Cognitive Behavioural Therapy Application in Flight Training

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The following are some comments that some of my training colleagues have made about their trainees.

> "He just can't seem to focus"
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> "She keeps trying and trying but just won't do what she's been taught"
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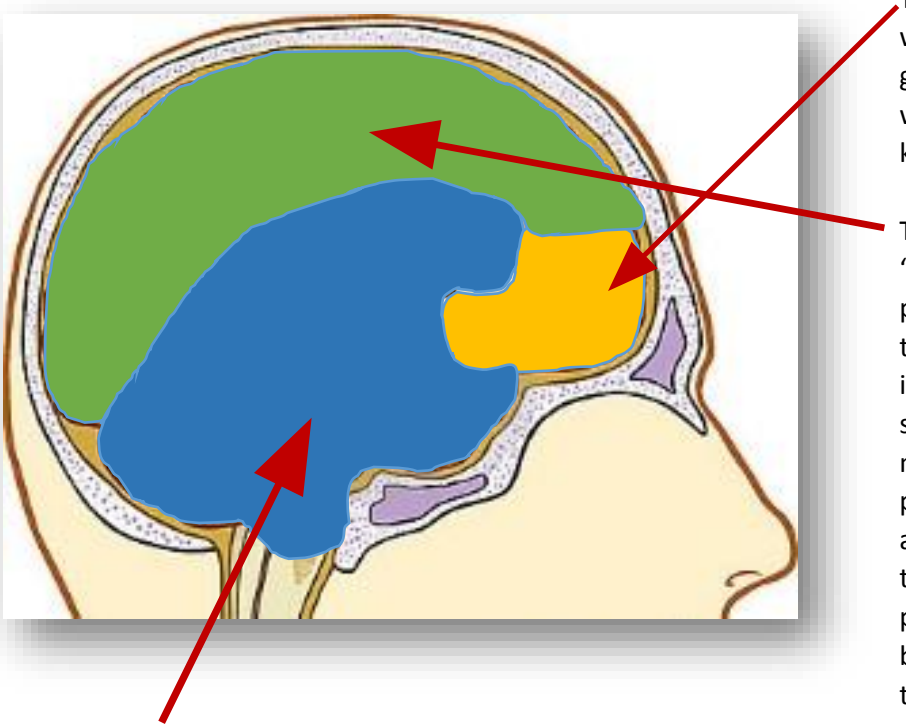
> "I don't know why he still has a problem; I debriefed him for three hours the other day"
>
> "She knows it all in the briefing room, but it all goes wrong in the simulator"

We want to improve the effectiveness of our training, so it would help to know what the barriers are to learning. In some cases it's simply a lack of knowledge; sometimes (very rarely) a lack of application – laziness. However, I would suggest that in the majority of cases it is an *emotional* hindrance of some sort. When a trainee is not performing to standard – the standard they *know* they can achieve – it is most likely because they are encumbered by their emotions.

Why might that be? What is going on inside the brain? For our purposes, we can divide it into three areas.

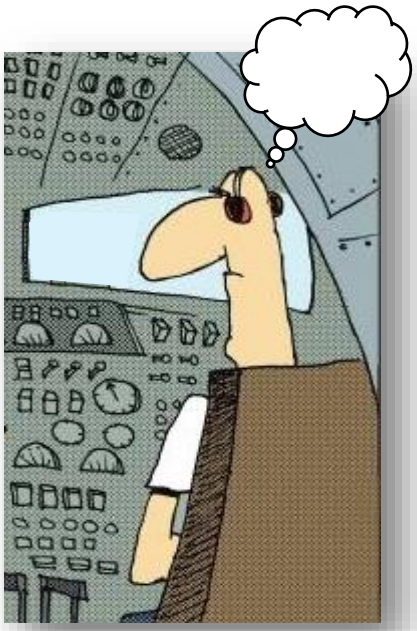


This is the input (pre-frontal area), where all information about the world is gathered via the senses, and through which instructors impart their knowledge.

