

Knowledge Worker

Solving Problems in the Workplace

(February 2015)

If figuring out what to do is a defining characteristic of knowledge work then what we ordinarily think of as problem solving is a core skill or competency for knowledge workers if not *the* core competency.

However, solving problems in a business, organizational or workplace setting is a far cry from solving them in the classroom. For one thing, there is often more than one correct or useful answer. For another, there is often no clear-cut, single cause to find and fix. For a third, it is almost always the case that coming up with a solution is not enough – that solution must also be put into effect.

It is not enough, then, to teach people how to solve problems. They must not only figure out what to do, they must also get it done. Solution implementation is also a core competency for knowledge workers.

Let's pause here to define a couple of key terms: solution and problem.

A solution is a course of action that, once carried out, produces the desired results. Solving problems in the workplace isn't about finding solutions, it's about producing results. And, as has been alluded to, that involves two core activities:

1. Investigating – figuring out what to do.
2. Intervening – getting it done.

A problem is a situation that requires action but for which the required action is not immediately apparent. (If it is, there is no problem *per se*, merely a requirement to carry out an already settled upon or known course of action).

These, then, are the elements, hallmarks or characteristics of a problem in a business, organizational or workplace setting:

- A requirement for action.
- Uncertainty regarding the action to take.
- Reducing the uncertainty concerning action (i.e., investigating the situation or figuring out what to do).
- Taking action in ways that produce the desired results (i.e., intervening or getting it done).

Let's pick up now with the second of the two core activities: Intervening or getting it done.

To intervene in a workplace setting, whether implementing what is viewed as a solution or carrying out any other course of action, is to change things with some purpose, outcome or set of results in mind. Right away the issue of determining what is to be changed comes to the fore. It is followed by several related matters. How to change it? When? In what ways? How? By whom? To what effect?

Change, in a business, organizational or workplace setting, is typically indirect; that is, you don't change *it*, you change something else and *it* changes as a consequence. *It*, of course, is the result you're after.

Knowledge Worker

Solving Problems in the Workplace

(February 2015)

And so, because change is indirect, you must think not just in terms of results but in terms of proximate, intermediate and ultimate results. *It* is the ultimate result in this chain of results.

The end result you're after is usefully thought of as a variable and your aim is one of changing its value. That variable exists in some structure composed of other variables and relationships and an important part of your task as a business problem solver is to identify that structure, where in it the variable you wish to affect is located, other variables and relationships that affect it, and where and how in that structure you can take direct, immediate action and have the effects of your direct and immediate actions "ripple through" the structure of the situation eventually bringing the variable you have targeted to its required value.

Enter here two more useful concepts: Points of Intervention and Points of Evaluation.

1. Points of Intervention is a term that refers to those places in the structure of the situation where you can take direct, immediate action and that, in turn, will eventually affect in desired ways the variable you wish to bring to some required value.
2. Points of Evaluation is a term that refers to those places in the structure of the situation where you can assess the efficacy of your direct and immediate actions, their intermediate effects and their ultimate effect on the targeted variable.

To intervene successfully, you must be able to trace the path that connects your Points of Intervention with your Points of Evaluation. To do that you are well-served by identifying and mapping the structure of the situation in which you are intervening and in which the proximate, intermediate and ultimate results exist. That structure is the context for your effort.

As stated at the beginning, solving problems in the workplace is a far cry from solving them in the classroom. For this reason you are well-served by realizing that what you are doing is engineering a solution, not simply solving a problem. The process you use is better thought of as Solution Engineering instead of problem solving and you are better thought of as a "Solution Engineer" instead of a problem solver. The diagram at the end of this column presents one view of Solution Engineering and serves to recap the preceding discussion.

This column is not the place to present an in-depth explanation of the model above or how to solve problems in the workplace. Instead, I will provide the interested reader with a link to an additional resource that can be examined and explored at the reader's convenience and consistent with the reader's interests: http://www.nickols.us/solution_engineering_basics.pdf In turn, it will point to yet additional resources.

Knowledge Worker

Solving Problems in the Workplace

(February 2015)