PM World *Journal*
Vol. VIII, Issue V – June 2019
www.pmworldjournal.com

What is Understanding?
by Dr. Bill Brantley
Commentary

What is Understanding?[1]

Excerpt from *The Persuasive Project Manager: Communicating for Understanding*[2]

Dr. Bill Brantley

Understanding is a topic in epistemology which is the study of knowledge. Don't worry; I will keep the philosophy brief and to the point. Even though the study of knowledge is ancient, the study of understanding is relatively new (just like the study of project management communication). According to philosophers, there three main ways of understanding.

There is *know-what* in which I have an understanding of some concept, physical object, or process. For example, I know what a work-breakdown-structure (WBS)[3] is in the sense of it being a tool in project management. I may have a simple understanding of what a WBS is because I recognize a WBS when I see it. Or my know-what may be that I know WBS exist but, that is all I know. In contrast, I may thoroughly understand WBS including the history of the concept. Know-what is often the first step in creating understanding.

When I can construct a WBS, I have *know-how*. As you can see, know-how is more involved than know-what. For me to have know-how, I must possess these six attributes:

1. Ability to follow the explanation of the concept, physical object, or process.

2. Ability to explain the concept, physical object, or process.

3. Ability to draw conclusions from the concept, physical object, or process.

4. Ability to conclude opposing conclusions from the opposite of the concept, physical object, or process.

5. Ability to conclude the correct ideas when given the concept, physical object, or process.

6. Ability to conclude the correct opposite ideas when given the opposite of the concept, physical object, or process.

The third way of understanding is *know-why*. You may know what a WBS is and how to construct

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[1] How to cite this article: Brantley, W. (2019). What is Understanding? *PM World Journal*, Vol. VIII, Issue V, June.

[2] Dr. Brantley's book *The Persuasive Project Manager: Communicating for Understanding* was published in 2019; the book is available at https://www.amazon.com/dp/B07NCC7KFN

[3] **Work Breakdown Structure** (WBS): according to the Project Management Institute, a WBS is a "deliverable oriented hierarchical decomposition of the work to be executed by the project team" A simpler way to define WBS is to think of all the tasks in a project. Now, imagine organizing the tasks into an outline. For example, let's say you are planning a picnic. One set of tasks will be around packing a lunch. Another set of tasks would be packing games for the picnic. And there is an important set of tasks around driving to the picnic spot and setting up the picnic area. A WBS arranges these tasks in the order that a task must be completed before you can work on another task.

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the WBS. However, your understanding is incomplete if you don't know why you need to use a WBS. Know-why may seem the same as know-what, but there is a significant difference. For example, I may be an expert on Monte Carlo[4] simulations in risk management. I can explain the concept and even create a spreadsheet that uses Monte Carlo simulations for risk management. However, I may not be able to explain why you need a Monte Carlo simulation in your project. I just want to use a Monte Carlo simulation in your simple weekend project to build a deck just because I like building Monte Carlo simulations. I know-what and I know-how but I don't know-why we shouldn't use the Monte Carlo simulation in your particular project.

It is unnecessary to have three ways of understanding to be effective. For example, your senior sponsor may only need to know why your project needs a risk register but, has only a partial understanding of what a risk register is. The senior sponsor doesn't need to understand how to create a risk register. And the senior sponsor needs only a cursory understanding of why a risk register is needed. Just enough know-what and know-why to reassure the sponsor that the project's chances for success will increase if you use a risk register.

An important decision for a communicator is to determine the level of understanding that his or her audience needs for successful communication. That is why communication is more than information transfer. The communicator and the receiver must use feedback to determine how the message was received and if the communicator created the intended level of understanding in the receiver for the communication to succeed.
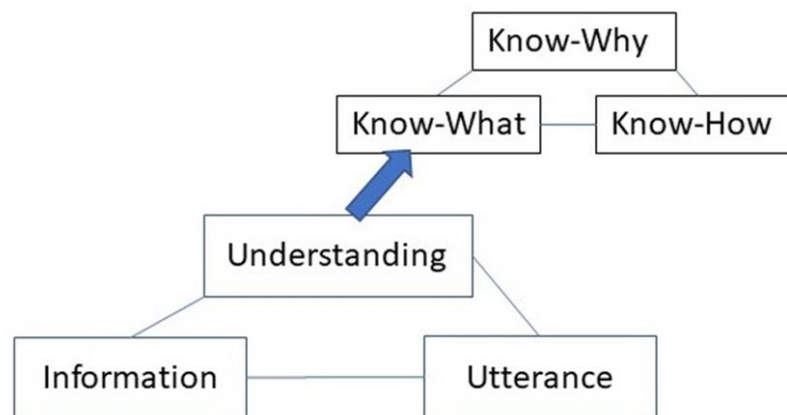

Figure 2: The Emergence Communication Model with the Understanding Triangle

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[4] **Monte Carlo Simulation**: To understand Monte Carlo simulations, imagine you are rolling a pair of dice with friends. In this dice game, each of you takes turns rolling the dice to see who rolls the highest sum for each round. To determine how likely it is you will win a round; you can program a spreadsheet to virtually roll the dice a thousand times to create a graph. This graph will show you the probability for each dice sum from 2 to 12. Monte Carlo simulations are often used to determine the probabilities for more complex project risk events.

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Dr. Bill Brantley has an MBA in project management, became a certified PMP in 2003, and has taught project management courses for over a decade. He has taught project management communication for the University of Maryland's Project Management Center for Excellence. During the day, he is a training administrator for the U.S. Patent and Trademark Office where he manages IT projects, training projects, and is an active contributor to the Federal government's agile project management community. Dr. Brantley can be contacted at bill.brantley@gmail.com