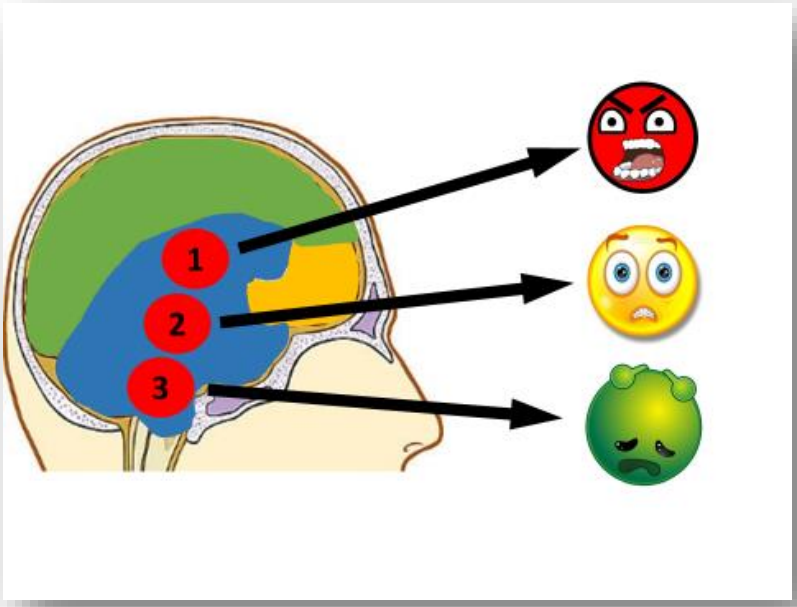
That knowledge is stored here: this is the 'human brain' (the neo-cortex). This is peculiar to human beings as a species; this is where we plan - where we imagine. We can observe the facts of a situation and create a solution (which may never have existed before) so it provides an enormous evolutionary advantage. When we perceive things as they are, create a solution and act on the plan – in other words, when the *human* brain determines our actions – we tend to get it right.

The rest constitutes the 'chimp brain' (which includes the brain stem, the limbic system and the amygdala). This is our survival mechanism; it keeps our animal bodies alive. In that capacity, it is also our stress responder. Which makes sense: if our primitive, animal selves were placed in a stressful situation – say, a sabre-toothed tiger running towards us – it's no good trying to observe the situation and create a plan. We need a faster acting response: "Teeth! Argh! Run!" And, thus, we survive.

However, in or modern world (which is mercifully devoid of sabre-toothed tigers) allowing the chimp brain to dictate our actions will very often lead to 'unhelpful behaviour'. Unhelpful behaviour is simply where we behave differently to how we 'know' we can. If we say afterwards "I don't understand why I did that", or "I don't know what I was thinking", chances are you weren't thinking; at least not in the sense of engaging the human brain. Indeed, whenever 'unhelpful' behaviour is manifest there is a very good chance that it is because the *chimp* brain is dictating our actions.



Let's look at a hypothetical (but not uncommon) example from aviation: we have a trainee pilot on his type rating course. He is practising his drill for engine failure after take-off. Now, in the briefing room he *knows* his drill perfectly; what he is supposed to do and in what order. Yet every time he tries it in the simulator he initially freezes up and then performs the wrong action or an action from another drill altogether. He is capable of acting appropriately, but cannot behave the right way when it is required; this is the epitome of 'unhelpful' behaviour.



So what's going on in this poor trainee's brain? As already mentioned, when placed under stress, the chimp brain acts to protect us; it does so by generating little, primitive thoughts which, in turn, generate *emotions.*

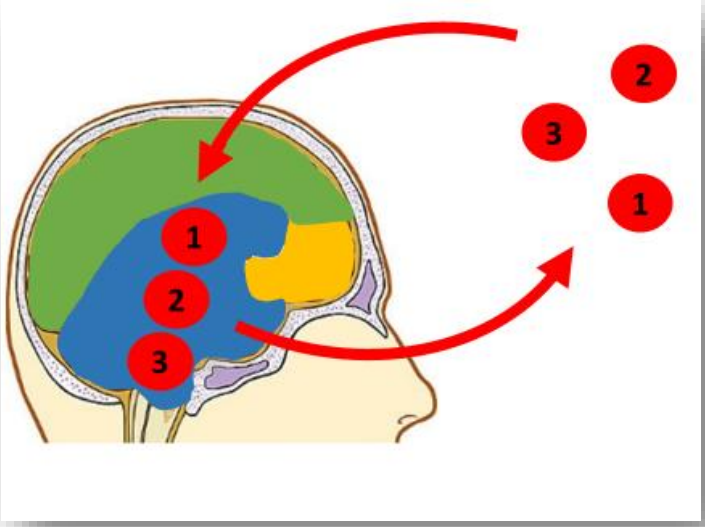
These might be:

