

Enhancing Creativity Through... Brainstorming Six Hats Mind Mapping

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[Thanks to Prof. Oli DeWeck]

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MIT

TIPS

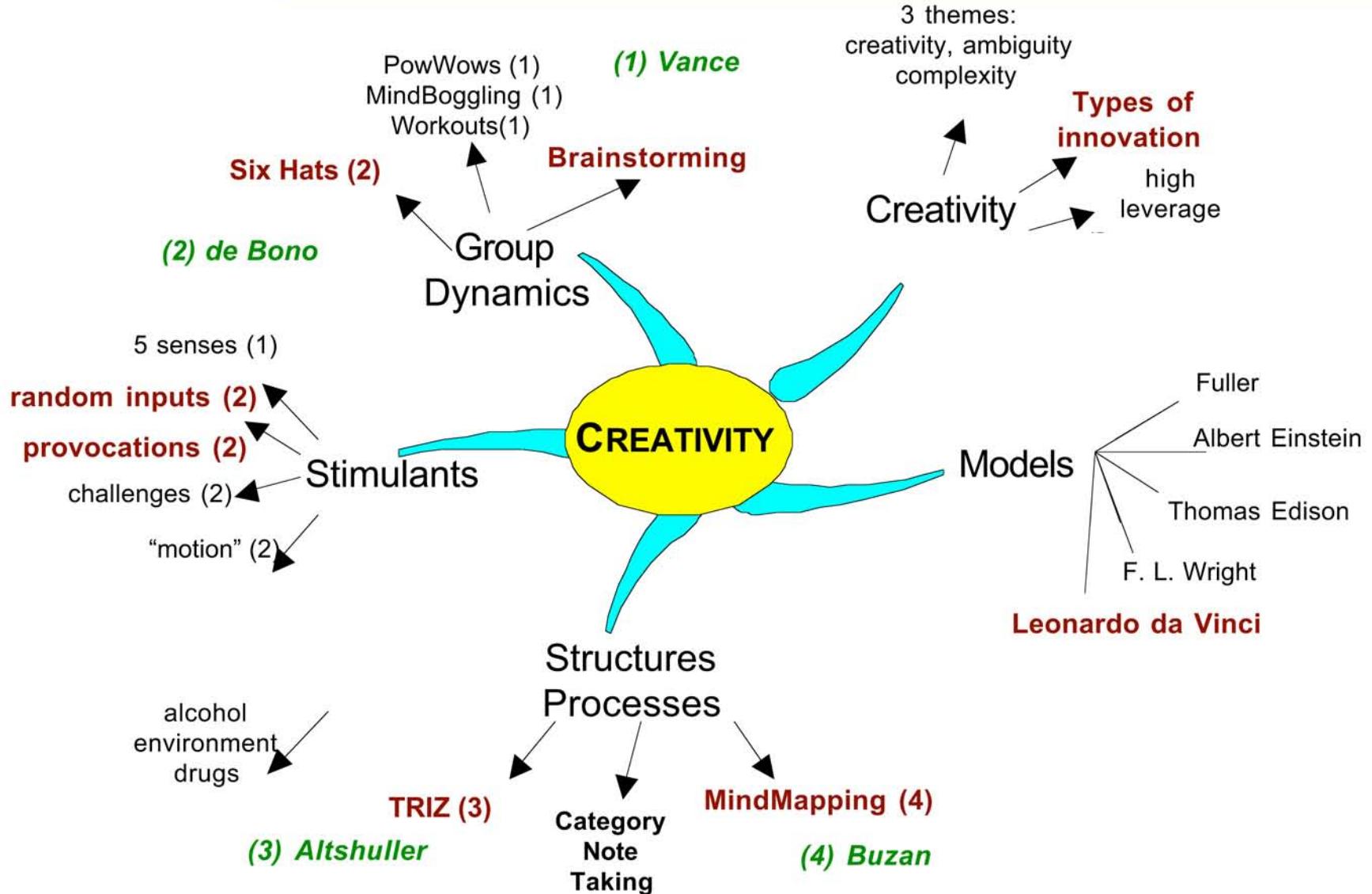
Have fun.

