

**TEACHING SCIENCE TO JURORS:
TEN CHALLENGES TO EFFECTIVE COMMUNICATION OF
TECHNICAL ISSUES BY YOU AND YOUR WITNESSES**

*Daniel Cooper
President, LitStrat, Inc.*

According to a survey by the Organization for Economic Cooperation and Development, of the 33 countries surveyed, high school students in the United States ranked 22nd on the science literacy scale. It's not surprising then that recent studies have found that only 53% of adults know how long it takes the Earth to go around the sun (of those who knew that the Earth does indeed go around the sun) [Science Daily].

Given the level and scope of science illiteracy in the United States, is it reasonable to expect a representative jury to learn and apply complex technical and scientific concepts? Teaching science has been a difficult problem for science educators for quite some time. Innovative approaches are sought and do seem to help. For example, in May, 2011, the New York Times reported that a study lead by Carl Wieman, a Nobel Laureate in physics, found that “students in an introductory college physics course did especially well on an exam after attending experimental, collaborative classes.” These students, the study observed, scored much higher than students who took the usual course of lectures only. See, NYT, “Less Talk, More Action: Improving Science Learning” by Benedict Carey, May 12, 2011.

Whatever the difficulties in the classroom, the challenges are even greater in the courtroom with the limitations on typical -- let alone innovative -- teaching tools like group interaction, hands-on learning, question and answers, opportunities to refresh and review, and teacher directed note taking. Facing what can be a daunting task, does the gifted litigator fight or flee? Let me suggest that there really is only one option – learn to work through the challenges of teaching your jurors the science they need to resolve the case in your favor.

Science will often seem more useful to one side than the other. If science gives you an advantage then obviously you need to embrace it, teach it and help the jurors hear, learn, remember, and apply it to their deliberations. On the other hand, if it seems that science presents some disadvantages then it becomes that much more important to empower jurors with the tools they need to address the challenges presented by adverse jurors. In short, you do not have an

option to avoid teaching science in the courtroom. It really becomes a question of how you can get your piece of the science and communicate it effectively.

How do you and your witnesses control the science dialogue in the courtroom? If you set out to design an effective model and method for communicating technical or scientific ideas to jurors, the rules and the setup of a courtroom would not be high on your ideal design list. There are a lot of impediments to effective teaching. Some people would suggest we should find ways to remove technical fact finding from the courtroom setting. It is artificial, it is a challenge, and it's frustrating. But, the difference between mediocre and good teachers and great teachers is that great teachers don't blame the circumstances or their students for their failure to be able to teach. The groans and the criticisms, the frustrations, the excuses, come from the mediocre. You and your witnesses need to take the burden of being effective teachers of science on yourselves, recognize who your audience is, not in fear or disappointment or criticism of them, but as an opportunity to educate and teach. Communicate what they need to learn in order to do their job.

Teaching without learning is like peanut butter without jelly – good on its own but great together. To evaluate your effectiveness, you have to evaluate not only what's being said by you and your witnesses but what's being heard, remembered, and applied by your jurors. Ultimately, the challenge is to arm your jurors with the ammunition, the information, the knowledge, and the energy they need to engage in a persuasive dialogue in the jury room.

As you consider what and how you are going to teach the science relevant to your case, we have found the assessment of ten issues to be particularly useful. The wheel below lays out these ten areas and some of the specific issues raised by each are discussed in the remainder of this note.

