

How To Organise Experience For Learning And Improvement

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ABSTRACT

This paper explores a few approaches to organising information and discusses the characteristics of methods that work well in real-life situations.

1. Introduction

Schemas are the basic units of experience. Like molecules, they organize lesser elements into a workable whole. Only when experience is organized by schemas is it really useful; embedded in a schema is both an understanding of the experience it organizes, and information about how that knowledge is to be used. — Daniel Goleman, *Vital lies, simple truths*

The paragraph above tells you all you need to know about why we should organise knowledge. But it doesn't tell you how to do it or what ways are better in real-world situations, which is what this paper will focus on.

2. Ways to capture knowledge

I have always been more interested in how to do things than actually doing them. When I was young I found chemistry very hard to understand. I had a mental block of some kind. Eventually, I was sent to a tutor who taught me how to use flashcards and memorise large quantities of information.

I wrote up my entire textbook on small cards and went through them every day. I remember one of my teachers finding a stack of cards and jumping to the conclusion that it was an aid to cheating. I don't remember how that conversation went but I do remember getting a high mark on my chemistry exam. And then, while waiting for my final chemistry lab exam, something moved in my mind, something shifted and suddenly I realised what was going on. How practical chemistry was a process of experimental deduction, and how tests helped you work out what something might be because of the way it reacted with different things.

It was too late to learn chemistry and, in any case, I was far more interested in flashcards and knowledge organisation than in learning anything useful by this time.

By the time I started degree level studies I was getting used to taking notes in class in a way that would help with organisation later. Teachers tended to follow a format, a structure that would emerge as you took down what they said. In fact, what they said was less important than how they set it out. If I went to every lecture and took notes carefully, colour coding headings and grouping concepts then, even if I understood nothing in the class I could later go back and pull the structure together using a mind map and start to see what I knew, what I didn't know and what I needed to work on.

I learned from this that it was better to be able to capture the structure of knowledge in real-time. If I spent that hour in class capturing it right, it might only take a few hours to process and visualise a semester of lessons. And then it only took a certain amount of work to get ready for exams. I used to start preparing four weeks before exams and had a simple rule. I didn't work after 12pm and I didn't work on weekends. Anyway, the process worked, getting me a decent degree and cementing my interest in note taking.

So, a first principle from these experiences might be **capture knowledge in real-time**.

3. What happens in the real world

When you enter the world of work listening and taking notes is a huge part of what you do. I was lucky enough to observe some very experienced people do this and it led me down learning new ways to capture information. I learned shorthand, the U.S Gregg's version first and later the

U.K Teeline. I've forgotten Greggs but still use Teeline every once in a while. I have filled books with long form and shorthand notes, acres of pages of detail, that I never look back at and could probably throw away without feeling any sense of loss.

The problem here, perhaps, is one of retrievability. If you write down lots of things but there is no real organisation then it's hard to work out what matters and where it is. You have to go through everything again. Some people were very good at using sheer effort and brainpower to remember what was important — but I was lazy and didn't like anything that needed that amount of energy input. Still, I used that approach for several years, perhaps for nearly a decade.

4. Going back to school

Then I went back to school to do an MBA and dusted off my old note-taking methods — but the world had also changed in the meantime. The Sketchnote movement had started and people were using images and colour and movement on the page to capture concepts and principles. The MBA was very different from my engineering undergraduate degree. While there was lots of detail I had to learn for the the latter the former was all about concepts and a sketchnote style was perfect for that kind of thing. I could capture concepts that took three hours for a lecturer to articulate on one or two sheets of A4 paper and these diagrams helped me recall what mattered instantly.

The MBA, for me, was a year long rediscovery and exploration of ways to collect and organise information. It made everything more interesting and I discovered new things along the way.

For example, in a book titled *Student successes with thinking maps* I came across basic models for visually organising information. Kids use these, but grown ups often have no idea. Some people called these rubrics and the structure you chose to use would depend on whether you were brainstorming, characterising, contrasting, developing a process, critically appraising and so on.

In class a Professor looked at the way I was drawing notes and suggested I check out Professor Peter Checkland's work on Rich Pictures and Soft Systems. You can read about this in other papers on this site but the discovery of this body of research turned the two dimensional collecting of knowledge that I had been doing so far in a

three-dimensional method to understand complex situations and improve them.

The main thing that changed was that previously I thought about capturing knowledge as the way to represent The One True Way. What I was reading and being told represented truth and so all I had to do was to learn it and I would know what needed to be known. Checkland's work, along with other modules in the MBA, exposed me to the idea that what we see as reality is really perception based on what we already know. Everyone perceives the world in a particular way and what we need to first do is understand things from their point of view. We literally need to see things through their eyes before we can come up with a way to improve things. When you have many people they will all have different perspectives on a situation and change is less about the Best Way and more about an Accommodation or Compromise that will work for this group of people in this situation.

But, this requires you to be able to capture and hold multiple perspectives and compare and consider them together. The intermediate products of this capture process are, in Checkland's words, referred to as Rich Pictures and Conceptual Models, and there is an overlap with what Daniel Goleman refers to as Schemas in his book.

The thing that matters in this more complex world is not just the schemas themselves but the relationships between them — the roads that wind through the schemas. Meaning emerges from a system of schemas connected together in different ways. The schemas themselves might give you an insight into how the parts of the system but it is the whole that determines what it does or why it does it — and this in turn can be represented by a schema of its own.

This leads to the next principle which is that **The connections between schemas should be easy to construct.**

5. What I do now

This paper has turned into a reminiscence about the way in which I take notes and organise information and so perhaps it does make sense to describe what I do now and how it uses the principles that have emerged over time.