Material taken from
The Mind Map® Book
Buzan, T., PLUME,
© 1996.

Martian Perspective

- We are Martians from a billion-year-old civilization
- We studied Earthlings intensively and found that they have a staggeringly complex cortex, with a wide range of advanced mental skills, an infinite associative capacity, a virtually limitless storage capacity, and a similarly limitless ability to generate new ideas and associations. In addition, these Earthlings have a magnificently complex and physical body to support and transport this intelligence, the psychological ability to enhance their own skills, and an inbuilt curiosity that drives them to explore all aspects of the universe.
- We next observed that, in attempting to gain access to their vast mental capabilities, the members of this race are squeezing their intelligences out only through the incredibly narrow and restrictive channel of language. As a result, many of them experience actual nausea at the mere prospect of learning, and in the millions of learning institutions dotted around the planet most of the students are either sleeping or trying to get out!
- Moved by this tragicomic situation, we decided to give you humans a set of Mind Mapping laws to help you release your incredible capabilities. These laws must be valid from any academic perspective to which you humans may choose to apply them – semantics, neurophysiology, information processing theory, cortical hemisphere theory, physics, psychology, philosophy, memory research or learning theory.
- No problem, on to Creativity! (Reference: Buzan, pg. 92)

Creativity Mind Map



Images removed due to copyright considerations.

Why Creativity?

- Imaginative skills lie dormant in 95% population
- Desire to learn more
- Desire to communicate effectively
- Desire to efficiently lead and manage

TIP

Recognition of pictures
is essentially perfect!

– Haber, R.
– Nickerson, R.S.

Defining Creativity?

- Creativity is the making of the new, or the remaking of the old, in a new way¹
- Inspired people create¹. Motivated people create.²
- We're not all Mozart, but we teach people music.
We're not all daVinci, but...²
- Western culture: analyze the present & fix

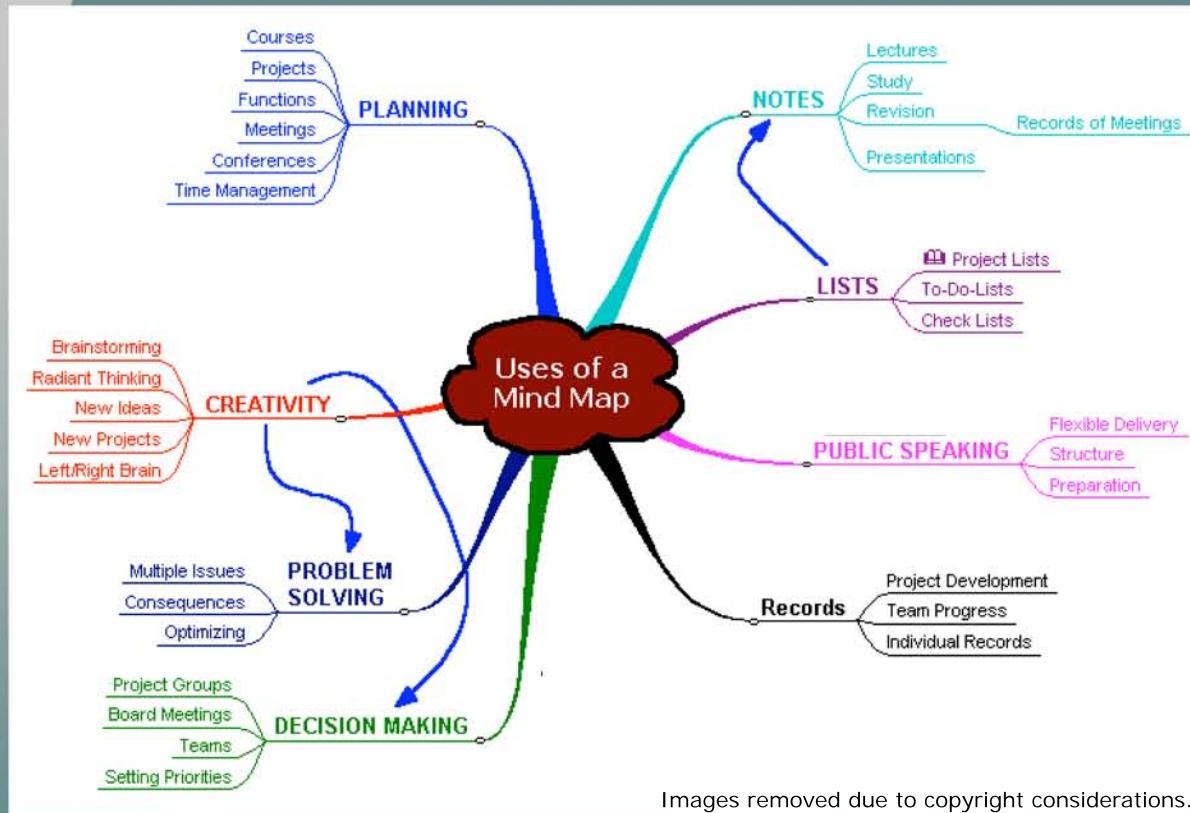
Eastern culture: accept the present & improve²

