Ethical Perspectives and Decisions

By Scott Civjan, Ph.D., P.E.

Some of us think of ethical conflicts as having an ideal resolution, where we can discuss the scenario and assign blame to someone who would dare to arrive at a different decision. This is often reinforced by ethics discussions, where we assess a scenario and scoff at how the transgressor should know better and be subjected to punishment. "How can those people be so unethical!" we think to ourselves. However, an ethical conflict is not always a situation where a clear answer is apparent. Therefore, before deciding what the "right" answer is, let's step back and reassess. What could lead us to make another decision and, by extension, lead another person to make a choice different from ours? Could they still be behaving ethically, and if so, can we define an ethical person solely through their actions, or do we need to understand their decision process? I propose that giving some thought to these issues can be very important in understanding ethics and providing sound mentoring.

To be clear, there can be a complete ethical breakdown in how a person conducts their business, but that is not what this article focuses on. Instead, the author discusses situations where viewing the dilemma from another perspective can make us reassess our gut reaction that the other person has made a terrible mistake. With different knowledge and/or experience, we may come up with opposing yet equally ethical decisions to resolve an ethical conflict. If we can do it, why can't we believe that someone else with a different background and perspective could as well? Acknowledging this possibility opens us up to some important steps in mentoring. Once we promote good decision-making, we can focus on the problems of ethical fading (when ethical aspects move to the background and are replaced with aspects like profitability, etc.) and confronting truly unethical behavior.

Consider an example where you have inspection responsibilities on a project. A concrete batch is delivered to the site. Slump is significantly high and out of spec for the project. Some water was added to the truck but was not recorded. The sample was taken from the middle of the load, so much of the concrete had already been placed. The driver and contractor say the next trucks will be corrected, this is typical, and this concrete should be placed rather than rejecting the truck or removing any concrete. As an inspector, you need to make a decision.

Assume that you are an inexperienced engineer or intern and that the contractor and workers at the site have significantly more experience. From your perspective, you might have very limited information, knowing that the specification is meant to ensure "safety to the public" and that the higher slump concrete will be weaker but might be a way of making it easier to place or less expensive to produce. Therefore, it would make sense to reject the truck based on your understanding of the situation. Alternatively, you might contact your supervisor and be told that the delivered concrete is acceptable, changing your decision through more information or advice. However, without further guidance, you might assume that the specifications are generally too conservative or arbitrary and extrapolate that any future truck with this deviation is acceptable. If this becomes standard practice on a job, a senior engineer in the company may be surprised to be told that the inspection protocols are not being followed with the rigor they expected.

Does the supervisor's experience add to the decision? Some of you may already be asking for more information: was a high range water reducer added, where is the concrete being placed, how critical are the members being cast, and did previous strengths exceed requirements? A senior engineer may know the answers to many of these questions or quickly get this information before deciding. Based on this information, they may accept or reject the truck or divert the concrete to a less critical member. Imagining yourself as the supervisor, you see there is a lot more information at your disposal to make the decision and evaluate the risks. However, the amount of additional information you can collect is dependent on the time available to arrive at a decision. So, even this experienced engineer may decide to accept or reject the truck.

Would this have relevance in a design office? Consider an inexperienced engineer who understands that the life safety provisions of AISC and ACI specifications rigidly represent the "safety of the public." Without a full understanding of load paths, load redistribution, and assumptions in approximate analysis, this engineer may not understand why a supervisor decides that a slightly over-stressed member (per simplified design) is acceptable. The inexperienced engineer may feel that they are being asked to risk public safety or extrapolate this statement to erroneously think that overstressed members are generally acceptable since "we use all of those load factors to be conservative and account for this." On the other hand, the senior engineer may have spent many years investigating the conservative aspects of typical designs and feel comfortable that a more in-depth analysis would result in excess capacity for this specific design. To be clear, the senior engineer's decision is not more ethical but is based on a different perspective. Without this knowledge, it would be problematic to blindly allow a variance from specifications, and calculations should be provided to justify the variation.

These examples of a new engineer versus senior personnel are fairly common based on the author's experience and conversations. Perhaps senior engineers can remember how uncertain they were about similar decisions earlier in their careers. Perhaps engineers early in their career can see why being over-ruled on a decision could have sound reasoning rather than seeming arbitrary. Most importantly, whether a decision is ethical or unethical relies less on the final decision but more on making the best decision based on the available time and information.

Once we realize that individuals have different perspectives, experiences, and information, we can apply this as a core part of mentoring. As a mentor, spell out scenarios that the new employee might face and discuss how to make decisions and who/when to call for more information. As a mentee, feel comfortable asking for information and advice. Develop relationships within companies and project teams that rely on clear and open communication, acknowledge different perspectives, and focus on making informed and ethical decisions.▪

Scott Civjan is a Professor at the University of Massachusetts Amherst Department of Civil and Environmental Engineering. He teaches classes in structural engineering, including design classes, where he has been introducing and modifying ethics content.