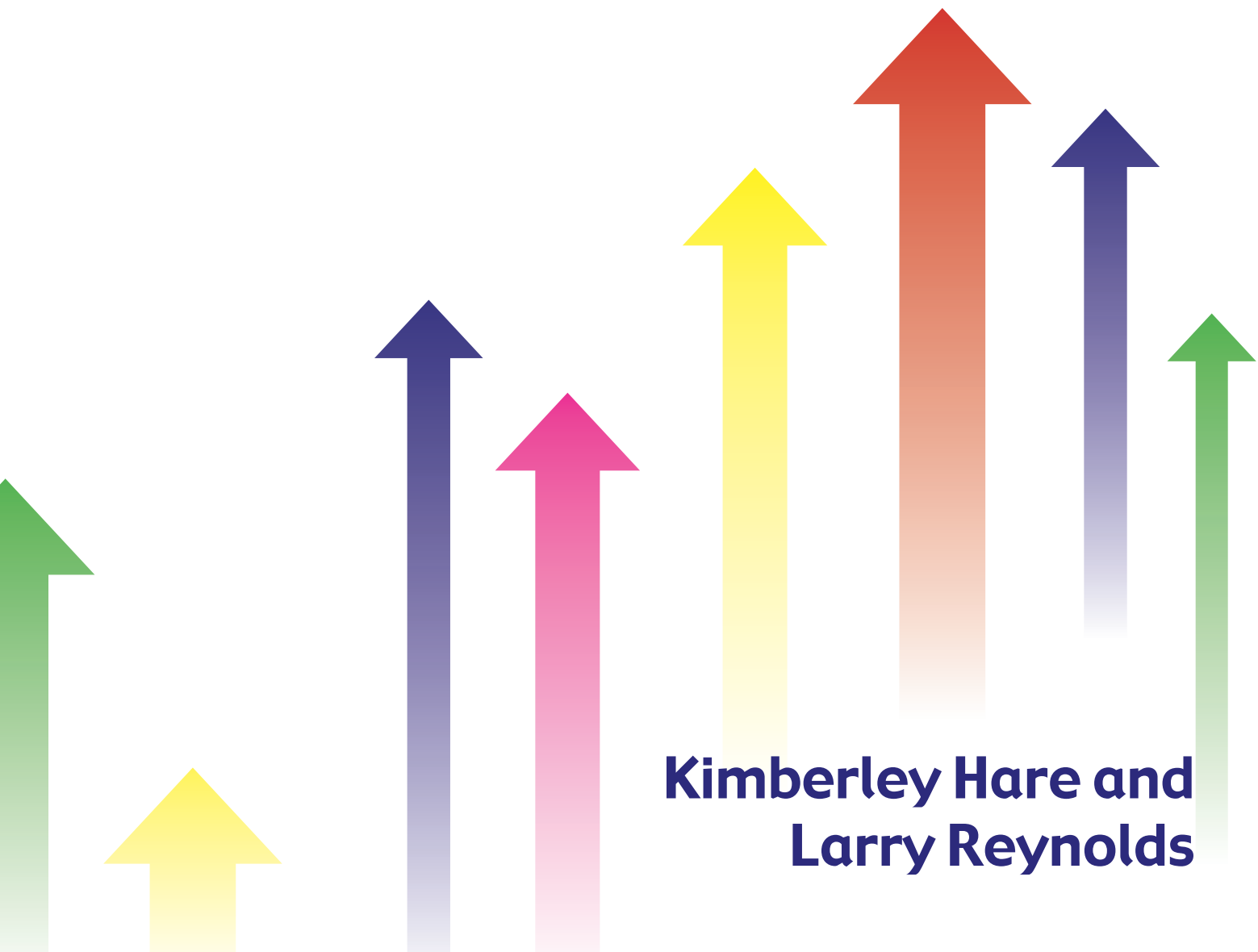
The Trainer's Toolkit

Bringing Brain-Friendly Learning to Life



Kimberley Hare and
Larry Reynolds

The Trainer's Toolkit

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Bringing Brain-Friendly Learning to Life

Kimberley Hare and Larry Reynolds

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Introduction

We want you to take away from this manual a rich smorgasbord of ideas, tools and practical strategies you can apply in your own particular situation. If brain-friendly learning is new to you, we can reassure you that you are joining a growing number of facilitators, consultants and coaches who share a common interest in how to bring the best in learning to the business community. And, of course, there is still much waiting to be learned.