Ten Challenges to Effective Communication of Science in the Courtroom:



1) Earning Credibility v. Presuming It:

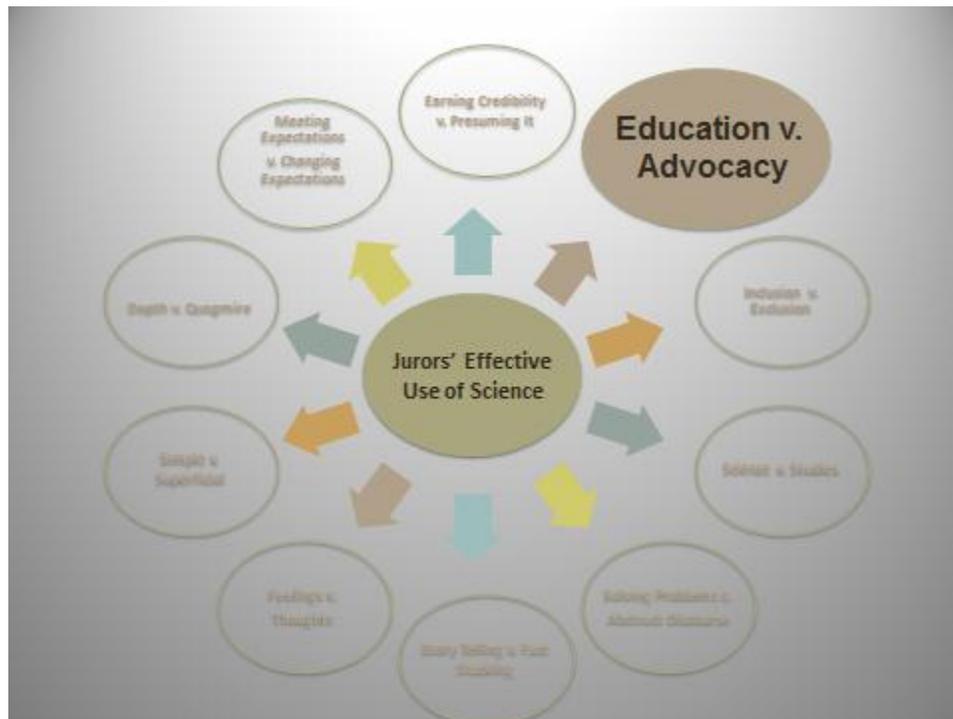


Earning credibility, building credibility, and maintaining credibility, are cornerstones for building an effective relationship with all the jurors, especially the jurors who aren't going to understand some of the science. For those jurors, as long as they trust you, trust your expert, trust what you're trying to teach, the details, so to speak, the depth of what you're going to be doing, will become less important to them. They will follow you because they trust you. Credentials and grey hair do not, in and of themselves, provide credibility. Do not presume credibility or take it for granted. Credibility is a multi-dimensional component; it involves trust, clarity, demeanor, language, sincerity, energy, and objectivity. All of those things are going into the juror's calculus as they evaluate you and your witnesses and they are playing a role throughout the trial and in deliberations.

“One time-tested formulation is that credibility consists of (1) expertise (whether the witness seems to know what he or she is talking about), (2) reliability (whether the witness is consistent both in the substance of his or her testimony and in demeanor), (3) trustworthiness, (4) objectivity (whether the witness presents with an appropriate level of affect and emotion, including appropriate non-verbal behavior)” The Journal of the Section of Litigation.

Evaluate what you have to say and how you are saying it with a constant eye on whether you are enhancing or diminishing credibility. This is particularly important as you and your witness consider and anticipate the cross examination. Is your witness able to maintain the demeanor and the 'objective' teacher's posture built during the direct, or is there a tendency to slip back into either advocate's mode or a fetal like defensive demeanor?

2) Education v. Advocacy:



For jurors, it is especially important what the demeanor and credibility are of the witness under cross-examination. The process of working with your witness so that their demeanor doesn't shift from direct to cross; so that they become the same teacher to the extent circumstances allow, on the cross as they were on the direct is imperative and the moment of truth for many jurors. Here again the issue of credibility plays in, but this is beyond just credibility. Jurors recognize that you are an advocate and your expert is an advocate for a position. They bring a certain level of skepticism to their assessments as a result. Jurors want to have some belief – some degree of confidence -- that there is integrity behind the positions being taken. As they build greater trust that you are sincerely committed to their learning and are not sacrificing their learning to get to a specific conclusion, the more open they are going to be to do the work necessary to learn what they need to learn. Often, teaching jurors how you or your expert solved a problem or came to a conclusion is much more effective and trustworthy in the minds of the jurors than simply telling them your answer or opinion.