1) How dare they? This is unfair!
   leading to **anger**
2) This is going to be awful!
   leading to **fear**
3) Why bother? I'll just fail again…
   leading to **depression**

Anger, fear, depression: the only currencies in which the chimp brain deals.

Now, in cavemen these are great. They are powerful triggers for protective action, because we will either attack the threat, run away from the threat, or stay at the back of the cave and hope the situation changes. But in modern humans - whether that's our example trainee in the simulator, the pilot who stalls an aircraft in sudden turbulence or (it might be argued) the citizen voting for Donald Trump - acting in response to anger, fear or depression will produce unhelpful behaviour.

Okay. No problem, though, right? Just keep the thinking in the human brain and you will be fine. Don't respond emotionally, don't *be emotional*; just *think*, for goodness' sake, and you'll get it right….

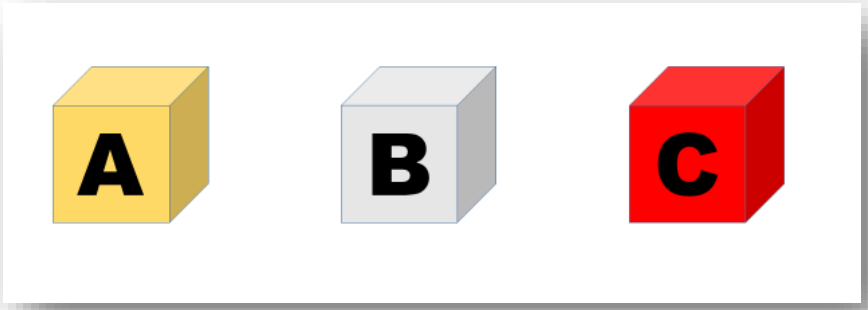


The problem with that is that is that once the initial emotions are triggered *they themselves* become a source of stress. If I am in a state of, say, anxiety I imagine future events as a worst-case scenario; so thinking about the future becomes stressful. We end up, then, in the 'chimp brain loop': a feedback cycle of stress, thought, emotion, thought and further stress. Our example student is trapped in this loop; he cannot access all the knowledge in his human brain.

We need to recognise – and encourage our trainers to recognise – the importance of emotions. They should not be dismissed as 'touchy-feely stuff', nor supressed, but recognised as natural and *managed*.

So, how might we manage an emotional response which is leading to unhelpful behaviour? Fortunately, the psychotherapists have got there ahead of us, having developed **cognitive behavioural therapy**. This was originally developed to combat mental health conditions such as clinical depression, a debilitating condition where the 'chimp brain loop' has reached a point where the patient not only struggles in high stress situations but it is unable to function in their life as a whole. However, the principles can also be deployed in a more localised way to any situation where an emotional response is inhibiting performance.

Cognitive behavioural therapy relies for its effectiveness on the fact that how we *feel* about a situation is not related directly to the situation itself but rather to how we *think* about the situation. It is this *thinking* that needs to be discovered and then challenged. The most useful way to imagine this is by using the ABC model.



A is the '*activating* event'; the event which produces the strong emotion. In our example it's the student practising his drill in the simulator

C is the 'emotional *consequence*'. Here we examine the subject's behaviour - their body language, actions, tone of voice and so on – to determine precisely what emotion he or she is experiencing. Incidentally, this demonstrates a vital quality of effective trainers: *emotional intelligence*. Technical expertise is valuable to an extent - seniority arguably less so – but of prime importance is that ability to be able to detect how others are feeling and adjust one's approach accordingly.

Having said that, we've concluded that the chimp brain is in charge here, so that narrows down our choice: anger, fear or depression. That 'freezing up' behaviour is highly suggestive of fear, or rather *anxiety*.