More than a set of techniques

Brain-friendly learning (BFL) is not about techniques and gimmicks. It is far more than just putting on baroque music or playing fun games. It's a movement rather than a method. A movement to recover the real joy of learning – combining sizzle *with* substance – and helping people become even more outstanding at the work they have chosen to do.

Brain-friendly learning requires a profound belief in the joy, the wonder and the possibilities of human learning.

If you have any questions about this manual, you can e-mail us at:

questions@kaizen-training.com

and we'll reply to you as soon as we can. We'll look for common themes and incorporate them into the frequently asked questions of the next edition of this manual.

What is this toolkit all about?

Training has come a long way in recent years. Gone are the days when an instructor stood at the overhead projector and droned on for hours on end. These days you're much more likely to see participants taking part in activities that involve them moving around a training room that is full of colour and life. The air is fresh and there's a buzz of activity. There is lots of laughter, and maybe music is playing in the background. People are interacting, asking questions, suggesting answers and taking notes.

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Of course, just because a training course is filled with fun and activity, it doesn't necessarily guarantee more learning. It's possible to have the sizzle without the substance. In fact, one of the reasons why trainers are put off accelerated learning is because they try to incorporate the razzmatazz without taking care to ensure that the activity supports, rather than distracts from, the learning.

We believe that learning events can be enjoyable *and* full of significant and long-lasting learning. We call this approach brain-friendly learning – it is learning designed to be in harmony with the way in which our brains work.

Designing training events which are both enjoyable and full of powerful learning requires considerable skill and expertise, and there are a number of ways in which you can develop this expertise. You can use trial and error. Effective in the long run, but very slow. You can hang around with very experienced trainers and copy what works. Again, effective, but you may not have the time or the opportunity to do this. Or you can use this manual …

This manual is designed to enable you to learn how to design and deliver brain-friendly learning. It is designed to be used, not just read. Here's how it works.

Part One, 'Principles of Brain-Friendly Learning', will help you understand the philosophy of BFL. It's a common misconception that BFL is just a series of techniques – ordinary training that is somehow spiced up with a bit of music and movement. BFL is a different way of thinking about learning. Find out more in Part One.

Part Two, 'Brain-friendly Design', gets right to the heart of the matter; if you are designing a learning event from scratch, how do you do it? We've studied the best trainers, teachers and facilitators of learning, and we've identified a common pattern in the way they design learning events. Learn how you can use this pattern in Part Two.

Part Three, 'Tools for Brain-Friendly Learning', consists of 51 tools you can use to make any learning event brain-friendly. Some of them may already be familiar to you, and many will not. The idea is that, each time you lead a learning event, you can dip into this part of the manual, and find another good idea for making it even more effective and even more brain-friendly.

You'll notice some common elements running through this manual:

- There are chunks of text and diagrams that explain the concepts of BFL. You are reading one such chunk right now!
- There are 'brain boxes' that explain why a particular concept or tools makes sense in terms of the brain. You'll find one of these just below this text.
- Finally, and perhaps most importantly, there are two kinds of activity. Some are designed to help you understand a particular concept in more detail. Others are designed to apply the concept to learning events that you are facilitating.

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Brain box: Big picture overview

How can we understand something as complex as the human brain? Somebody once said: 'If the brain were so simple that we could understand it, we would be so simple that we couldn't!'

Your brain contains about 100 billion brain cells or neurons. Each neuron is potentially linked to many thousands of other neurons. The more frequently neurons communicate with each other, the stronger the connections become – in the same way that the more frequently people walk across a patch of grass, the more definite the path becomes.

