STICKINESS
SKILLS RETENTION & SYNTHESIS

The framework for Belding Skills Training & Development programs

Shaun Belding

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How do we get training to stick? It's the million dollar question. Experts have long ago agreed that the interminable hours long dissertations and lectures are as ineffective as they are tedious. And with today's training culture so focused on measurability, the question of skills retention and synthesis, or "stickiness", is more relevant than ever.

> *There are ten criteria to creating stickiness in training*
> 1. Train using visual, auditory, kinaesthetic and tactile tools
> 2. Make skills relevant and related
> 3. Use low density classes
> 4. Use short classes and short modules
> 5. Repeat the message often
> 6. Keep the message consistent
> 7. Provide the learner with motivation
> 8. Provide the learner with confidence
> 9. Provide the learner with support
> 10. Provide the learner with feedback

What we know, and what we do

Stickiness, as it relates to training, essentially involves two different elements – retention of the information being presented; and synthesizing the skills – putting them into practice in a live environment. They are two quite different concepts, and one does not necessarily follow the other. It is quite likely, for example, that US President Bill Clinton *knew* that fidelity was important to both his marriage and his career, and he *knew* what fidelity was. What he did, of course, was quite a different story. I *know* that I'm supposed to keep my head down when I'm golfing, but...

Training that actually translates into habitual behaviours in a live environment, therefore, must address both what people know and what people do. They are two separate and distinct outcomes, and need to be treated as such.

MEMORY AND SKILLS RETENTION – CHANGING WHAT WE KNOW
"We remember what we understand; we understand only what we pay attention to; we pay attention to what we want." - Edward Bolles

A great number of studies have been conducted regarding how we process and store information, as well as on the effectiveness of different instructional approaches in facilitating the transfer of information into short- and long-term memory. What is clear are two things: The first is that individuals differ greatly in learning styles, and that retention is proportionate to the

appropriateness of the instructional approach. The second is that, beyond learning styles, there are some common denominators to more effectively creating retention of concepts and knowledge.

1.   Learning Styles

As has become common knowledge in the training industry, there are four fundamental learning styles: Visual, Auditory, Tactile and Kinaesthetic.   Solid evidence exists that there is a direct causal relation to how well instruction matches a learners learning style, and how much information is retained.

There are a great number of unsupported statistics flying around these days as to which learning styles are the most important. The truth is that, in order to maximize retention within a mixed group of learners, all four learning styles must be addressed.

Just to clarify things, however, a 2002 survey of students by the Lewis Center for Educational Research in California gives us an indication as to the proportion of learners to learning styles:

Learning Style	# of students	Percentage
Visual	167	29%
Auditory	123	22%
Auditory/Visual	76	13%
Tactile	57	10%
Kinaesthetic	54	10%
Visual/ Tactile	35	6%
Visual/Kinaesthetic	23	4%
Kinaesthetic/ Auditory	14	3%
Kinaesthetic/Tactile	12	2%
Auditory/Tactile	7	1%

To ensure information and skills retention, therefore, the primary training methodology must involve both visual and auditory elements. This will reach 65% of learners. To address the remaining 35% of learners, both tactile and kinaesthetic elements must also be included.

A picture is worth a thousand words

The importance of visual learning has been well documented. In 1997, for example, Ollerenshaw, Alison, Aidman, Eugene, & Kidd, Garry conducted a study that demonstrated clearly the positive impact of visual learning. More importantly, as Park & Gabrieli established in 1995, *pictures are inevitably remembered better than words on tasks of recall and recognition*.   This is important to remember in the design of a training program.
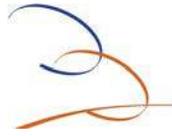
More importantly to note is that, although 65% of learners are visual or auditory, *tactile and kinaesthetic approaches are required to create stickiness*. In 1996, Ellis, Whitehill, & Irick established that getting hands-on experience was even better than pictures. In their study, they found that memory of pictures is significantly less than memory of interaction with operating and assembling an actual device.

2. **Common Denominators To Creating Stickiness**

a. **Relevance and Relatedness**
The more relevant the subject matter is to the learner, the more likely it is to be retained. If the information is addressing a current need, recall is inevitably better. The tendency to retain information, in fact, is directly proportionate to the immediateness and perceived importance of the learner's needs. For instance, most people will quickly memorize and retain the personal identification number for their bank card, but would not do as well memorizing the licence plate of their car. The need for memorizing your PIN number is important, because writing it down is not a recommended option. It is also immediate – something you will likely need to have top of mind in the short term. Memorizing your car licence plate is far less important – because it is easy to refer to just by going out to look at it, and it is not a number that you will be required to know all that often.

As with relevance, relatedness is also desired. Borowsky & Besner in 1993 established that words as well as pictures are read or understood faster when preceded by a related context. For instance, it is easier to identify the word "butter" when it comes after "bread" than when it comes after "doctor" This impacts the sequential requirements of training design, as well as the need to have conducted a thorough participant analysis.

b. **Low Density**
Although much is said about the "less is more" theory, it is rarely practiced in training. There is a great deal to indicate that low density training – training which focuses on fewer learning objectives – is far more effective than training that "covers a lot of ground."

A 1984 study by Russell, Hendricson, & Herbert, graphically demonstrates that no more than 50% of material presented should be new, and that the rest of class time should be devoted to material or activities designed to reinforce the material in learners' minds.