Proposition → “One can teach creativity, but not genius”

1 Vance

2 DeBono

How the Mind Works



“Unless we purposely connect unconnected ideas,
we may never reveal valuable relationships.”

Vance

Approaches to Creativity

- Group Dynamic

Structured brainstorming, pow-wows¹, mind-boggling¹, workouts¹, six hats²

- Structured Processes

Triz, category note taking¹, mind mapping

- Personal / Group Stimulants

5 senses¹, challenges², provocations², random inputs², “motion2

- Models

Edison, F.L. Wright, Fuller, ...

1 Vance 2 DeBono

Brainstorming

- Creativity technique designed to find new ideas as a TEAM
- Lower or remove creativity barriers
- Increase idea production via mutual stimulation
- Ideal group size is 5-10 people with diverse backgrounds
- Use of intuition and association
- Based on a solution-neutral question such as:
“What can be done to ?”, “How could we improve ... ?”

Attributed to A.F. Osborn

**Osborn, A.F., “Applied Imagination. Principles and procedures
of creative thinking”, Rev. Ed., New York, 1957**

- Why is brainstorming useful ?
- How to organize and host a brainstorming session ?
- Killer sentences
- What to do with the results ?

Organizing a Brainstorming Session

- (1) Send out an invitation a few days ahead of time.
Announce brainstorming topic. The brainstorming is the ONLY agenda item.
- (2) Ideally 5-10 (7+/- 2) participants. Facilitator welcomes participants and briefly describes problem or topic.
- (3) Participants take turns expressing thoughts, suggestions, ideas without the constraints of a particular order.
It is allowed to extend or combine ideas of others leading to mutual stimulation.
- (4) Facilitator takes notes, visible for everyone (e.g. flipchart) without associating names.
- (5) Principle of delayed judgement. No one is allowed to criticize or particularly praise other ideas. Avoid killer phrases.
- (6) Produce a large amount and diversity of ideas. Session ends after 30 minutes or so. Post-Processing happens separately.

Creativity Killer Sentences

This will never work !

We don't even need to talk about this !

There's no time for this !

Why change it ... it's working just fine !

Everyone does it this way !

Who the hell is going to pay for all this ?

You can't view it this way !

What is YOUR expertise in this field ?

Have you had any previous experience with this ?

You can't possibly be serious ?

You are completely missing the point !

I have already studied this problem for years !

Do you know where I went to school ?

Don't worry... I know I'm right.

How long have you been with this company ?

I know what it means to....

Now that we agree on this, let's move on ...

Creative Thinking Session: “Brainstorming Words”

- Explore your brain’s Radiant Thinking information-processing system.
- Vast potential of associative machinery
- Gaining insight:
 - Your own and others’ uniqueness as individuals
 - Communication and avoiding misunderstanding

“Happiness” Mini-Mind Map/Brainstorming

- Fill in quickly, without pausing, your first ten associations.
- Whatever comes to your mind, no matter how ridiculous.



Happiness

Mini-Mind Map (continued)

- Aim: Find ‘common’ (= exact) words
- Predict (privately)
 - How many words will be common to ALL group members?
 - Common to all but one?
 - Chosen by only one person?
- Even commonality is rooted in difference!