Learning involves the creation and strengthening of connections between neurons. One way of looking at it is to imagine that the stronger the connection, the more permanent the learning, although this is a rather oversimplified definition of what's going on! There is still so much to learn about the way the brain learns – particularly with regard to the way the brain stores unconscious knowledge, and the role of emotions. That is why repetition generally helps with many kinds of learning.

Another way to help learning is to give a big-picture overview, before going into all the details. It's almost as if the big-picture overview gives a kind of scaffolding on which to hang the rest of the learning. In most learning events, it's helpful to begin with an overview of the whole subject matter rather than plunging straight into all the details – and, of course, that's what we're doing in this introduction.

This manual is aimed squarely at people who organize learning events in a business context. You might be called a trainer, a consultant, a facilitator, a learning and development manager or one of many other names. You might organize training courses, distance learning, coaching sessions, computer-based training or any other kind of learning activity. For that which are explained in Part One of this manual, we will use the terms 'facilitator' and 'learning events'.

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Activity: Troubleshooter

Use this troubleshooter to identify your priorities in using this manual.

Statement	Relevant sections of this manual	Page
1. I need to improve 'transfer of learning' back to the job	Keep it real!	12
2. I need to raise the credibility of training by finding better ways of linking learning to real business results	Keep it real!	12
3. Participants need more compelling personal learning goals for a particular training event	Keep it real!	12
4. I'd like tools to enable us to design learning experiences more quickly and elegantly	Designing brain-friendly learning – Part Two	35
5. I'd like more ways of raising the energy and motivation levels of my groups. Our courses need more 'sizzle'	State is everything Part Three, 'Tools for Brain-friendly learning'	57
6. Our designs need to take more account of individual learning styles and preferences	Honour uniqueness	111
7. I'd like our designs to be more participative	Facilitate creation not consumption	15
8. Our training environment needs to become more conducive to learning	Rich and multisensory	24
9. I'd like to rediscover my own passion as a trainer – things are feeling a bit 'stale'	State is everything Part Three, 'Tools for Brain-friendly learning'	57
10. I want to understand the implications of the latest research into how brains learn	Part One, 'Principles of Brain-friendly Learning'	1

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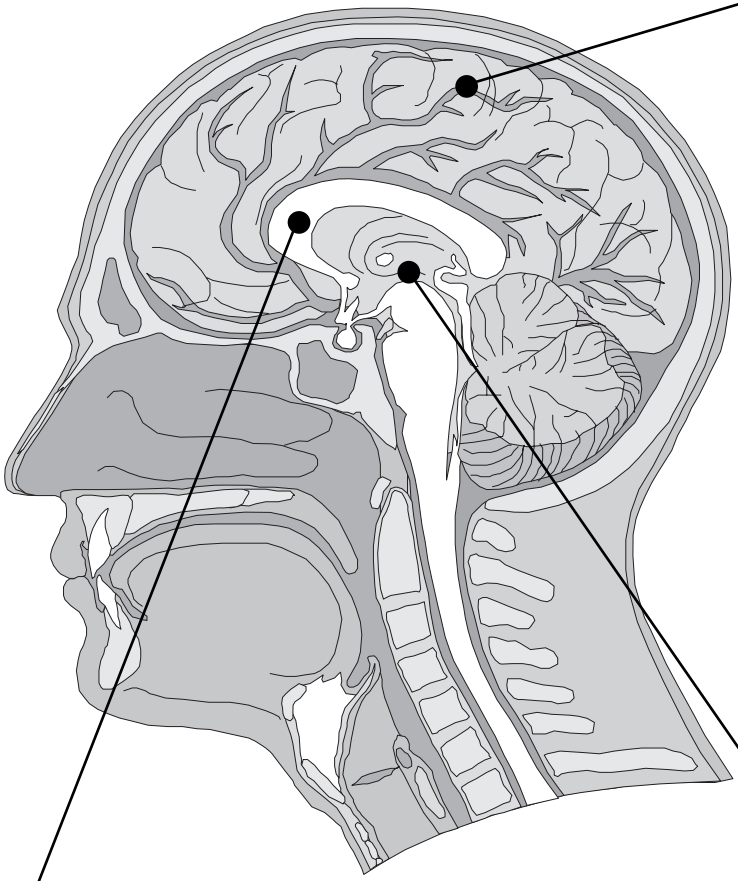
Not one brain … not two brains … but three brains!