This principle was supported in 1997, when Shadmehr and Holcomb ("Neural correlates of motor memory consolidation") illustrated the importance of simplicity in establishing retention. People who learn and master a skill (A) and then immediately learn and master a second skill (B), performed poorly when skill

A was performed 5 hours later. People who learned a skill (A), waited five hours, learned a second skill (B), and then waited five hours were able to perform both skills successfully.

c.   Short Modules, Short Classes
It has been shown many times that the average adult attention span in a learning environment is about 15 minutes, and that modules within a class should not exceed that time limit. As with the low density principle, studies have also shown that retention of key learning points does not increase from a full-day to a half-day program – and can actually *decrease* depending on the density of the program.

d.   Repetition
Repetition is a key component to moving information from short-term memory to long term memory.

The Fading Effect
H.F. Spitzer, in his prominent 1939 study on memory retention, demonstrated how memory fades.   He showed how, when information was taught, but unsupported, recall diminished over time:

Time from First Learning	% of Material Remembered	% of Material Forgotten
After 1 day	54%	46%
After 7 days	35%	65%
After 14 days	21%	79%
After 21 days	18%	82%
After 28 days	19%	81%
After 63 days	17%	83%

His research highlighted two clear points: First, that regular reinforcement of information is critical to combat fading. The second is that, even unsupported, a residual portion of information will remain in memory over time. This supports the theory that the impact of training over time is in fact cumulative.

Atkinson demonstrated in 1968 and Bernbach again in 1971, that memory increases gradually with successive repetitions. In his "Economics of learning," P.A.Wozniak again demonstrated that repetition is important, as is the spacing of repetition.

It is also critical to maintain consistency of message and avoid confusion. Given Russell, Hendricson, & Herbert's finding's that no more than 50% of material should be new to ensure retention, changes in messaging on a single topic can be counterproductive.

PRACTICAL APPLICATION AND SKILLS SYNTHESIS – CHANGING WHAT WE DO
For a learner to apply the skills in a live environment there are several elements that must be in place. As previously mentioned, simply having a skill does not necessarily translate into using a skill. For example, imagine your employer sent you to break-dancing school. You have no real interest in break-dancing, but you were informed that going to the class was mandatory. Chances are, you are not going to automatically start doing your break-dancing routines in the office, even though you now have the information and knowledge to do so if you wished.

For a skill to become a *practice* – applied on a consistent basis, there are four key elements that need to be in place:

Motivation:
The more compelling the motivation, the reason for doing it, the more likely the skill will be applied. For example, tell the administrator-turned-break-dancer that he'll get an extra $5 a week to do a dance routine in the office, he would still likely turn it down. He might consider it, however, if you were to make the motivation a little more compelling by telling him he'd be shot if he declined.

Motivation can be internal (eg. pride, integrity, loyalty etc.) or external. External motivators can include financial incentives, positive reinforcement, contests, etc. The most effective external motivator is establishing non-negotiable performance standards, and framing those standards with positive and negative consequences. The standards have to be set and consistently maintained by a superior. The new behaviour becomes *expected*, and nothing less is acceptable or tolerated.

Confidence:
Because the skill is new, people often lack the confidence to make change. The more confident we are in the veracity of the skills, as well as in our abilities to execute them, the more comfortable we will be trying them. The break-dancer will be more likely to try a routine if he is confident that it will be accepted and that he will do it well.

Support:
People will be more likely to continue trying to develop more skills in a live environment when they are being consistently *assisted* and *encouraged*. This requires coaching, and the attention of direct supervisors. The break-dancer will be more likely to try if he is being encouraged, and if he knows that there is someone there to provide guidance.

Feedback:
People are more likely to continue an action when they see positive results to the action. This requires coaching, and continuous feedback. Once the break-dancer has had success, and received thunderous applause, he might be convinced to do it again.

Stickiness – the permanent transfer of new concepts, and shaping of new behaviours – is created by ensuring that these ten criteria are met. And it only takes one of the criteria to be missing to have a significant negative impact on the stickiness of a training program. The difficulty in attaining stickiness is that the people typically charged with the training rarely, if ever, have control over all of the criteria. A well designed and executed customer service training program, for example, can be marginalized by the absence of enforced performance standards.

The other challenge is the pressures on H.R. and Training Managers to try and keep people "on the cutting edge." Many people are reluctant to champion sticky-friendly training because it can be perceived as lacking the forward motion that befits a progressive company. Proposing that you trim your annual training initiatives from a dozen to two is a hard sell. Going back to people with training that covers half of the same learning points as the last two sessions can appear unimaginative and unambitious to senior management. Not plugging in those three or four extra key learning points to fill out a session is a hard temptation to resist. Intentions to move away from full-day training to half-day training easily falls victim to the "that's the format we always use" syndrome.

Maximizing training stickiness requires buy-in to the ten criteria at all levels within an organization. It requires a clear, consistent and committed focus to singular training goals. It means planning training with overlapping skills – ie. your Dealing with Difficult Customer training program should also reinforce the skills of the Customer Service campaign introduced six months earlier. It requires diligence and follow-through at application level. Like an automobile engine, each moving part must work both independently and interdependently toward a common goal.

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