Education and Experience

- Findings contradict a popular misconception: that the more you educate people, the more clone-like they will become.
- Radiant Thinking demonstrates that the opposite is true: *the more you educate people, the more unique their vast, and growing networks of associations become.*

Implications

- Individuals share few common associations for a given word, image or idea. “We are all magically and eerily different from each other.” - Buzan
- Extraordinary uniqueness has benefits:
 - Problem solving: greater diversity, the better.
 - Every individual is an extremely valuable part of the process
 - Danger of viewing people as groups rather than individuals
- Radiant nature of reality gives insight, to *understanding* and *misunderstanding*, which consequently helps us avoid emotional and logical traps that hinder communication.

“Brainstorming Images”

- Explore your brain’s Radiant Thinking ‘right cortical skill’ of imagination and images
- More powerful than ‘left cortical skill’ of words
- The capacity of recognition memory for pictures is almost limitless!
- >95% note-taking/making done w/o images
- 90% of people say “genetic inability to draw”

Six Hats De Bono

- White Hat - examine information
- Red Hat - feelings, intuition, hunches, emotions
- Black Hat - “caution,” critical judgments, avoid mistakes
- Yellow Hat - optimism, feasibility, benefit
- Green Hat - creative thinking, new ideas, hypothesis
- Blue Hat - process control; agenda, next step, commentary of thinking

Pause, Focus, and Challenge DeBono

- Just stop & pause - what could be? (RFK)

"Some men see things as they are and ask 'Why?'

I dream things that never were and ask, 'Why not?'"

Robert F. Kennedy, 1968

- Focus on improvement, task, opportunity,
re-phrase the focus
- Challenge --
 - Continuity
 - Validity of concept
 - Dominating concept
 - Assumptions
 - Boundaries
 - “Essential” factors
 - “Avoidance” factors
 - Either/Or propositions

Movement

- Movement is the opposite of judgment when presented an unworkable idea - learn from it & move on (more active than “suspended judgment”)
- Must have a general willingness to “move,” plus techniques
 - Extract a principle
 - Focus on the difference
 - Moment to moment
 - Positive aspects
 - Circumstances with direct value
- Don’t look back - keep trying to move ahead

