

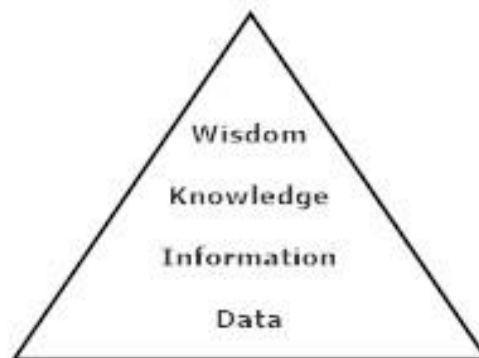
Knowledge Worker

DIKW and Shakespeare

(November 2017)

In knowledge management (KM) circles there is a never-ending discussion about Data, Information, Knowledge and Wisdom (DIKW), often represented in pyramidal or hierarchical form (see the figure below).

The DIKW Pyramid



The discussion rages because some see no need to differentiate data and information; others see no need to differentiate knowledge and wisdom; and some simply don't buy the definitions offered up. Russell Ackoff, generally credited as the creator of this hierarchy, included "Understanding" between Knowledge and Wisdom but that is rarely included by others.

In this month's column, I'll not try to straighten out this mess but will instead offer up the way I look at these matters.

To me, and for my purposes, I view knowledge as existing in two forms: (1) codified and (2) inferred.

Codified knowledge is all that stuff presumably knowledgeable people have written down to express and make explicit what it is they think they know. Codified knowledge is found in books, papers, job aids, manuals and many other forms. Think of it as knowledge that has been captured.

Inferred knowledge is held (and applied) by people – or at least we think that's the case. We see someone accomplish a task, design a process, manage a project, repair an automobile, fly an airplane or conduct a fruitful experiment and we say that person is very knowledgeable. We infer and conclude that people possess knowledge – and skill – based on our observations of their actions and the outcomes they achieve.

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And, of course, we performance improvement professionals are quite skilled at capturing other peoples' know-how and encoding it in manuals, job aids, and training materials. We, too, are knowledgeable in our own way. And our knowledge, too, has two forms: codified and inferred.

The notion that performance consists of actions and their outcomes is a small piece of codified knowledge. It expresses concepts, components, and connections or relationships. Providing examples to illustrate the concept adds more meat to the bare bones of the stated concept. And when someone can provide examples we tend to think of that person as knowledgeable with respect to that concept. If that person can also conduct observations and analyses in keeping with the concept, our opinion of that person's knowledge or know-how rises.

Me? I'm a fan of tangible things. I like codified knowledge because I can lay my hands on it and I can read it, although I must admit I don't always understand what I read. Darn! We should have kept Ackoff's "Understanding" category. As for inferred knowledge, I think it is widely distributed and held to varying degrees by different people. In all cases, however, it is clearly inferred, that is, we infer its existence via observations, experiments and tests. We can't actually lay hands on it.

Can we capture inferred knowledge? I don't know. I believe we can codify knowledge that accounts for observed performance and, once codified, also enables others to carry out that same performance. Can we communicate codified knowledge? Sure. Can we transfer know-how? I think so; at the very least we can develop similar capabilities in different people. I think I know how to do all three of these things but then what do I know?

Consider this: The formula for calculating the area of a square or rectangle is the product of Length multiplied by Width or $A = L \times W$. Given a rectangle with the shorter side equal to 12 inches and the longer side equal to 18 inches the area of the rectangle is the product of 12×18 or 216 square inches. We can look at the dimensions of the two sides as data or information. We can look at their product as data or information. We can treat the formula as a piece of codified knowledge. And we can treat performing the calculation of the area of the rectangle as know-how; quite literally, we infer I know how to determine the area of a rectangle based on my ability to (a) state the formula and (b) perform the associated calculations. I can communicate this captured piece of knowledge verbally or in written form, using language and symbols. I can test other people's ability to perform the associated calculations and I can ask them to state the formula which won't tell me much of anything except their ability to repeat what they've read or been told.

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In the end, I think William Shakespeare anticipated the DIKW debate/discussion when he titled one of his plays, “Much Ado about Nothing.”

Further Reading

Readers interested in reading more about knowledge as it relates to knowledge work and knowledge management can read a paper of mine titled “The Knowledge in Knowledge Management.” The paper was commissioned for and appears in the *Knowledge Management Yearbook 2000- 2001*. The paper integrates four terms used in relation to knowledge – explicit, tacit, declarative and procedural – and it introduces an additional category: implicit knowledge. http://www.nickols.us/knowledge_in_KM.pdf

Reference

Ackoff, R., (1989). “From Data to Wisdom.” *Journal of Applied Systems Analysis*, Vol 16, pp. 3-9.

About the Author

Fred Nickols, CPT, is a knowledge worker, writer, consultant, and former executive who spent 20 years in the U.S. Navy, retiring as a decorated chief petty officer. In the private sector, he worked as a consultant and then held executive positions with two former clients. Currently, Fred is the manager partner of [Distance Consulting LLC](#). His website is home to the award-winning [Knowledge Worker’s Tool Room](#) and more than 200 free articles, book chapters, and papers. Fred is a longtime member of ISPI and writes this monthly column for *PerformanceXpress*. A complete listing of all Knowledge Worker columns and access to them is available [here](#).