



TECHNOLOGY

Training course on Deliberate and Intuitive Decision Making

OVERVIEW

The decision making course module is a three-hour course unit capable of being delivered on its own or as a supplement to CASL's current divergent thinking training course. The course is divided into 3 one-hour sections including example problems, lecture, and exercises. Brief descriptions of these sections are provided below.

Example Problems

Prior to beginning any lectures, analysts are presented with a set of example problems that provide examples of some of the effects and biases that will be presented in the course sections. If at all possible, it may be beneficial to provide these problems outside of the context of the course. Within the context of the course (i.e., learning about problems with reasoning), analysts may be more likely to respond to the problems cautiously or in counter-intuitive ways (anticipating a "trick"). These counter-intuitive responses do not pose a significant problem for the discussion of the concepts, as analysts who respond in this way are able to acknowledge their behavior and recognize that such responses are deliberately the opposite of what their "intuition" had indicated.

Section 1: Two Systems of Thinking

In this section, analysts are introduced to the concept of their reasoning and decision making being the product of two distinct systems: intuition and deliberation. Analysts are provided with examples of thinking tasks, including some of the example problems that demonstrate this distinction. General characteristics of intuitive and deliberate processing are discussed. That is, intuitive processing is rapid, automatic, and inaccessible (i.e., outside of conscious awareness) while deliberate processing is slower, effortful, and accessible. Further, analysts are given examples of how intuitive and deliberate processing interact. At the end of the section, analysts are given an exercise requiring them to decide whether several cognitive tasks would most likely be accomplished via intuitive or deliberate thinking, and to identify what changes would be necessary to make a typically intuitive task require deliberate processing.

Section 2: Can We Trust Our Intuitions?

In this section, analysts are familiarized with the potential benefits and pitfalls of intuitive processing. In addressing the benefits, analysts are presented research on expert intuition, particularly in the domains of firefighting and chess. In both of these domains, experts have been shown to develop very good intuitions. The characteristics of these domains (regularity, practice, and reliable feedback) are discussed to help analysts learn what the prerequisites are for the development of good intuitions. Further, analysts are presented with research suggesting that intuitive processing can be better for identifying complex patterns or changes in complex visual arrays.

In addressing the potential pitfalls of intuitive processing, analysts are presented with research on experts in other domains, such as financial and political prediction, where there is little evidence for good expert intuitions. Further, they are presented with a number of cognitive biases that tend to inappropriately impact intuitive thinking including overconfidence, base rate neglect, and framing effects. These biases are also presented through discussion of the problems that participants had completed earlier.

Section 3: Making Use of Our Intuitions

This section begins by highlighting that, because intuitive processing occurs outside of conscious awareness, trusting an intuition is a potentially hazardous proposition. However, there are some situations in which considering intuitions may be beneficial, such as when one is an expert in a highly-regular domain or when it is unfeasible to engage in extended deliberate processing. Therefore, analysts are presented with a few strategies for reducing the effects of bad intuitions. These strategies include evaluating one's domain of expertise for whether it may lead to the development of good intuitions, mitigating the influence of intuitive predictions through deliberate consideration of

base rates, and conducting a premortem on potential decisions.

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EXTERNAL RESOURCES

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