The Learning Revolution

Gordon Dryden
and
Jeannette Vos
5. The Thinking Revolution

12 steps for producing ideas and teaching creativity

Commentary: Gordon Dryden
Mind Map: Philip Chambers
Without a revolution in thinking, nothing of magnitude is ever achieved

Phil Knight, Nike
Some see things as they are and ask why.
I dream of things that never were, and ask why not.

George Bernard Shaw
What is an idea?

Management truism: define your problem correctly and you’re 80% on the way to solving it. So how do you define an idea?
An idea is a new combination of old elements
An idea is a new combination of old elements.

There are no new elements.
An idea is a new combination of old elements.

There are no new elements. There are only new combinations.
Trolleys combined with grocery shops to give us supermarkets.

Transistors, tape recorders and radios combined to give us radio cassettes.

Cassettes and earphones combined to give us the Sony Walkman.
1. Define your problem

- But do it specifically.
1. Define your problem

- But do it specifically.
- What do you want to change?
1. Define your problem

- But do it specifically.
- What do you want to change?
- But don’t define it in a confining way.
1. Define your problem

- But do it specifically.
- What do you want to change?
- But don’t define it in a confining way.
- Remember the tear-top can and peeling a banana!
2. Define the ideal solution

- And when you’ve defined it, start creating it.
2. Define the ideal solution

- And when you’ve defined it, start creating it.
- Peter Drucker’s definition of innovation: a systematic organized leap into the unknown.
2. Define the ideal solution

- And when you’ve defined it, start creating it.
- Peter Drucker’s definition of innovation: a systematic organized leap into the unknown.
- Bridge the gap between the problem and the ideal solution.
2. Define the ideal solution

- And when you’ve defined it, start creating it.
- Peter Drucker’s definition of innovation: a systematic organized leap into the unknown.
- Bridge the gap between the problem and the ideal solution.

**Problem:** designing a new milk container.
**Stimulus:** stuffing homemade sausages.
**Solution:** The Tetrapak carton . . . and the richest fortunes in Europe.
3. Gather the facts

- Since an idea is a new combination of existing elements, the more elements you know the more you can combine.
3. Gather the facts

- Since an idea is a new combination of existing elements, the more elements you know the more you can combine.
- Facts can be SPECIFIC or GENERAL.
3. Gather the facts

- Since an idea is a new combination of existing elements, the more elements you know the more you can combine.
- Facts can be SPECIFIC or GENERAL.
- Specific facts are specific to your field.
3. Gather the facts

- Since an idea is a new combination of existing elements, the more elements you know the more you can combine.
- Facts can be SPECIFIC or GENERAL.
- Specific facts are specific to your field.
- General facts cover anything else.
3. Gather the facts

- Since an idea is a new combination of existing elements, the more elements you know the more you can combine.
- Facts can be **SPECIFIC** or **GENERAL**.
- Specific facts are specific to your field.
- General facts cover anything else.
- Link the specific and the general.
4. Break the pattern

Our brain normally stores information by patterns and associations. But to create new solutions you have to break the pattern and ‘think outside the box’.
5. Go outside your field

- Inventors of color film were musicians.
5. Go outside your field

- Inventors of color film were musicians.
- George Eastman, the founder of Kodak, was a book keeper.
5. Go outside your field

- Inventors of color film were musicians.
- George Eastman, the founder of Kodak, was a book keeper.
- Ladislo Biro (ballpoint inventor) was a sculptor, painter and journalist.
5. Go outside your field

- Inventors of color film were musicians.
- George Eastman, the founder of Kodak, was a book keeper.
- Ladislo Biro (ballpoint inventor) was a sculptor, painter and journalist.
- King Camp Gillette (safety razor) was a traveling salesman in bottletops.
5. Go outside your field

- Inventors of color film were musicians.
- George Eastman, the founder of Kodak, was a book keeper.
- Ladislo Biro (ballpoint inventor) was a sculptor, painter and journalist.
- King Camp Gillette (safety razor) was a traveling salesman in bottletops.
- John Boyd Dunlop (tires): a vet.
6. Try various combinations

- Jot everything down.
- Make a Mind Map.
- Don’t concentrate too closely.
- Keep asking ‘What if?’
- Keeping looking for different points to start from.
6. Try various combinations

- Jot everything down.
- Make a Mind Map.
- Don’t concentrate too closely.
- Keep asking ‘What if?’
- Keeping looking for different points to start from.