The model on this page is an oversimplified way of looking at your brain – the reality is much more complex and, of course, new discoveries are being made all the time. However, it's useful because it helps us to consider the implications for facilitators and designers of learning.



NEOCORTEX AND CEREBRUM

Comprises 80 per cent of brain.

'Thinking Cap'. Includes frontal, occipital, parietal and temporal lobes.

Wraps around the mid-brain.

Cerebellum – the little brain, responsible for cognition, novelty and emotions?

Sorts messages from senses (via the mid-brain) resulting in:

- reasoning, reflection and cerebral thinking
- problem-solving and decision-making
- reading, translating and composing
- language, writing and drawing
- voluntary motor control
- spatial awareness
- long-term memory

MID-BRAIN

Contains amygdala, hippocampus, thalamus, hypothalamus nucleus basalis and pineal gland.

Surrounds reptilian brain.

- distributes messages from five senses.

Processes:

- emotions and feelings
- pleasure and attention
- decides if what is being learned is important
- processes new learning via the hippocampus
- long-term memory for strong emotional events
- biorhythms – sleep, thirst and hunger
- sexual drive, heart rate, immune system and hormones
- social bonding what is 'true' and valid.
- keeps a look out for uncertainty, and chooses which parts of the brain to recruit as necessary

BRAIN STEM/REPTILIAN BRAIN

Comes up from spinal cord.

Monitors the physical world.

Instinctive, fast-acting and survival-oriented.

- dominates in fight or flight response.

Controls:

- sensory motor functions
- survival and protection
- reproduction
- territoriality and ritualistic display
- social and mating rituals (e.g. top dog).

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Activity: So what?

Given what we know now about the human brain, what are the key implications for facilitators and designers of learning?

Key Implication 1

Key Implication 2

Key Implication 3

Given the above implications, what are three actions you could take to improve the way you design and deliver training in your organization?

Action 1

Action 2

Action 3

Now compare your thoughts with ours.

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We believe the most important implications are as follows:

1. All learning is state-dependent. Emotions can cause the brain to release neurotransmitters that aid memory retention. The content of the 'memory' will become neurologically associated with the 'feeling'.

2. The ideal learning environment is low-stress AND high challenge. Too much stress, and survival needs dominate and the neocortex temporarily shuts down. At the same time, we have all been underestimating the capacities of learners – we are all capable of much, much more. Raise your standards of what is possible and provide more challenge (without increasing the stress). Research suggests that we learn best when we are at the edge of our comfort zone but supported.

3. Compelling, personal learning goals ensure that the amygdala keeps the neocortex switched on.

4. More than 80 per cent of the neurons in our brain are interneurons – that is, designed to detect patterns and make meaning, rather than simply take in information that has already been neatly processed. Thus, the human brain learns best when we move away from instruction and provide the maximum opportunity for learners to experience and then make meaning from their experiences.

5. – use 'immersion' rather than just 'presentation' methods
   – encourage questions, open-ended problems and diverse solutions
   – encourage metaphor, models and demonstrations
   – provide massive choice and variety
   – integrate different topics and disciplines
   – provide a rich experience – cherish complexity
   – allow (require) the learner to make the meaning.

6. If you load learners up with new content before they have had time to process previous learning, the old learning will be lost. As the hippocampus has a small capacity, learning needs to have moved on to the cortical regions from the hippocampus before new learning takes place. If not, the hippocampus overwrites what it's already storing: repetition, review and time are essential.

We have blended the best of the theory and what works in practice, and created five key principles of brain-friendly learning:

- Keep it real!
- Facilitate creation not consumption.
- Honour uniqueness.
- Make it rich and multisensory.
- State is everything (well … almost!).

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5 Rave review sessions

Remember, learning is the strengthening of connections between neurons – brain cells. The more often you repeat the learning, the stronger the connections become. Create plenty of opportunities to repeat and rehearse learning throughout the learning event. In fact, you've probably already noticed that concepts and ideas in one part of this manual are repeated elsewhere. That's a deliberate strategy – repetition is a brain-friendly way to learn.