3) Inclusion v. Exclusion:



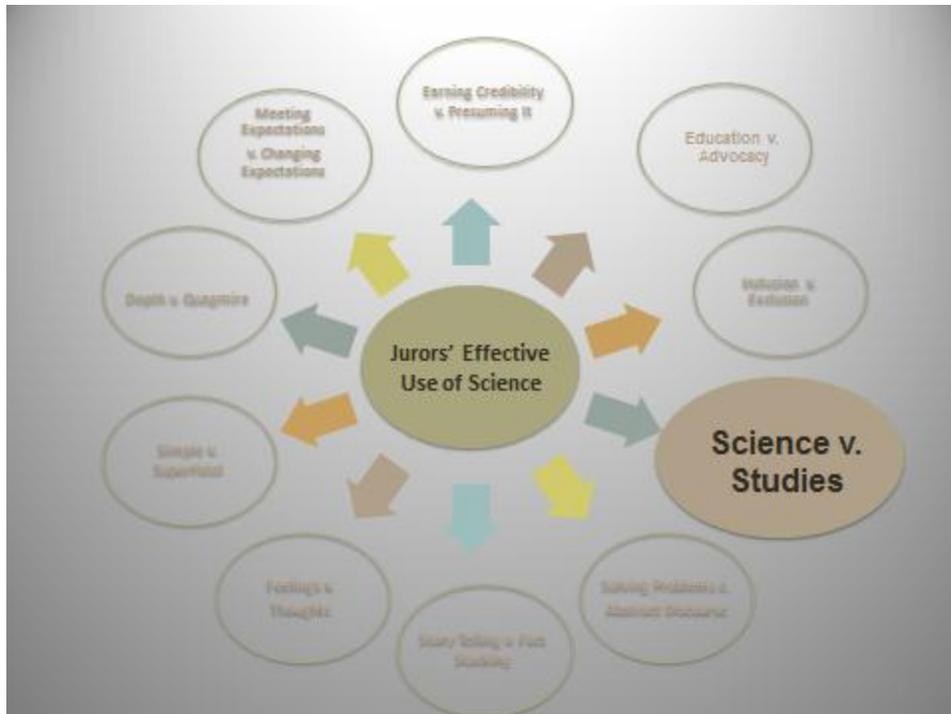
Again, the courtroom world and the world of science and the world of law, to a large extent, are designed around excluding people from joining rather than including them. The language, procedures, and rules of the courtroom are not designed to integrate jurors; they're not designed to bring jurors into that world. They are, in large measure, to elevate, in some way, as specialists, experts, bureaucrats, regulators, lawyers and judges. They set up a barrier not only of difficult language, but also an emotional barrier between the lawyer, the witness, and the jurors. One must always think about whether or not you're indeed working to include jurors and whether you're going to their world or whether you are pushing them away.

Trying to bring jurors to your world rather than meeting them in theirs is a fundamental mistake made by those trying to teach science. Repeatedly trial lawyers and experts claim to recognize that they need to 'dumb it down' for jurors. This attitude interferes with effective teaching on both a rational and emotional level. The process is not 'dumbing down' but rather a search for common ground, a common and understandable vocabulary, and references that are real and relevant to the experiences of the jurors.

Everyone probably has different favorite examples of how language has created a barrier to learning and understanding. There is a relatively old quote from FDR who was reviewing some of the civil defense material during World War II that said, 'Illumination must be extinguished when premises are vacated.' That's the world that we often or too often talk in, rather than just saying, "Just turn out the damn lights when you leave!"

