

# Deep Learning in Training

## Part 1: Deep Learning vs Flat Learning

When at school, how often were you presented with information that meant nothing to you? Perhaps it had no bearing on what you were interested in or no association to what you already knew. Teachers 'drilled' information into you by making you recite parrot fashion until you had a useless list of data installed!

Did you ever sit in lessons thinking 'why?' and 'what's this got to do with me' and 'gee, this is boring'? I remember thinking that a lot at school. As a geography teacher talked at us about the major glove manufacturers of Manchester, my brain would drift elsewhere to 'Dungeons and Dragons' and ZX Spectrum computer games and girls (forgive me, I went to an all-boys school, and girls were a mystery to me!) To misquote Lewis Carrol, I believe they were called 'lessons' because my interest in them would lesson and lesson.

Welcome to the world of 'flat learning' ... data coming at you from an external source... bearing no relationship to your interests or your real-world experiences.

What if the geography teacher had started with our existing, albeit limited, knowledge and experience of gloves? Perhaps by asking us some questions like: How many of you have at least one pair of gloves? What sort of gloves do you have? What are they made of? Do you know where they come from? Better still, the teacher could have asked us (in the previous lesson) to bring a pair of gloves with us. Then we could have examined our gloves, looked at the labels and see where they were made. Now we have some sort of connection to the content of the lesson.

This style of teaching would help to create 'deep learning' ... starting with the audience's experience and working out from there to new information.

'Flat learning' is hit and miss; it can only be engaging by fortuitous accident. Information streams from the presenter and it may or may not link to the knowledge and experiences of the audience. To use a metaphor, often quoted in NLP, "everyone has their own unique map of the world"; flat learning can sometimes land... but more often information is lost at sea. 'Deep learning' starts with the map, the shared experiences of the group and help develop new pathways to previously uncharted territories.

By modelling the behaviours of people that truly engage their audience, we developed the Deep Learning model. Here we have our first rule of the 'Imaginarium Deep engagement approach to Learning' (IDeaL):

**IDeaL Rule #1 Start with the mind of the audience and work from there.**

## **Part 2: Deep Learning, AI and the Brain**

I have no doubt that you've been on training courses and attended presentations. As a member of the audience, consider for a moment the difference between those that engaged you and those that really didn't. Those that engaged you will have no doubt been more memorable; and you might even remember some of the things you learnt!

This could be the difference between 'deep learning' and 'flat learning'.

### *Deep Learning and The Brain*

Simply put:

- 1) You have a brain... a massive network of neurons that is forever updating and forging new connections.
- 2) As we learn, new associations are made across the brain where neurons wire up to other neurons. If two neurons (or sets of neurons) are triggered at the same time (or in close sequence), the brain will fuse those two together (known as Hebb's Rule).
- 3) Where we have knowledge, experience or expertise in a subject, there will be denser 'hubs' of connections within the neural network.
- 4) Information we receive that doesn't connect with a 'hub' is soon forgotten (i.e. it is not learnt) unless it is associated with a significant trauma.

Point 4 above is the key to 'deep' verses 'flat' learning. Presumably, we don't usually want to create a trauma in an audience (unless it is a massively positive awakening/ inspiring/ transformational moment), so in order to create deep learning, we need to 'plug in' to the existing neural networks in our audience.

### *Deep Learning and AI (Artificial Intelligence)*

To add another layer here, deep learning is used as a model in AI theory. Of course, you are already familiar with Artificial Intelligence and you will probably have your own

opinions as to its pros and cons. AI often uses the analogy of a biological neural network, so here, we are borrowing the analogy back!

Deep learning in AI is about creating layers of processing and understanding, starting with raw data and building up to something more meaningful. For example, starting with lines and edges and then shapes and then patterns of shapes and then faces and then movement of faces to reading and understanding facial expressions.