Build plenty of review sessions throughout your learning event. Here are some ideas:

Thirteen rave review ideas

- Throw a beanbag to a participant. They catch it and say one thing they've learnt so far. Then they throw the beanbag to the next person until everyone has had a go.
- Everyone stands up, finds a partner and takes exactly two minutes to tell them everything they've learned so far. Repeat with another partner for two minutes.
- In pairs or groups, participants prepare a Mind Map® of everything they've learned.
- Small groups of participants prepare and perform a play, mime, rap or song which sums up the learning.
- Put on some suitable music and talk through the main learning points in time to the music.
- Put on some suitable music and show the participants some images or flipcharts which sum up the main learning points.
- Ask the participants to speed-read the handouts/course manual.
- Ask the participants to wander around the room scanning/reading the learning materials displayed.
- Do a guided imagery exercise.
- Create a gesture or movement which sums up the learning. Ask each participant in turn to create their own movement and describe the learning it encapsulates.
- Divide the participants into pairs, A and B. Person B pretends to know nothing and person A teaches them everything they have learned so far. Have them swap roles.
- Ask small groups of participants to design and deliver a short session for the groups.
- Each participant writes and sends (then and there) an e-mail to their manager/team explaining what they have learned and what they will do with the learning.

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Activity: Rave review sessions

Choose one of the review methods listed above. Use it *right now* to review everything you have learnt from this pack so far.

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17 Integration smorgasbord

Here are some more ideas for keeping the ball in the learner's court.

Coaching pairs

One partner is 'A', the other 'B'. Have them take it in turns to coach or 'teach' each other on the content of the session.

Heads and tails

Pairs toss a coin to see who is 'Heads' and who is 'Tails'. 'Tails' has to describe, to their partner, the obstacles to applying what has been learned in practice – the barriers, the difficulties, why it won't work. After listening to this, 'Heads' has to 'sell' the learning and do whatever it takes to help the other person overcome the challenges they might face. Then they reverse roles.

My mistake!

This is especially good for technical or IT training. Divide the participants into pairs. Have one partner deliberately put errors into the system. The other has to recover from, or correct, the error, and explain what they are doing and why. Then they reverse roles.

Create your own …

Have small groups create a colourful Mind Map®, pictogram, graphic, job aid, 3D icon, video film, cartoon, mnemonic, story, playlet, rap, jingle, dance or song about what they have just learned (and then perform or display these to whole group).

Cocktail questions

This is good just before a break. Write up a question or a statement you want participants to answer or complete, such as 'The most interesting thing about that last session for me was …' or 'One thing I'm definitely going to do on returning to work is …' (the variations on this are endless). Put some cocktail party music on. Everybody then stands up and, miming holding a cocktail glass in one hand, circulate round the room, answering the question or completing the statement.

Stump your buddy

In pairs, each participant asks their partner three challenging questions about the topic being explored. They then swap roles and repeat.

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Hangman

Pairs of participants play hangman – a 'wrong' answer brings the 'noose' a little closer.

Create a peripheral

Have pairs or small groups make a peripheral about the session for the room – an object, a wall decoration, a mobile, a floor decoration or a tabletop display.

Recruit your colleagues

Have pairs or small groups create an attractive poster 'selling' the benefits of the workshop that they've just experienced. (These are great to actually use, too.)

Help your buddy

In pairs, participants spend time with each other helping to prepare for an upcoming test or skill assessment.

Team teaching

Give each small group the responsibility for teaching all its members to master some knowledge or a skill. You can provide suggestions, but the team is fully responsible for deciding how they will go about this in a way that achieves really positive results.

Walkie talkie

Give pairs a challenging question or issue to think through, and have them go for a walk whilst they explore it.

Research and present back

Ask pairs or small groups to research a topic and then present their findings to the whole group.

