists, and continues to refine the norms into a Code of Cooperation. In ECE 100, Development of a Team Code of Cooperation is one of the expectations required of every team; a copy is placed in the team’s Design Notebook. When students request intervention from course instructors to deal with conflict within their team, the first thing the instructor will ask is how the team’s Code of Cooperation might be relevant to the particular issues causing the conflict.

Adapted from McNeill, Bellamy & Burrows, Introduction to Engineering Design, 2000