I capture sketchnotes and rich pictures digitally, avoiding collecting stacks of paper that I can't organise easily. The beauty of digital is that you have an infinite sheet of paper so the only thing that stops us writing more is running out of

things to say. The first benefit of this approach to taking notes is that while we capture a lot of detail, that detail is organised by space — we can remember where on the page we captured certain concepts or information. That spatial information adds a physical dimension to notes that makes them easier to recall.

The other, slightly unexpected benefit, of digital tools is that you can add layers to information. I found, for example, that after a note taking session structure inevitably emerges from the resulting picture — groups of concepts that are related can be circled and relationships can be formed. This is a little like placing a plastic sheet on a map and circling the places you are interested in and tracing the roads that are relevant. You end up with a simplified map but one that is grounded in the underlying detail of reality.

Some information is better captured freehand and using digital tools simply makes it easier to do it. Other information is better captured using programming tools. I am not a big fan of replacing a freehand approach with an approach that uses software with a graphical user interface (GUI). That, in my view, replaces the task of moving a pencil with moving a mouse, which doesn't really add much of value. The result might be neater but it is also less human and much harder to relate to — it's the difference between a cave painting and a Powerpoint presentation and our brains work with one better than the other.

Instead, I use tools that replace manual control with programmed control. If you can describe nodes and links using a program and then let it construct the picture — the schema or the conceptual model — then you've reduced the manual component of the work significantly. This makes it easier and quicker to create schemas which, if you remember that understanding depends on being able to create multiple schemas with relationships, makes it easier to make, destroy and remake schemas.

It's often hard to see how things work when you read a description so the images below are examples of how I do this and how I select what approach to use when.

First, we have a Rich Picture, a note of things being told to me in real time. As you can see, you have the underlying information and also a layer of the concepts that emerge from this.

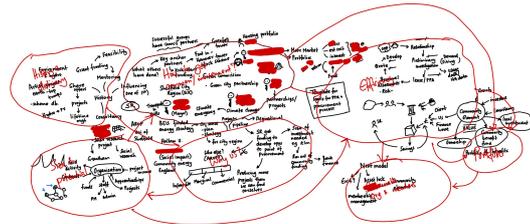


Figure 1: A Rich Picture

The next image is a cleaned up, hand drawn conceptual model. This takes time to draw and is a cleaner restatement of the kind of messy version that emerges from Figure 1. Apart from being easier to read it adds no new content or value. While I like the look of this model, it takes time to create and more time to change and, being lazy, that doesn't work for me.

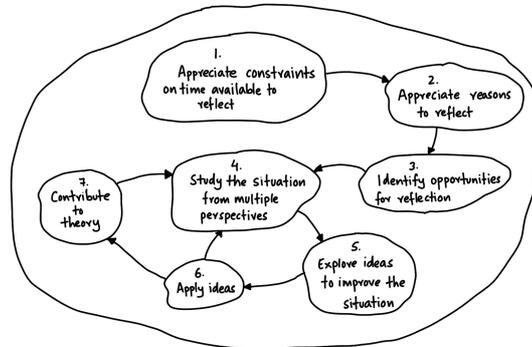


Figure 2: Hand drawn conceptual model

So, the approach I use is to create models using a program. This approach means that all I have to do is describe nodes and define the links between them and the program creates the picture. This is shown in the image below. It's quick to do, easy to change and so, in my view, worth doing.

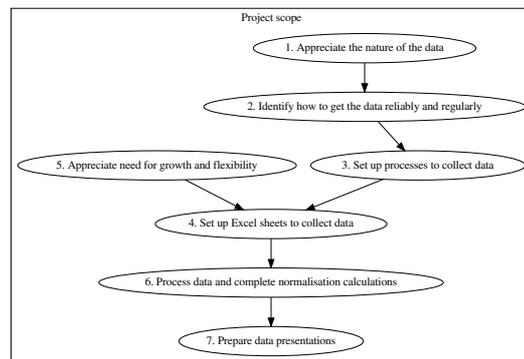


Figure 3: Program generated model

A final element that needs to be considered is how to pull all these models and images together

— how do you document the connections and relationships between them?

I use the same technology I use to create the paper you are reading right now. A program that lets me write text, include images and pull everything together. You could use html and a webpage and construct a workflow that works for you.

What I wouldn't use is an approach that uses Microsoft Word and requires me to paste in a copy of an image. Without going into details my entire approach to organising knowledge is to invest manual work and time only when it cannot be avoided and when it adds value. Human beings are good at listening, drawing and visualising complex things. Technology is good for calculating and automating repetitive tasks. I try and use both approaches for the things they are good at in a way that works for me.

6. Conclusion

You may have realised as you read through this that these papers are not peer-reviewed publications that conform to any standard or expectations. In fact, I write them over a couple of hours every Sunday as I wait for my children to finish their sports classes. They help me organise my own experience into a different form — one that takes the form of an essay supported by other elements that I have created over time. This particular paper describes an approach that works for me, that builds on my interest in drawing, programming and organising knowledge. It works for me, but it has also changed over time and will probably change again.

The other thing to note is that the way I do things is hard to copy unless you are also interested in drawing software, willing to learn how to use a tablet pen and have some knowledge of programming and perhaps a mild obsession with the topic in the first place. The title of this paper should really be “How I organise experience for learning and improvement.” I've learned more about how I do it writing this paper than I knew a couple of hours ago.

If it helps you get a few ideas, then that's a bonus. If you would like more examples of the kinds of things that I do, have a look at some of the other papers on this site and some of the blog posts.

About the author

Karthik Suresh is a Management Consultant who helps customers with energy, utility,

sustainability, research, innovation and knowledge management projects. His experience includes working with large and small organisations to select and implement strategic decision systems, improve and develop management capability and deploy risk management, IT, communications and information systems projects.

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