DYO quiz

Have groups design challenging questions covering any of the material on the course. They then pose these to a 'rival' group or team, in a game show-type format. The 'rules' are that the team asking the question must have a really good answer prepared, and that only 'fair' questions that will help people learn are admissible. There are many variations on this theme.

Integration activity design

Assign groups the task of 'reviewing' some aspect of the learning. They can design a game, an activity – anything that helps their colleagues to embed the material.

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Debating teams

Give teams some time to prepare arguments from opposing sides of an issue, and then hold a formal debate.

Best and worst scavenger hunt

Give teams a finite amount of time to find the 'best' and 'worst' examples they can from inside or outside their own organization. (For example, if your course focuses on customer care, send them out to a nearby high street to find good and bad real-life examples.) Each team reports back with their findings.

Ideas scavenger hunt

At the end of a session, ask the learners to generate relevant, workable ideas that they could apply by looking in unexpected places. For example, after a session on continuous improvement, ask them to find three great ideas from today's newspaper, or a completely unrelated journal such as *Waste Management Monthly*. Or send them to a local business (from a different industry). Or send them for a 10-minute walk in the country, during which they are to identify three great ideas from nature that they could borrow and use in their own organization.

Collaborative pre-test

Have groups work together on completing a pre-test or knowledge self-assessment before new material is presented. Tell them to cheat like mad, using any resources they can. If there is a test at the end of the course, give them the 'final exam' right at the beginning.

Group brain

The whole group stands up and becomes a group brain – each person is an individual neuron. The facilitator makes a statement and throws a ball to somebody, who has 15 seconds to confer with the 'neuron' to the right or the left of them. The neuron responds, and throws the ball back to the facilitator, who then asks another question or makes another statement.

Mental rehearsal

Have learners mentally rehearse the way in which they will transfer or apply the learning in the future, including overcoming any associated obstacles, and feeling good during the process.

Active listening

If you are lecturing or presenting, ask the learners to do something definite whilst listening, such as creating a Mind Map® of the presentation topic or generating three useful questions to ask at the end.

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True **brain-friendly learning** is not about gimmicks. It is far more than just putting on classical music or playing games. It's a movement rather than just a method; a movement to recover the real joy of learning and bring sizzle and substance to your training.

This resource provides a blueprint for a new generation of Accelerated Learning methods and, at its heart, are five key principles:

- **Keep it real**
- **Facilitate creation—not just consumption**
- **Honour uniqueness**
- **Make it rich and multi-sensory**
- **State is everything (well ... almost).**

There is a clear explanation of the theory behind Brain-Friendly Learning from the inside out; the concepts and learning models you'll need to underpin your approach, along with a journey through the most complex structure in the universe—*your amazing brain*. You'll discover a concise guide to Brain-Friendly training design along with tools that you can pick and adapt to help you create new training events or make-over existing ones.

Kimberley Hare is the Managing Director of Kaizen Training Limited, and a pioneering visionary for change and learning. Her focus is on helping individuals, teams and organisations to create the future they want, and to enjoy the journey.

Larry Reynolds is the principal consultant at 21st Century Leader and has over twenty years' experience of developing leaders and trainers in a wide range of organisations. He believes in creating organisations where people love to work.

"... offers a wealth of thought provoking and well-designed activities and sessions that everyone will find interesting and useful. Anyone involved in training or teaching will gain superb ideas and examples to continually improve their existing skills and presentation styles."

Mike Palmer, Professional Training Presenter

"... a user-friendly and informative resource that can be used by professionals from a variety of disciplines. Covering both new and existing ground with a dynamic approach. Accelerated learning techniques are brought to life through graphics, human-interest stories, humour and science. The connection between the mind, body and soul, and our environment in relation to effective learning is excellently illustrated."

Deborah Broomfield-Carter, *Training Journal*

"... a book all trainers should skim through for ideas - and I guarantee that within seconds you'll be reaching for a pen to make notes. It comprehensively and engagingly covers all aspects of brain-friendly training. It gives you the background information you need, plus practical things you can do in the many different situations you encounter in training - including the breaks. It's written for business trainers, but it should be a must-read for all teachers."

Susan Norman, *SEAL Journal – Learning Spiral*

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