

Know How Scientists Think – and Think like that too!

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It is not necessary to study “Scientific Method” to achieve the kind of success science has with knowledge generation. In fact, religiously following “The Scientific Method” can cause you to fail in management and organizational environments (it has been proven to be so)!

Do you know that while the most eminent scientists do indeed explain their findings in terms of a “method”, when they “go about the work of science” they follow a completely different approach? And do you know that this approach is accessible to you and applicable to all environments?

Here are a few things you need to do (and they are so easy you probably think I am not speaking the truth when I say they are some of the most essential things you need to do if you want to participate in the success of scientific knowledge generation):

1. Decide what you are taking into account in your investigation (or study) and what not. You have to be able to explain and convince sceptics why you leave out what you decide not to take into account.
2. Think carefully about what assumptions you make when you think about your investigation (or study), and what assumptions you make when you process the information you have available. Note them down and make sure they are not rendering whatever results you might get irrelevant. (For instance, it is useless to investigate which product is cheaper if you assume the one product has a lower price than the other – it only pre-defines your result.).
3. Look at your assumptions and what you have chosen to take into account – are you aware of something that can influence these things in a meaningful way that you are not taking into account? If so, you need to add that to your list in (1) above and start from there!
4. Once you have decided what to take into account and what not, you need to have a careful look at the things you are taking into account: Which aspects of each are you focussing on and why? You have to be able to explain to critics why you focus on the aspects you do for the purposes of your investigation.
5. You now need to think about your investigation (or study) carefully. What are you looking for? (What is the objective of your study?). Do you have all information about the things you decided to take into account (and the aspects you decided to focus on) to derive new insights about your objective? If not, how can you obtain additional unbiased information? Then go and get that information!

6. If some information that you need just cannot be obtained (or are not unbiased), you need to make additional assumptions (i.e. you assume the most possible values) in order to move forward with your study – but these new assumptions may not contradict or negate any of your previous assumptions. Write these new assumptions down with the assumptions you already have.
7. Now review all your assumptions. Are they realistic, i.e. do they leave room for new insights about your objectives? If not, you need to start back at no 2 above and see if you can make better choices. If they do, you can proceed.
8. If you still cannot derive a clear conclusion with regard to your objective, you need to find out what additional information you need. Then proceed again from (5). If you find you need to review this over and over and go back to (5), you have probably not given enough careful thought in (1). Rather restart the whole process – BUT do not throw away what you have already learned, build that into your new attack.
9. Once you are able to arrive at new insights, you need to look at these results against the background of your assumptions and what you have decided to take into account – the insight is only valid for as long as those things hold true – all new knowledge has this “context” that encapsulates them. A good investigation will “hold out” longer, because you were more thorough in your choices of what to take into account and you made the minimum assumptions that do not limit the applicability of your results unduly.

This short description is for you to get going with “Scientific Thinking”. More importantly, it clearly shows that “Scientific Thinking” is a normal human function – we can all do it if we are willing to engage our own assumptions and what we choose not to see honestly.

Happy “Scientific Thinking”. You can do it!

You can also do a course where we’ll help you develop these and other more refined skills and apply them to your situation to run ahead of others in knowledge generation in the knowledge economy.

To do it online:

<http://main.vanthinking.com/index.php/2007100318/ST001A.html>

To do it live (South Africa only):

<http://vanthinking.co.za/index.php/2007122523/Scientific-Thinking-Skills-001A.html>

We also offer free online, interactive webinars on various subjects from time to time. You can participate if you have broadband access to the internet. Register as a user on www.main.vanthinking.com if you want to be informed of these (and choose “Yes” to be informed of the Webinars during the registration process).