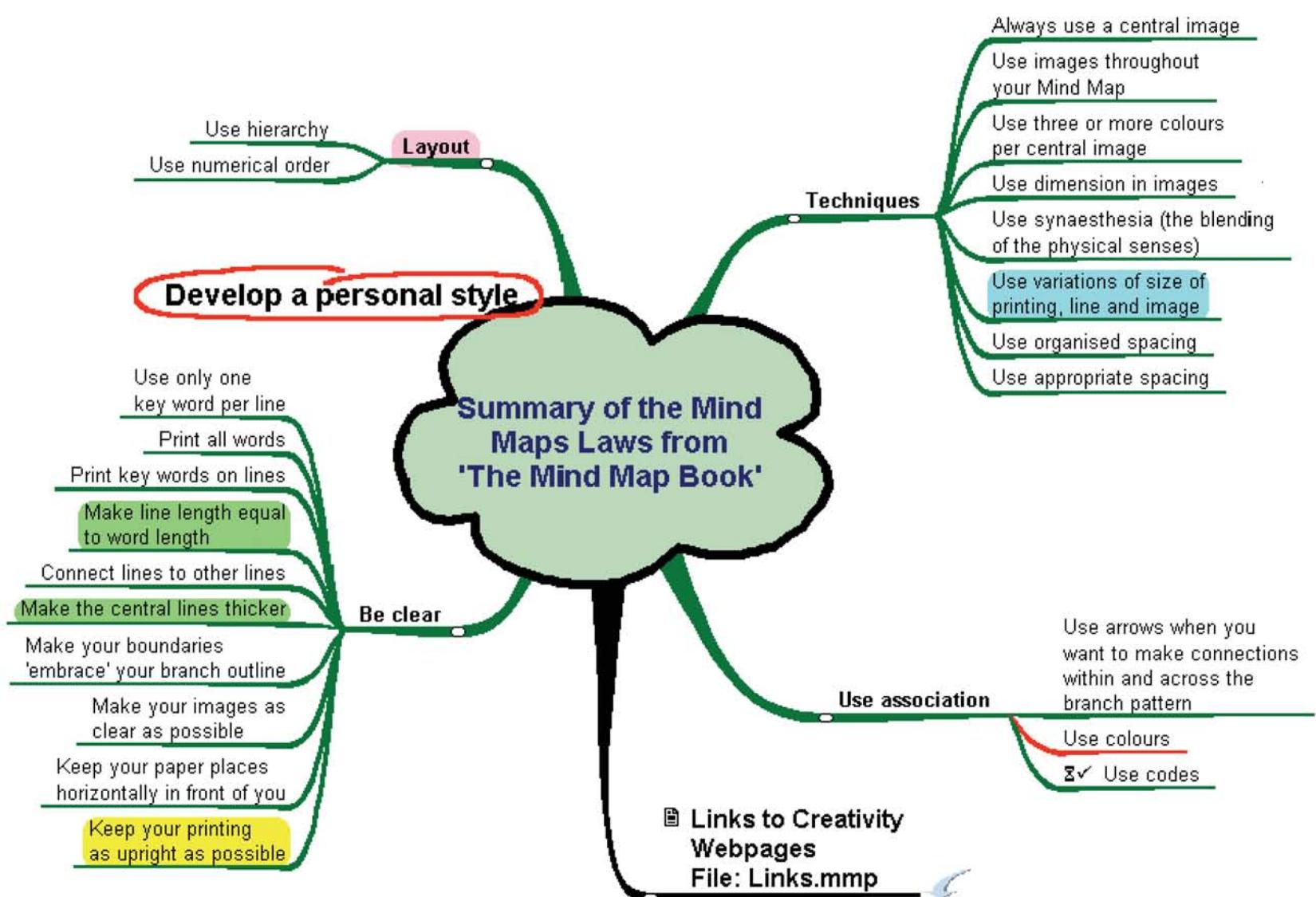
The Mind Map – A Definition

- An expression of Radiant Thinking
 - Natural function of the human mind
- Powerful graphic technique
 - Unlocking the potential of the brain
- Applicable to everywhere you desire improved learning and clearer thinking

Mind Map: Leadership Development



Mind Map Laws



Images removed due to copyright considerations.

4 Essential Mind Map Characteristics

- The subject of attention is crystallized in a central image.
- Main themes radiate from the central image as branches.
- Branches comprise a key image or key word.
 - Topics of lesser importance, successive branches
- The branches form a connected nodal structure.

People Improve with Practice

- Rejection of visualizing skills:
 - Images and colors are somewhat primitive, childish, immature and irrelevant
 - Power to create and reproduce images is a god-given talent (it is in fact, which is bestowed on everyone!)
- From a more complete understanding of the brain, new realization
 - Establish a new balance between the skills of the *image* and those of the *word*.

Mind Map of Augustine's 12 Qualities



Aims of Visualization Association

- Unleash enormous power of the visual cortex
- Enhance memory through use of images
- Increase aesthetic pleasure, sheer joy
- Break down resistance to use of images in learning
- Aid mental relaxation
- Begin to develop extraordinary powers of visualization and perception

