



Success through Communication

By John Mercer, Jr., P.E.

The end of another year is rapidly approaching while schedules, budgets, billable time, and other driving issues are forefront in the minds of principals and project managers in today's structural engineering office.

Much effort and expense is expended each year in re-educating and learning to execute newly developed project delivery systems correctly. Each system includes a myriad of schemes to encapsulate a client's intentions and expectations while meeting the requirements for public safety, aesthetics, durability, life-cycle cost, constructability, and the limited construction budget; we call this our "scope of services".

Structural engineers are tasked with matching the intended purpose of a project with an ever-changing set of code requirements using ageless and newly developed materials. The greatest challenge is perhaps the issue of "out of sight and out of mind" on the part of the client. "If it can't be seen, why should it cost so much" is often the challenging statement from a client and his/her designer.

Conveying the realities of frivolous whims of designers on project cost and structural performance has become a necessary skill to minimize and manage liability and risk for the structural engineer. The skill of communicating seems to be at the center of the issue if structural engineers are to be a leading contender in the design professions.

What is communication? According to Webster's Unabridged Dictionary, communication is "the act of imparting, conferring, or delivering, from one to another; as, the communication of knowledge, opinions, or facts".

So at what part of communicating does the structural engineer need to be proficient? Use of the spoken word, the written word, and graphical illustrations are the three legs of the communication platform, taught to the engineering student in colleges and universities. Yet, there is one additional skill that must be mastered if one is to achieve successful communication.

"Listening on purpose" is an activity requiring full engagement by the receiving party to understand the conveyor's ideas and expressions. After hearing a statement, the listener should respond with the comment, "I heard you say that..." repeating your understanding for clarification. If this process is practiced consistently in conversation, much time can be saved, and misunderstanding avoided, between the structural engineer and the client or contractor.

The structural engineer has the opportunity to use all three of the legs to provide a stable platform for communication, thereby correctly imparting ideas and concepts of his/her design. Plans and specifications are the resulting deliverables that are used by suppliers and contractors executing the construction. The objective is to impart the client's ideas and expectations for the project through the deliverables that meet codes and other requirements mentioned above.

5 key objectives of communication can be summarized as follows. Communication is to be concise. The ultimate objective of the structural engineer is to communicate one and only one meaning, interpretation, and understanding of a statement, specification, or graphic illustration.

Communication is to clarify. The impact of clarification is to keep all parties in the communication on the same page. A client attempting to impart the concept of a single-story building while the structural engineer visualizes a multi-story building leads to conflict and misunderstanding.

Communication is to be consistent. If the structural engineer can express an idea or concept with one or more of the three legs of communication, where each leg transmits one and the same "concise" meaning, then consistency has been achieved. Coordination between the three legs is also an important task.

Communication is to collaborate. Walking a mile in someone's moccasins is an old saying that is pretty self-explanatory. Collaboration is perhaps the most important issue of the 5 objectives. Collaboration allows the "art of structural engineering" to override the science.

Communication is content. Just as a sentence has a subject and predicate, communication must complete a thought. Structural engineers must have the innate ability to visualize ideas in three dimensions. This implies space in two dimensions and volume in three dimensions and the relationships between materials and objects within the space, and volumes.

Building Information Modeling (BIM) is the new buzz today. However, structural engineers cannot wait until the BIM drawings are complete to make critical decisions. They must press forward with their design to completion. I submit that the value proposition of structural engineers is their ability to conceive structural framing systems that preempt clearance, interference, and appearance conflicts.

So, what does this all mean? The 5 objectives of communication support the three-legged stool for transmission of ideas to become physical realities. The structural engineer, PM, PE, or EIT have the responsibility to master these concepts plus the skill of "active listening". Hopefully, this responsibility has been brought InFocus for you.

To assist structural engineers, CASE/RMP is developing a business practice toolkit of methodologies that will assist the structural engineer to tackle information challenges we experience today.

Structural engineers must endeavor to hone their soft skills like communications, as well as their "hard" technical skills. John Tawresey, P.E., has a companion article — the first of a series — on page 62 of this issue, and I recommend that you read it, as well as those that will follow.

Practice the 5 objectives of communication! ■

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