Deep learning as an approach to training, presenting and facilitating works from the same principle of starting with the raw data (i.e. the audience's direct experiences) and then building up from there to identifying other examples then patterns then more general concepts, models and approaches. As we 'layer up' we create more meaningful and useful information, hints, tips and techniques that people can take away and utilise.

Using the Deep Learning analogy from AI and understanding how the brain learns, we have our second rule of the Imaginarium Deep engagement approach to Learning (IDeaL):

**IDeaL Rule #2 Start with the specific sensory experience of the audience (e.g. what they see, hear, feel, remember) and build on this to create new meaningful learning.**

### **Part 3: An Example of Deep Learning**

Have you ever sat in an audience where the trainer/presenter talks... and talks... and talks? How long can you hold your attention on the speaker or the content? Have you found yourself using strategies, like taking notes or doodling in order to stay present in the room?

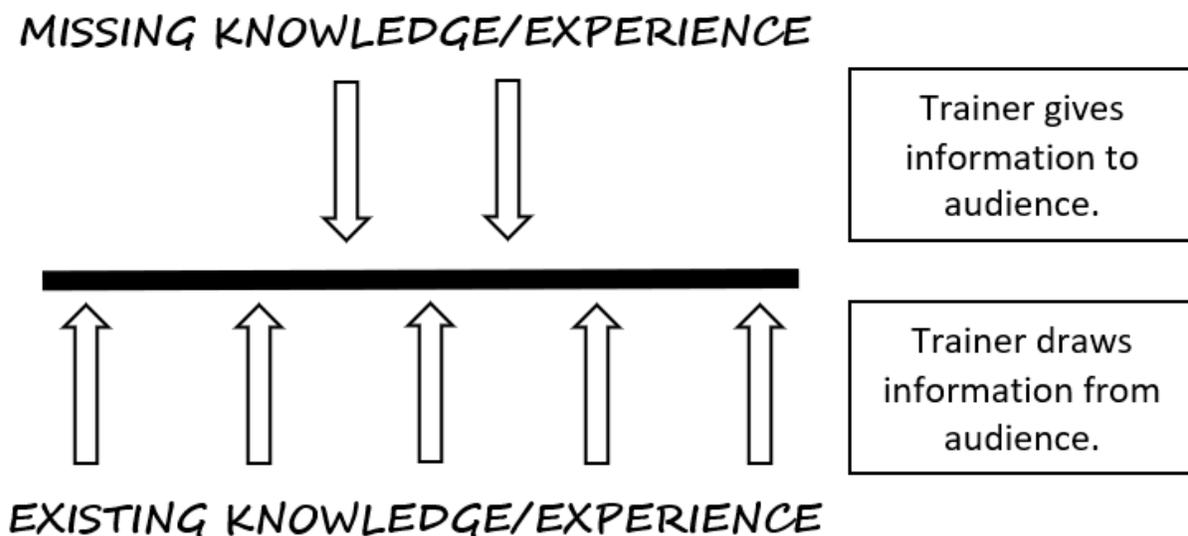
Some topics will be right up your street, perhaps answering a question or solving a problem that you have. Alternatively, it may be pertinent to your day to day work or perhaps tingle bells of fascination! However, many topics, when taught in a traditional 'talk and chalk' approach are dry, featureless and barren; tumbleweed becomes your only friend. Welcome to the desert of 'flat learning'.

When I'm running 'Train the Trainer' courses, I often get asked: "How do I make technical information or policy training interesting?" The assumption here is that we cannot run a technical/policy training session without dumping information on people. So, how can we take a dry subject and apply 'deep learning' to make it engaging?

