



Restoring the Lofty Status of Broadcast Engineers



"Dr. Blesser (right) with NAB Science & Technology Senior VP Lynn Claudy"

The keynote speech for the opening of the annual NAB Broadcast Engineering Conference at the 2010 NAB Show in Las Vegas was given today by Dr. Barry Blesser, a globally recognized authority on audio technology and one of the leading pioneers of digitized audio in the 1970s. Dr. Blesser is currently Director of Engineering for 25-Seven Systems a columnist for Radio World and author of the book "Spaces Speak: Are You Listening?". Formerly a professor at MIT, he developed the first commercial digital reverberation unit for EMT, helped found Lexicon and was the principal engineer of Orban's Audicity workstation. He is also a past president of the Audio Engineering Society.

"The theme of Dr. Blesser's address, titled "Restoring the Lofty Status of Broadcast Engineers", was the changing role of engineers in the world of broadcasting. Acknowledging that engineers are just one of the elements in broadcast systems that include investors, managers, listeners, colleagues, advertisers, competitors, journalists, and of course, technology, he noted that today's systems have become more complex while technology has become more of a commodity. This broader definition of "system" has dethroned traditional broadcast engineers from their lofty status as brilliant wizards. His conclusion is that augmenting an engineers skill with non-technical expertise dramatically enhances their added value and stature. Extracts from his speech follow.

"Looking back over professional career that has spanned almost 50 years, I now ask myself about why things turned out the way that they did. Many engineers still use products that I helped design from such companies as EMT, Lexicon, Orban, and recently 25-Seven. I was president of the AES, started companies, received patents, and provided expert witness services. Why was I successful? These are the ingredients when I started my career in the 1960s. I was blessed with native intelligence of a type suitable for becoming an engineer. But I was certainly not the smartest student at MIT. MIT provided me with a good education with a faculty that was dedicated, brilliant, and on a mission. My teachers were great. There were many who were better at mathematics, circuit design, signal processing, and systems analysis. I was good but not special. My concrete engineering knowledge and experience were what I now call hard skills. They are the specialized knowledge of your profession: measuring the radiation pattern of an antenna, balancing the loudness of mixed program, repairing a defective pre-amplifier. But the value of hard skill is not stable, changing rapidly with shifts in supply and demand."

Dr. Blesser then acknowledged there was an element of luck at the start of his career:

"My good luck, which I did not recognize at the time, consisted of two unrelated factors. Firstly, advanced semiconductor physics had just percolated down to undergraduate education in electrical engineering. Previously it had been available only for advanced graduate students. It was so new that there were no textbooks. I was learning cutting edge technology. My generation of students now had the ability to replace vacuum tubes with transistors, with the corresponding increase in quality, dramatically reduced size and power consumption. A few years before I became a student, the Soviet Union shot Sputnik into outer space, and the US Government dumped billions of dollars into engineering so that we could catch up. There was so much money that engineers never lacked for resources."

He then discussed the need for other skills than just technical knowledge:

“Like all professionals, I was constantly trying to keep up, acquiring new hard skills as the previous ones became obsolete. It was a never-ending battle, and eventually, I never regained the stature of that initial period. But fortunately, along the way, I discovered the Secret Sauce that would trump the fragile nature of hard skills. I would like to share that magic.

Soft skills are required to induce people to work together for the mutual benefit all parties. Soft skills allow you to make wise decisions that are consistent with your enlightened self-interest. Soft skills reconcile different perspectives, fusing together the collective wisdom of unique individuals. Soft skills solve conflicts. Soft skills produce good communications. Soft skills discover enlightened self-interest. I will try to convince you of the value of soft-skills by first sharing personal stories, and then giving you the general principles, which are actually based on application of recent research from the cognitive sciences.”

He illustrated the need for soft skills with an anecdote:

“While still an undergraduate I designed the worlds first transistorized dynamic range compression product for broadcasting. I sold the design to a boutique audio company in Germany, EMT, and they invited me to spend a few months helping them turn the design into a commercial product. Time passed, and as a young professor at MIT I was in the forefront of the new digital technologies. I realized that the time was right to design a commercial digital delay device with high audio quality. I expected that the executives at EMT would applaud the opportunity for them to have a cutting edge product in their arsenal. The technical implications were clear as day. It was obvious that I should offer this product to EMT since I had a good working relationship and a long history. I knew digital was the future; they would love me even more because I was bringing them the keys to the future. I told them about my new idea and how great it was, and implied how great I was and how lucky they were to have me on their team. And surprise, they said no thanks. I was crushed, hurt, angry, and very disappointed. What happened? What had gone wrong? The explanation: lack of soft skills! Lack of people skills! I had the technology, but I didn't know how to work with the people making the decisions.

