PART 1

RESEARCH STUDIES ON MIND MAPPING

Summary Report

Summary Report - Research Studies on Mind Mapping

The phenomena of Mind Mapping is now world-renowned, so why is it that millions of people around the globe find it such a useful tool for creative thinking, planning and collaborating with others?

There are numerous studies providing overwhelming evidence verifying the science behind Mind Mapping, so here are some of the exciting results that are confirmation as to exactly why Mind Mapping can help you.

Boost your memory

At the heart of Mind Mapping is the striking combination of imagery, colour and visual-spatial arrangement, which is proven to significantly improve information recall, compared to conventional methods of note taking and learning.

A study by Toi (2009)[1] shows that Mind Mapping can help children recall words more effectively than using lists, with improvements in memory of up to 32%.

And according to a study conducted by Farrand, Hussain and Hennessey (2002)[2], Mind Mapping improved the long-term memory of factual information in their participants by 10%.

Foster your creativity with Mind Maps

Ever suffer from writer's block? Do you experience brainfreeze rather than brainstorm? This is where Mind Maps can help you. Their spatial layout helps you gain a better overview and makes new connections more visible so you can create an infinite number of thoughts, ideas and associations on any topic – perfect for fostering creativity and generating new ideas whenever the mood takes you.

A study by Al-Jarf (2009)[3] confirms that Mind Mapping software offers a powerful approach for improving the ability of anyone to generate, visualise and organise ideas. The subjects taking part in the

[1] Toi, H (2009), 'Research on how Mind Map improves Memory'. Paper presented at the International Conference on Thinking, Kuala Lumpur, 22nd to 26th June 2009.
[2] Farrand, P., Hussain, F. and Hennessy E. (2002), 'The efficacy of the 'mind map' study technique'. *Medical Education*, Vol. 36 (5), pp 426-431.
[3] Al-Jarf, R. (2009), 'Enhancing Freshman students' Writing Skills with a Mind Mapping software'. Paper presented at the 5th International Scientific Conference, eLearning and Software for Education, Bucharest, April 2009.

study reported that the Mind Mapping tool encouraged creative thinking and they became faster at generating and organising ideas for their writing.

How Mind Maps facilitate the learning process

Evidence shows that Mind Maps can facilitate the learning process in a variety of ways:

Interesting and engaging: Goodnough and Woods (2002)[4] discovered that partakers in their study perceived Mind Mapping as a fun, interesting and motivating approach to learning. Several of these participants attributed the fun aspect to the opportunity to be creative when creating Mind Maps through lots of choice in colour, symbols, key words and design.

Organisation and understanding: Research by D'Antoni and Pinto Zipp (2005)[5] found that, from a pool of 14 physical therapy students, 10 out of 14 agreed that the Mind Map technique enabled them to better organise and integrate the material presented in their course.

Concentration: A study conducted at Newchurch Community Primary School in Warrington showed a variety of improvements in pupils' learning after Mind Mapping was introduced. Evidence includes improved concentration, staying on task for longer periods of time, improved questioning and answering during class discussions and improved independence. Cain (2001/2002)[6].

Mind Maps also promote active learning, foster motivation, improve confidence, and support a diverse range of learning styles and levels of ability – all in a fun way!

Mind Maps as a teaching aid

Mind Mapping provides an effective approach for promoting better understanding in learning and training. Its flexibility also means that it possesses several uses when teaching.

[4] Goodnough, K. and Woods, R. (2002), 'Student and Teacher Perceptions of Mind Mapping: A Middle School Case Study'. Paper presented at the Annual Meeting of American Educational Research Association, New Orleans, 1st to 5th April 2002.

[5] D'Antoni, A. V., and Pinto Zipp, G. (2005), 'Applications of the Mind Map Learning Technique in Chiropractic Education'. *Journal of Chiropractic Education*, 19:53-4.

[6] Cain, M. E. (2001/2002), 'Using Mind Maps to raise standards in literacy, improve confidence and encourage positive attitudes towards learning'. Study conducted at Newchurch Community Primary School, Warrington.