Now, I don't teach 'Ladder Safety Training', but imagine the following two scenarios:

- 1) The trainer shows a PowerPoint slide. It has ten things you need to do when using a ladder. The trainer starts with the first point and talks through it... and continues by discussing each point in turn.
- 2) The trainer asks the audience to imagine a ladder against a wall... and then gets them into small groups to come up with ten things that could go wrong if someone tries to climb the ladder. The small groups discuss and then the trainer asks them for ideas, perhaps writing them on a flipchart. The trainer might add a couple of other dangers. Then the trainer asks them to come up with ideas for preventing or resolving the things that could go wrong. Back into small groups to discuss and then the trainer asks them for the audience's 'top tips'. Now the trainer shows the PowerPoint slide and checks off the things already covered by the audience, pausing only to add any items that the audience may have missed (including correcting some problematic answers!)

The first approach (flat learning) is probably the most common and easiest for the trainer to control. However, whilst the second approach (deep learning) may appear more complex, it is actually less effort for the trainer and much more engaging for the audience. It presupposes that the audience already has knowledge (and it acknowledges the knowledge!) and it allows the trainer to draw from the group, bringing knowledge to the surface. This means it is a group-shared learning process.



Where the audience lacks information, then give it to them. However, if they have any experience or knowledge of the topic, find ways to gather it from them and then build on

it. This gives us our third rule of the Imaginarium Deep engagement approach to Learning (IDeaL):

**IDeaL Rule #3 Start with the audience’s existing knowledge, draw it to the surface and then add any missing information.**

## **Part 4: Applying Deep Learning**

“As you can see from PowerPoint slide number 79, it says...” and the trainer turns their back on the audience, faces the screen and reads out exactly what’s on there. Have you seen this one? Have you perhaps done it yourself?

If you are delivering training or a presentation, and you want it to engage the audience, ask yourself this question: “If there was no PowerPoint, how would I deliver this?”

‘Deep learning’, as a rule, has no screen. Most PowerPoint type approaches and e-learning (though a screened device) are as flat as the screen itself. Can e-learning be deep? Yes, if it is self-directed (i.e. you have something specific to learn, because you have a desire and/or you need to learn it). Videos, audios, books/reading materials are all unidirectional and hence do not necessarily utilise your existing neurology to the fullest. It is only when you have a genuine interest that you can get the best from these media.

I recently ran a series of courses for a company, designed to introduce and educate staff about their new disciplinary policy. Traditionally, these HR policies would be taught bit by bit via a PowerPoint style presentation.

Instead, whilst designing the course, I asked them to tell me the main things they wanted people to take away from the session. We then turned these into a set of questions. On the course itself, the audience got into small groups with a copy of the policy and the set of questions. They had an hour to discover the answers for themselves and to write down other questions that they then had as a result of looking through the policy. With a member of the HR team in attendance, we then discussed the answers to the questions they had been set. They also raised their own questions (many of them were ‘what if...’ type questions). This led to an engaging conversation that everyone could be part of. It also allowed those with experiences to talk about things they had encountered, and how they handled them. The feedback from this course was very different (in a good way!) to previous ‘flat learning’ courses (see: <http://imaginariumdev.com/wp-content/uploads/2019/04/Cardtronic-Having-Tough-Conversations.pdf>).

What I particularly love about the deep learning approach, is that it uses the collective intelligence in the room, not just a single source. I continue to learn from others, both in their real-world examples and in their approaches to handling situations.

This gives us our fourth rule of the Imaginarium Deep engagement approach to Learning (IDeaL):

**IDeaL Rule #4 Wherever possible, make the learning a conversation with the audience. Use the collective intelligence of the group. As the trainer, be open to learning new things.**

### **The Author: Joe Cheal**

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He holds an MSc in Organisational Development, a degree in Philosophy and Psychology and diplomas in Coaching and Psychotherapy.

Joe is an NLP Master Trainer who enjoys learning new things... by exploring diverse fields of science, philosophy and psychology and then integrating these 'learnings'. He is the author of '*Solving Impossible Problems*', '*Who Stole My Pie?*' and the co-author of '*The Model Presenter*', '*The Relationship Dance*', '*The Little Book of Persuasion*' and '*The Little Book of Resilience*'. He is also the editor of *Powered by NLP 1 & 2* and the journal *Acuity*.

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