B is the 'belief', but not in the active cognitive sense. It is the automatic thought response produced by the brain in response to a stressful situation. And *this* is what we must uncover to help our trainee. This particular piece of detective work is made easier if we bear in mind the following fact of psychology:

When it comes to our emotions, **there is no such thing as an over-reaction**. This is because we don't react to events (to **A**s) but to the thoughts triggered *by* the events (the **Bs**). We are going to talk to our trainee to uncover the belief *which is in proportion* to the emotional consequence (the **C**). Essentially, this consists of asking him the question 'so what' over and over again:

You're worried about something. What is it?

That I might get it wrong

So what?

I'll get behind in the training

So what?

I won't pass the course in the required time

(Note that, so far, all of these thoughts are enough to cause nerves, but *not* to cause the paralysing anxiety with which our student seems to be afflicted. However…)

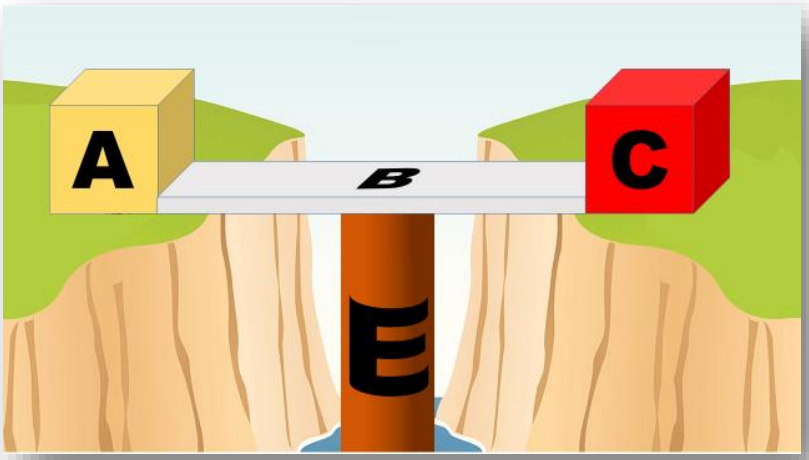
So what?

I might fail

Eureka! Now that *is* something worth getting anxious about! And this thought 'I might fail' is a fundamental – almost structural - part of the trainee's make-up. In this conception, we can see that there's no point attacking the emotion (**C**) because *every time* he does his drill (**A**) the thought 'I might fail' (**B**) is triggered and leads *inevitably* to the anxiety. Note, also, the importance of providing a relaxed and permissive environment to allow trainees to express themselves to this extent.

Beliefs like this, however, do not exist in isolation. Which brings us to another fundamental psychological fact:

For every belief I have **there is something *I count* as evidence.**

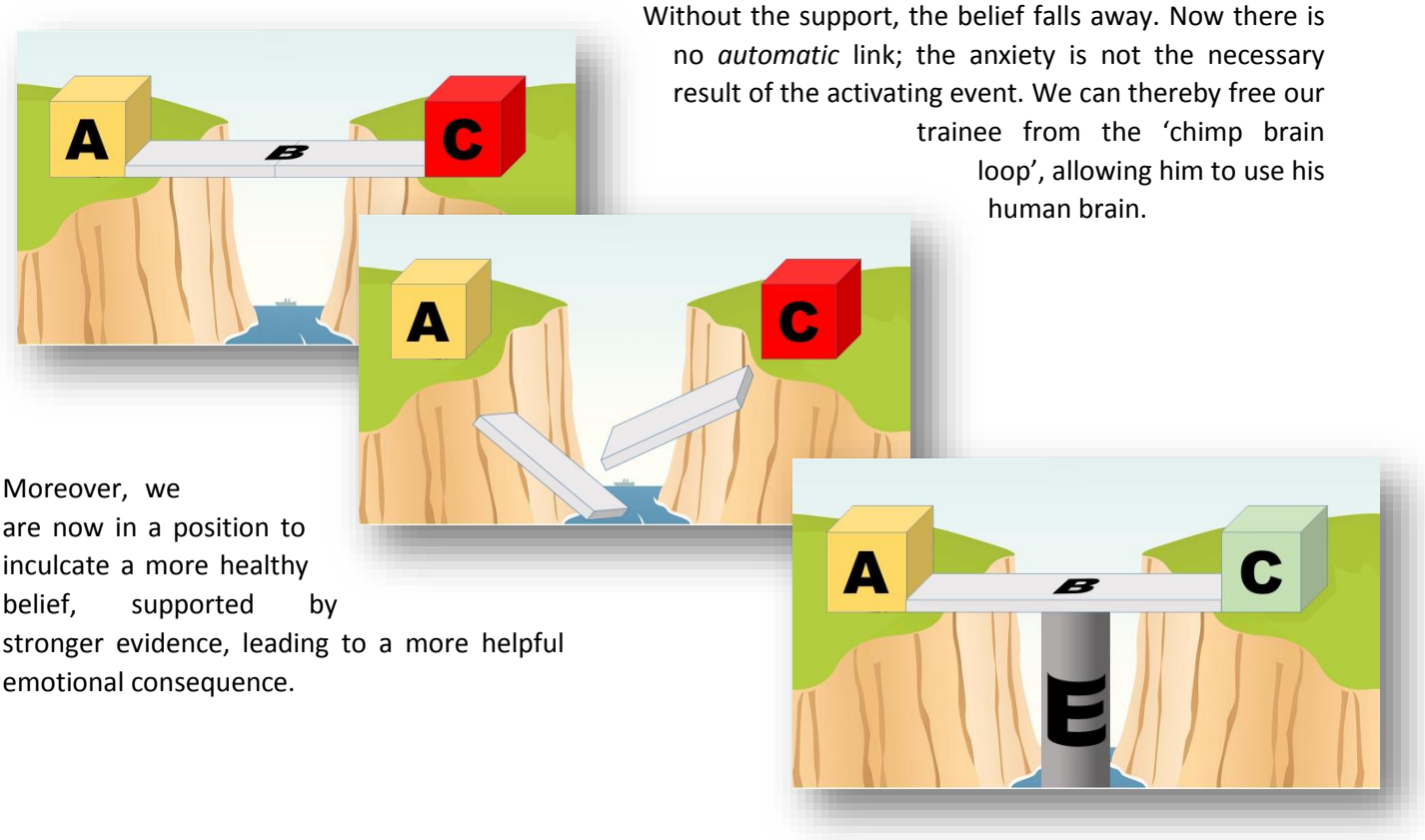


So again, we will ask our trainee the question: 'what makes you think you might fail?' And perhaps he had friends in the military who didn't make the required standard and were 'chopped', that is, *failed* to become pilots. You or I might not regard that as evidence for the idea that 'I might fail', but our trainee (deep down) does.

So we have this situation: an unhelpful belief (**B**) supported by evidence (**E**) which causes the ultimate emotional consequence (**C**) of an activating event (**A**). The missing letter in all this?

D is for 'dispute'. We take this piece of evidence, and challenge either its truth or its support for the belief. Here we might say 'you are not in the military. It's in *our interests* to see that you pass. Should you need extra training then fine, we can provide that. But that is for *me* to worry about, not you'. Hopefully as a result of the challenge, he comes to see that his friends 'failure' is *not* evidence that *he* will fail.

In other words, the evidence no longer supports the belief.



Without the support, the belief falls away. Now there is no *automatic* link; the anxiety is not the necessary result of the activating event. We can thereby free our trainee from the 'chimp brain loop', allowing him to use his human brain.

Moreover, we are now in a position to inculcate a more healthy belief, supported by stronger evidence, leading to a more helpful emotional consequence.

I would submit that we need to equip trainers with this technique (and others) of psychotherapy. Because, fundamentally, trainers and therapists are in the same business – that of modifying behaviour; seeking to ensure that our actions originate from the human brain and not from our primitive, chimp selves. And this we do best not by denying our emotions or supressing them or dismissing them as unimportant, but by acceptance and encouragement. Whether we are training or managing training programs it is important to remember, as technology advances apace, that whilst we are blessed, mercifully, with amazing, cognitive, rational, *human* brains we still have flesh-and-blood *emotional* animals at the controls of our aircraft.