Your hope and objective is that if jurors are going to talk, you want them to talk about what they're learning and believing from you and your experts in the jury room. If you don't use their words and their language, they will not, in the jury room, use your words. You need to arm them with the words that they can remember, pronounce, and feel comfortable using to make the points you need them to make during the deliberation dialogue. Expand their world, don't try to have them move into yours in the limited time you have with them.

4) Science v. Studies:



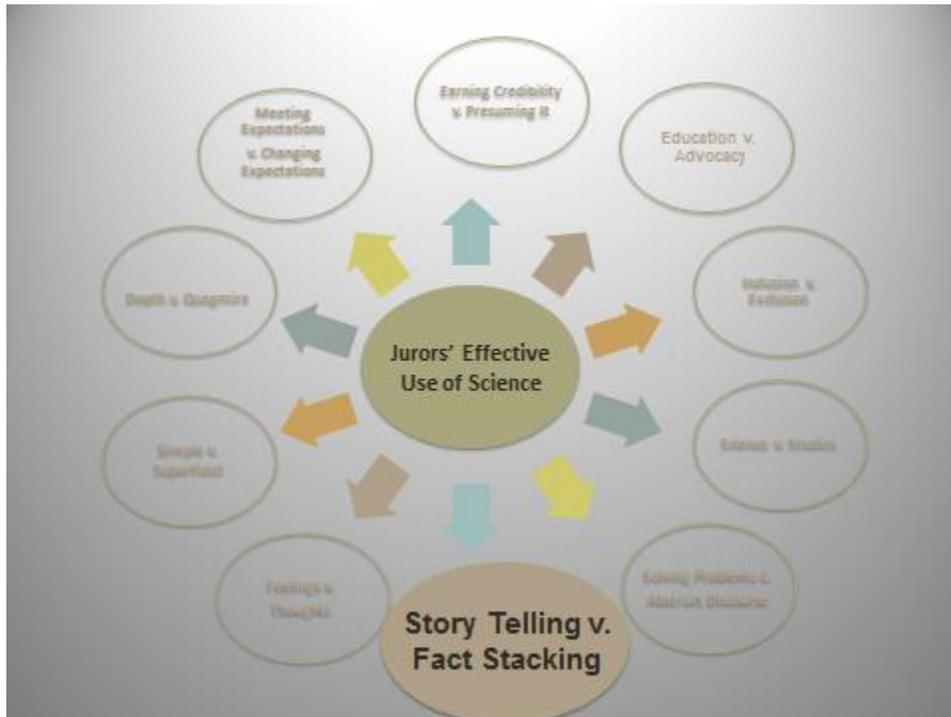
What we often hear from jurors is that they can relate more readily to the concrete and the real, what I'll call the real science of biology and chemistry more than to the abstract notions of epidemiology and statistics and studies. As you think about what and how you have to communicate things, think about what is most tangible to them, what they can visualize and touch. What you'll find is that things that they relate to in their own lives, they can understand better than things that they have no connection to in their lives. For most jurors, this more often than not doesn't involve statistics and epidemiology.

5) Solving Problems v. Abstract Discourse:



This is not to say there's not a role for teaching epidemiology or statistics. Sometimes it is a central role, but even in teaching epidemiology and statistics you have to make it as real and relevant as you possibly can. You have to recognize what jurors are being asked to do, they're not being asked to come to some abstract or academic resolution of a problem. They're asked to figure out how to solve a problem. Whether it's a patent case or a products case, there is something that they're being asked to figure out, whether it is how the invention was made or whether the product caused the injury it's alleged to have caused. Those issues are a mystery to them -- a mystery for which they are being asked to provide the most plausible resolution. The more that your story, your scientific narrative, so to speak, ties into this real problem-solving arc, the easier it is for jurors to digest, remember, and utilize in their discussion with their fellow jurors.

6) Story telling v. Fact Stacking:



Jurors tend to relate to stories better than they relate to a series of stacking of facts. Part of that is because, again, it's easier for them to talk about events, to talk about lives and people, than it is for them to talk about studies. It is also because more often than not, they form an impression of what went on and why things happened as they did and that's what they talk about in the jury room, rather than engage in this throwing back and forth of studies or of facts or of articles or of testimony.