Now, many of you have had this experience, I am sure. You've had great ideas that don't go anywhere. You were shot down before you even get the idea out of the design phase. Was it because your idea was flawed? Was the technology wrong? No! You had a lot of hard skills in your toolbox, but too few soft skills in your toolbox. I broke every rule that I now understand.”

He set out some of the basic steps that can be applied by an engineer when trying to get a proposal accepted, perhaps by your general manager (GM):

(Step 1) Wait for the window to be open such that the listener has the cognitive energy to actually pay attention to what he might hear. If the GM is distracted with a crisis, overscheduled meetings, hundreds of emails from headquarters, he is unlikely to listen to any new ideas. No hearing is taking place and you cannot compete with his other issues.

(Step 2) The window may be open to hear, but there it is possible that a real response is not possible. The GM may not be willing to hear more engineering-speak. Hook him with a tease: “I had a great idea yesterday.” Less is more.

(Step 3) Eventually the engineer will get an invitation, and it will be on the GM's terms when he has time and mental energy to actually listen.

(Step 4) Make initial presentation in his language so that he does not have to work hard at understanding. “I have an idea that might enhance our profitability without requiring a lot of risk.”

(Step 5) Get him invested by showing that you need his skills to make the idea work because there are issues that he has more skills with. By his making a contribution, he becomes emotional invested.

(Step 6) Use a language that reflects the self-image that he wants to see. If he thinks of himself as a change agent, emphasize how your idea supports that. If he is a bean counter, emphasize the effect on the profit-loss statement for the next quarter.

(Step 7) Plan joint tasks and meetings to emphasize that you have just led the discussion to make the two of you a team. Ask if he wants to add others to the team.”

Dr. Blesser went on to explain some of the recent research from cognitive science that supports and extends the stories that he had shared and reasons that soft skills are so important in a meeting or discussion. In particular, that emotions are the key to soft skills and the answer to the question “Why do I care?” He said how individuals broadcast their emotion from more than 100 muscles in the face, from tone of voice, and body language, etc. He indicated that while there are many ways to learn to manage human system, one principle stands out among others: time, saying:

“More specifically, the emotional brain piece is extremely high speed, operating instantly, while you more rational neo-cortex is extremely slow. If you slow time down, the rational piece gets a change to catch up. If you respond instantly, you are potentially functioning as if there were a lion in the environment. There are other tools in the soft skills toolbox and I strongly recommend that you find a way to those additional techniques. Here is another exercise. When faced with a stimulus, slow time down and create an explicit list of choices as to how you might respond. Then analyze each response for its implications to your long and short term well being. Only then pick your response. It is good practice and eventually you can become proficient enough to do it in real time.”

Dr. Blesser finished his speech with some of the characteristics of leaders:

“Leaders are not born, but they do understand how to make followers feel good by providing benefits in their personal currency. They understand how to communicate in a multiplicity of languages, being understood clearly. They understand the particular cognitive strategies of their followers, be they all the same or all unique. They recognize when a message is not being sent accurately or received correctly. They can read the emotional temperature and address the underlying source of a high temperature. Anyone can become a leader once they acquire the necessary soft skills. In my career, I never had authority, but I always acquired leadership by how I treated people.

To answer the initial question: “How to Restore the Loft Status of Broadcast Engineers” the answer is to increase the number and quality of your soft skills tools.”



Lofty Status Restored: Summary

- ✦ Soft skills: lubricates interactions
- ✦ Learning: new paradigm as addition
- ✦ Never obsolete: take it with you
- ✦ Never too old: brains are plastic
- ✦ Leadership: acquire a following

11 April 2010 NAB Engineering Keynote Lecture 14

A recording of this speech, and all the sessions of the NAB Broadcast Engineering Conference, are available for purchase at the [Online Learning Center](#). The published papers are available in the Proceedings, available from the NAB Store, at: <http://www.nabstore.com/>

Additional details and registration information for the 64th NAB Broadcast Engineering Conference are available at www.nabshow.com. For 2010, the NAB Show is proud to offer smarter registration packages that give you access to more – more sessions, more cross-conference access, more year-round learning opportunities, more

networking – all for one great price. Check out the [Best Value Packages](#) including a new SMART Pass and Conference Flex Pass.



NABSHOW™
Where *Content* Comes to Life™

Conferences April 10–15, 2010
Exhibits April 12–15 :: Las Vegas, NV USA

www.nabshow.com



NAB STORE
Publications • Research

NAB Engineering Handbook
"A big thumper of an engineering resource...
written by a list of veritable engineering all-stars."
Buy at NABStore.com ▶ -Radio World Online