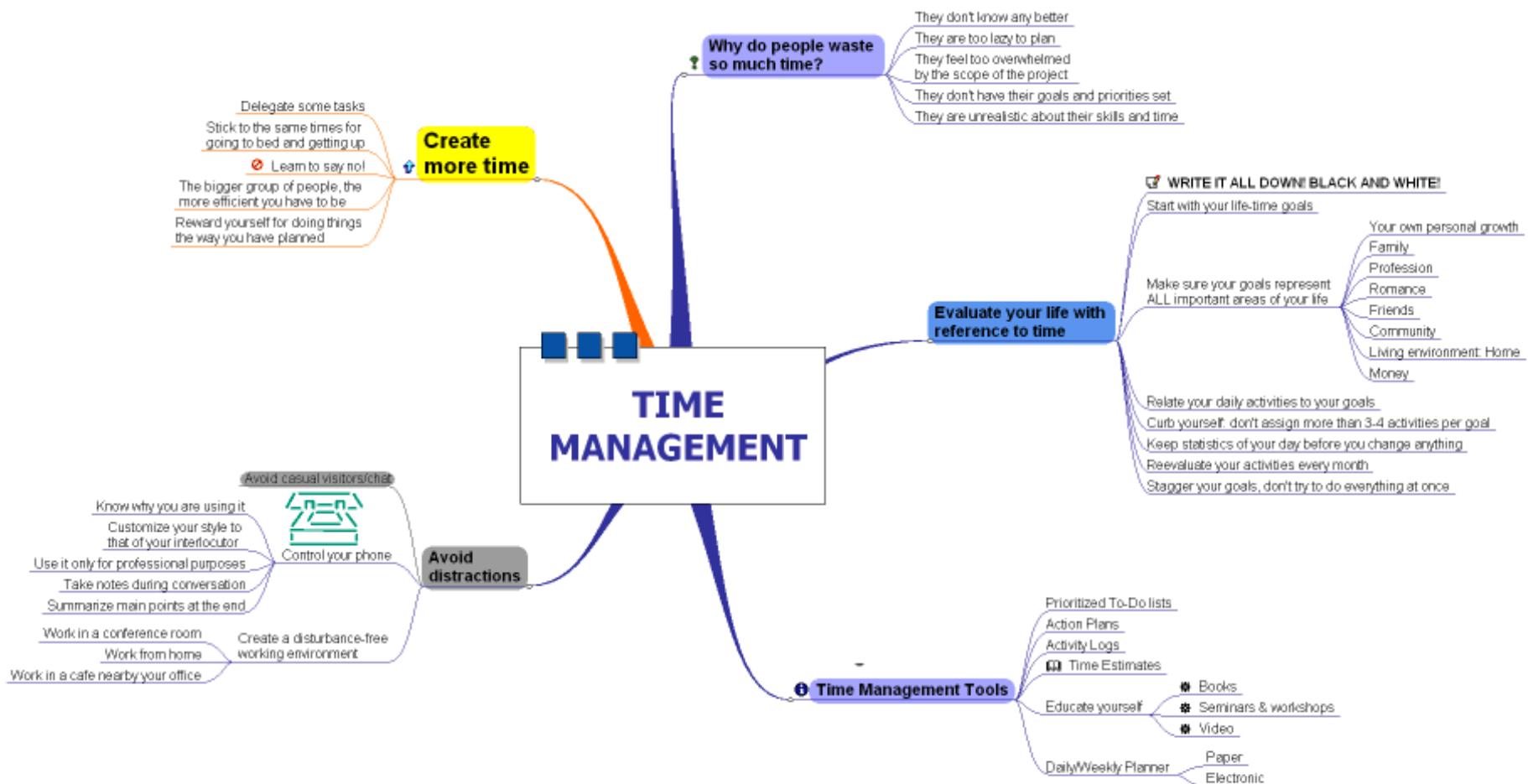
TIP

You're in good company:
Leonardo da Vinci
Pablo Picasso
William Blake
Beethoven
Albert Einstein
Vincent van Gogh

Advantages of Mind Mapping Over Linear Note-Making/Taking

- Time saved
 - by noting only relevant words (50-95%)
 - Time saved by reading “ (> 90%)
 - Time saved by reviewing Mind Map notes
- Concentration on real issues enhanced
- Essential key words made easily discernable
- Essential key words juxtaposed in time and space, improving recall and creativity
- Clear and appropriate associations
- Easier for brain to remember visually stimulating, multi-dimensional information

Time Management Mind Map



Conclusions

- Engineers & Scientists approach new designs with their “bag of tricks” derived from past experience (Where do we come from?)
- New solutions are predisposed to be limited to evolutionary variants of old ones. Be creative & open.
- Mindmapping (other techniques) increases your communication, visualization, understanding skills.
- Overcome your dormant state of brain power
- ‘Learning to learn’ and ‘learning to lead’ (What are we?)
- Destiny: Change the World (Where are we going?)