In teaching the science, the technical issues need to find a place in your overall story. Where does the science piece fit into the overall narrative of the case? It has a place; it may have a story or a sub-story of its own, but it is not an independent element, at least not in the minds of the jurors. This ability to craft an effective narrative that integrates the science into the rest of your case is an enormous challenge for you as you try to communicate all the pieces of the case.

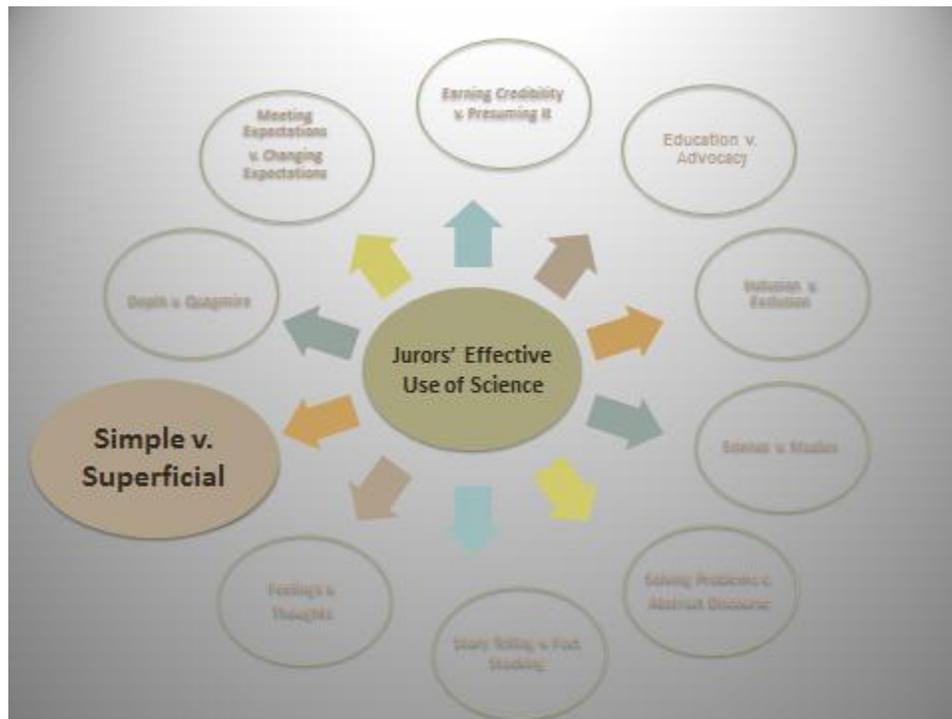
The case story is often more an ensemble presentation rather than a one star monologue. Typically the attorney is one of the stars carrying the overall narrative. Jurors often see attorneys as witnesses. One of the advantages that plaintiff's attorneys often have is that they know that they're the key witness or at least a key witness in the case. Often, the defense hasn't caught up to the plaintiff in this regard. The attorney has the best opportunity to be the 'narrator', the integrating voice. In the telling and teaching no one in the ensemble case can fall down on the job. The credibility of the whole is in part built around the credibility of each of the players and the credibility of the whole can be destroyed by the failure of any one of those parts. Once the credibility of the case narrative is in doubt, so too is the likelihood of a successful verdict.

7) Feelings v. Thoughts:



People get a feeling about things before they even have a thought about it. You have to recognize that how they first relate to your science, how they feel about it, how they see it, is going to affect them and be the lens through which they evaluate the more rational elements of what you're presenting. It's also important to remember that a large percentage of your jury pool will be visual or tactile learners rather than auditory learners. Even though words are the tools of lawyers, pictures more often than not, are the tools of jurors. Developing the emotional and visual side of the case, the emotional and visual side of the story, and the emotional and visual side of the science is imperative to teaching effectively.