- Nylon and polyester: no-iron shirts.
6. Try various combinations

- Jot everything down.
- Make a Mind Map.
- Don’t concentrate too closely.
- Keep asking ‘What if?’
- Keeping looking for different points to start from.

- Nylon and polyester: no-iron shirts.
- Nylon and panties make pantyhose.
6. Try various combinations

- Jot everything down.
- Make a Mind Map.
- Don’t concentrate too closely.
- Keep asking ‘What if?’
- Keeping looking for different points to start from.

- Nylon and polyester: no-iron shirts.
- Nylon and panties make pantyhose.
- Mickey Mouse and tourism: Disneyland.
6. Try various combinations

- Jot everything down.
- Make a Mind Map.
- Don’t concentrate too closely.
- Keep asking ‘What if?’
- Keeping looking for different points to start from.

- Nylon and polyester: no-iron shirts.
- Nylon and panties make pantyhose.
- Mickey Mouse and tourism: Disneyland.
- Shops and carparks: new shopping centers.
SCAMPER it

- What can you **S**ubstitute?
- What can you **C**ombine?
- What can you **A**dap?t?
- What can you **M**odify or **M**agnify?
- Can you **P**ut to other uses?
- What can you **E**liminate or reduce?
- What can you **R**everse/**R**earrange?
The S in SCAMPER

What can you substitute?

- Oval ball for round: rugby.
- Balls for nibs: Biro.
- Freezing for canning: Birdseye.
- Video for film: television.
- Discs for tape cassettes: CDs.
- CDs for books and tapes: CD-ROMs.
- Point-and-click for typing: Apple.
- Electronics for mail: fax.
- Wheels for blades: roller skates.

Substitute handling for kicking = rugby
The C in SCAMPER

What can you combine?

- Hotels + apartments = motels.
- Music + exercise = Jazzercise.
- Exercise + video = Fonda tapes.
- Assembly line + cars = Ford.
- Cars + color + HP = GM.
- Bed + breakfast = home stays.
- Chicken and sauce recipe = KFC.
- PC + spelling = spell-checkers.
- Service + computers = IBM.

Think of chefs’ recipes
The A in SCAMPER

How can you adapt it — and what to?

• Adapt roller skates to roller blades.
• Rugby league from rugby.
• Lego from wooden blocks.
• IKEA: from factory to home assembly.
• An Open University from classrooms.
The M in SCAMPER

What can you modify or magnify?

- Modify a burger: cheeseburger.
- Magnify it for a Big Mac.
- Magnify jet: Boeing 747.
- Magnify bus: Double-decker.
- Modify ice cream: gelato.
- Modify dish: instant noodles.
- Magnify racket: Prince.
The P in SCAMPER

What can you put to other uses?

- A truck to a campervan.
- Thick soles to Doc Martens.
- Schools to holiday cafes.
- Airports to shopping centers.
- Movies to Disneyland.
- Orlando swamp to EPCOT center.
- Fruit orchard to theme park.
- Theme park to shopping center.
- Woolen mill to major tourist attraction.
The E in SCAMPER

What can you eliminate or reduce?

- Credit cards eliminated cash.
- Supermarkets reduced assistants.
- Buffets eliminated waitresses.
- Dial phones: phone operators.
- CD-ROMs replacing teachers.
- Containers: gangs of reloaders.
- Eliminate time: one-day cricket.
- Bikini transformed swimsuits.
- Miniskirt: London fashion center.
Reverse, rearrange?