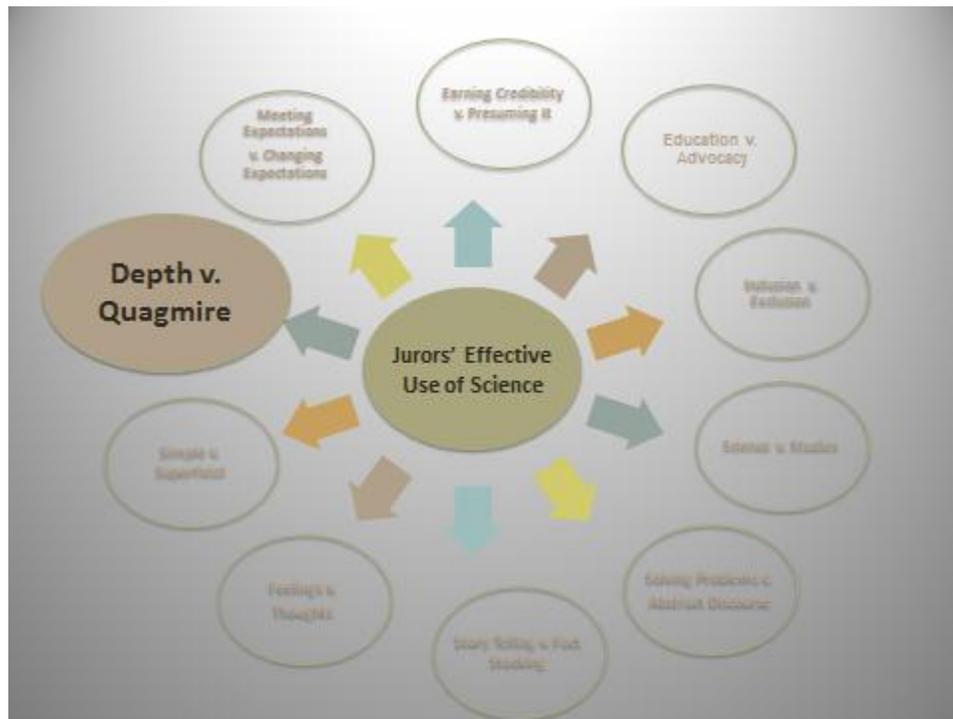
8) Simple v. Superficial:



Your challenge is to make the science understandable, but it is not to make it silly. The defense has less leeway with silly science than the plaintiff does; but even if you have leeway to make it silly, what you want the jurors thinking and talking about in the deliberation room is good and credible science.

Analogies can be illustrative, but you must also be careful not to teach the analogy over the science. If you want to help jurors talk about whether an ingredient made a difference in a patent case, for example, you need them talking about that, not about whether or not tomatoes make a difference in a soup recipe. We often use analogies too early, in our own thinking, our thought process, and even too early in our learning process. This is not to say to never go to analogies, they can be effective rhetorically, they can be effective as a reference point, but in terms of actually learning the case you have to find ways to teach the case and not the analogy.