- Carothers + coal: nylon.
- Wind: vacuum cleaner.
- Wind + Whittle: jet aircraft.
- Natural gas: acrylic.
- Reverse age-groups and transform education.
- Reverse payments: HP.
- Charges: 1800 selling.
- Roles: and students teach.
7. Use all your senses

- Can you feel it, like Velcro?
7. Use all your senses

- Can you feel it, like Velcro?
- Can you see it in a new color like Blue Pepsi?
7. Use all your senses

- Can you feel it, like Velcro?
- **Can you see it in a new color like Blue Pepsi?**
- Can you imagine a new taste like KFC, McDonalds, Mars bars?
7. Use all your senses

- Can you feel it, like Velcro?
- Can you see it in a new color like Blue Pepsi?
- Can you imagine a new taste like KFC, McDonalds, Mars bars?
- A new perfume like Joy?
7. Use all your senses

- Can you feel it, like Velcro?
- **Can you see it in a new color like Blue Pepsi?**
- Can you imagine a new taste like KFC, McDonalds, Mars bars?
- **A new perfume like Joy?**
- A new sound like CDs or Walkman?
8. Switch off: let it simmer

- Like good food after you’ve eaten it, let your digestive juices take over: the ‘juices of the mind’.

- Turn it over to your subconscious: your ‘association cortex’.

- But set a deadline.
9. Use something to relax

- Some love restful music.
9. Use something to relax

- Some love restful music.
- Others like chess, to stimulate spatial awareness.
9. Use something to relax

- Some love restful music.
- Others like chess, to stimulate spatial awareness.
- Some love to swim and exercise.
9. Use something to relax

- Some love restful music.
- Others like chess, to stimulate spatial awareness.
- Some love to swim and exercise.
- Others favor nature walks.
9. Use something to relax

- Some love restful music.
- Others like chess, to stimulate spatial awareness.
- Some love to swim and exercise.
- Others favor nature walks.
- David Ogilvy recommends wine: better the wine, better the ideas!
10. Sleep on it

- But get into the mood with music.
10. Sleep on it

• But get into the mood with music.
• Look at your Mind Maps.
10. Sleep on it

- But get into the mood with music.
- Look at your Mind Maps.
- Recap the ideal solution.
10. Sleep on it

- But get into the mood with music.
- Look at your Mind Maps.
- Recap the ideal solution.
- Reiterate your deadline.
10. Sleep on it

- But get into the mood with music.
- Look at your Mind Maps.
- Recap the ideal solution.
- Reiterate your deadline.
- Visualize the ideal solution.
10. Sleep on it

- But get into the mood with music.
- Look at your Mind Maps.
- Recap the ideal solution.
- Reiterate your deadline.
- Visualize the ideal solution.
- Then let your brain take over.
11. Eureka!
It pops out

But a word of warning: what comes out must have gone in. Do not skimp on the preparation.
12. Recheck it

- Does it really solve the problem?
- Is it the ideal solution?
- Is it practical?
- Is it cost effective?
- If it does, then follow Nike — and just do it!
The Learning Revolution Project holds online and physical learning events with a combined audience membership of 160,000 educators, administrators, librarians, students, and parents. The technologies of the Internet and the Web are reshaping when, where, and from whom we learn—and even how we think about learning. As the boundaries of these learning worlds increasingly overlap, we believe these conversations will be critical to framing and preparing for the learning revolution starting to take place. The Learning Revolution. Education innovations for global citizens. Originally published in Winter 1991 Copyright (c)1991, 1996 by Context Institute. About This Issue by the editors. A Personal Introduction by Alan AtKisson Education, schooling, and the “bringing forth” of self. Onward and Upward! by Dee Dickinson The revolution in learning has already begun. Multiple Intelligences in the Classroom by Bruce Campbell An innovative 3rd-grade teacher applies all seven ways of learning.