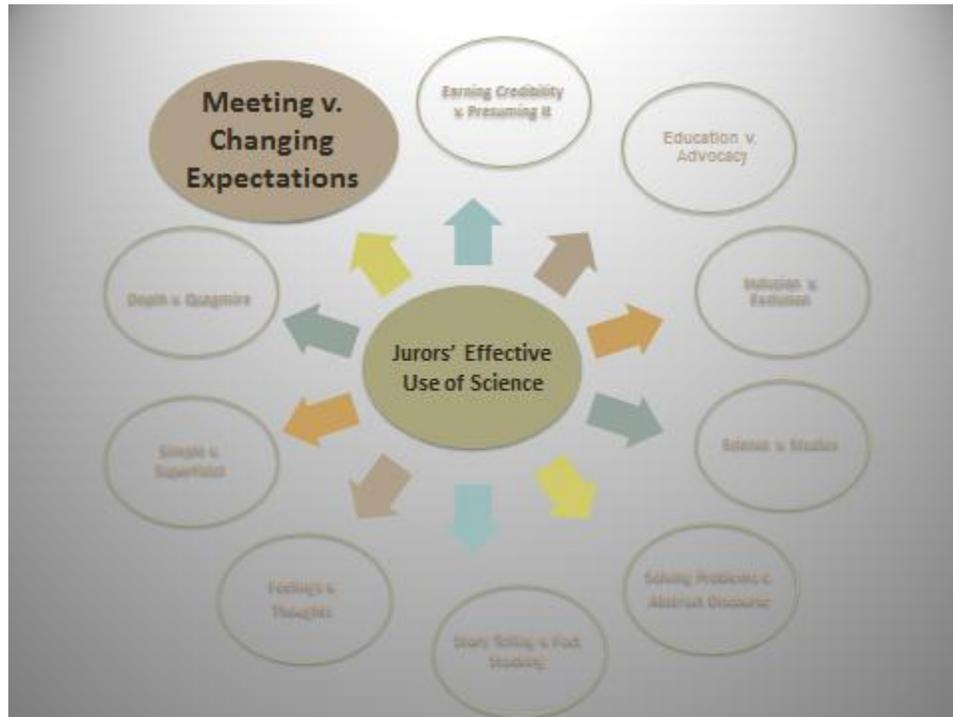
9) Depth v. Quagmire:



Some depth is required, but it is easy to get lost in the details. Finding the sweet spot is always a challenge because you certainly don't want your jurors to be led into that quagmire from where they may never return. Finding that right level of depth is one of the toughest, decisions that you have to make, recognizing that jurors, like everybody else, only have a certain amount of time and energy. You've got to recognize the limitations that time, circumstances, and understanding bring as you make this decision about depth.

It is also often the case that more detail or more depth does not necessarily lead to greater clarity. Indeed, it often results in more confusion. What you need jurors to learn, to believe, to remember, and to use should be a series of questions that you repeatedly ask yourself as you work to find the most effective level and amount of proof. Of course, there are issues related to creating the right 'record' and what evidence you feel you must have in the record. However, often a tension is created between building the record and building and maintaining juror interest and understanding. Finding the best balance for you and your witnesses is an essential aspect of trial strategy and preparation.

10) Meeting Expectations v. Changing Expectations:



Jurors have come to expect a lot of science and a lot of teaching of science. Many of them didn't like it when they were faced with it in high school or in college. Most of them avoided it, but they do see a lot of it on television. Over the years, the portrayal and teaching of science on television has evolved as some of the shows noted below suggest.

Today, science has become the supporting star in many of the most popular television shows. From *House* to *Bones* to the various *CSI* programs, the ability of science to find answers to almost any mystery is a message reinforced show after show. Hence, it is not surprising that jurors expect lawyers and witnesses to be able to teach science to them the way that they're learning it in their everyday lives.

I've heard a number of lawyers on the defense side say to jurors, "This is not the world of *CSI*." You know what? For jurors, it is. Telling them not to expect *CSI* is not going to be a useful road for you to go. Rather, you need to find ways to make the science work as it works in their world.

A concluding thought: Ultimately, one of your objectives at trial is to create an ability and willingness for the leaders on your jury to re-teach the important aspects of the relevant science to their fellow jurors. Teaching the science necessary to your case in a way that will interest and empower jurors, creating at least a few 'mini-me's' to be your surrogate science teachers in the jury room, is not a small or easily attained goal. If you hold that as an ultimate goal and if you think about your case backwards forwards, from the deliberation dialogue you hope to create back to your opening; if you think about going into the world of the jurors rather than trying to force them into your world; if you do all this ever vigilant of building and maintaining credibility, then you will vastly improve your chances of effectively teaching science in the courtroom

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