Using Mind Mapping for lesson planning can help teachers or trainers identify a logical plan or teaching route and increases recall of the subject matter. This can boost teaching confidence and facilitate the smooth running of programmes. Boyson (2009)[7].

Furthermore Mento et al (1999)[8] affirm that Mind Mapping is a powerful cognitive tool which can be used in a variety of ways because of its ability to evoke associative and non-linear thinking.

And finally, researchers Goodnough and Long (2002)[9] found Mind Mapping to be a useful strategy for introducing new concepts, providing a whole-class focus for a large research project, assessing learning of individuals and offering greater choice in how people chose to complete assignments and projects.

Prepare with a Mind Map

A study by Holland et al (2003/2004)[10] established Mind Mapping to be a valuable technique for helping someone plan and structure projects and assignments more effectively. The experimental subjects in this study were able to improve the structure, coherence and, consequently, the quality of their written work and were able to draw value from the technique for project managing practical work. Testimony that a Mind Map is an invaluable tool for planning and organising your thinking for any project!

Improve your presentations

Mento et al (1999)[11] observed that a number of executives made clear and compelling presentations using only a transparency of their Mind Map, without fumbling about with notes. They were also able to handle challenging questions with confidence. Their ability to handle the presented material in such an effective way was attributed to better recall of the information because it had been captured and stored in an integrated, radiating manner rather than linearly. They could also internalise it better because it was their unique representation of the information.

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[7] Boyson, G. (2009), 'The Use of Mind Mapping in Teaching and Learning'. *The Learning Institute,* Assignment 3.
[8] Mento, A. J., Martinelli, P. and Jones R. M. (1999), 'Mind Mapping in Executive Education: Applications and Outcomes'. *The Journal of Management Development*, Vol. 18, Issue 4.
[9] Goodnough, K. and Long, R. (2002), 'Mind Mapping: A Graphic Organizer for the Pedagogical Toolbox'. *Science Scope,* Vol. 25, No. 8, pp 20-24.
[10] Holland, B., Holland, L. and Davies, J. (2003/2004), 'An investigation into the concept of Mind Mapping and the use of Mind Mapping software to support and improve student academic performance'. *Learning and Teaching Projects 2003/2004*, pp 89-94.
[11] Mento, A. J., Martinelli, P. and Jones R. M. (1999), 'Mind Mapping in Executive Education: Applications and Outcomes'. *The Journal of Management Development*, Vol. 18, Issue 4.

Mind Maps as a tool for collaboration

A Mind Map is an excellent tool for collaborating with others to develop plans or implement key projects. It allows you to harness the input of all members of a group in a dynamic and creative way.

When used for group brainstorming sessions, Mind Mapping was seen to enhance critical thinking and co-operation as well as providing a solid basis for collaborative problem-solving. Groups involved in the sessions reported that they enjoyed expressing their opinions in a participative and open climate (Paykoc et al, 2004)[12].

Improve your writing

Mind Mapping is a powerful tool for assisting any form of writing. In a study by Wai Ling (2004)[13] 10 out of the 12 involved attributed their improvement in writing to the use of Mind Maps.

Findings from an investigation by Al-Jarf (2009)[14] revealed that the written work produced by using Mind Mapping included:

- More relevant detail and better organised and connected ideas
- Mind Mapping raised the performance of students at all levels of ability as they became more efficient in generating and organising ideas for their writing
- Those studied also displayed a positive attitude towards using Mind Mapping as a pre-writing activity

Organise your thoughts

A Mind Map can help you think with greater clarity to explore relationships between ideas and elements of an argument and to generate solutions to problems. It puts a new perspective on things by allowing you to see all the relevant issues and analyse choices in light of the big picture. It also becomes easier to integrate new knowledge and organise information logically as you aren't tied to a rigid structure.

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[12] Paykoç, F., Mengi, B., Kamay, P. O, Onkol, P., Ozgur, B., Pilli, O. and Yildirim, H. (2004), 'What are the Major Curriculum Issues?: The Use of MindMapping as a Brainstorming Exercise'. Paper presented at the First Int. Conference on Concept Mapping, Spain, 2004.

[13] Wai Ling, C. (2004), 'The Effectiveness of Using Mind Mapping Skills in Enhancing Secondary One and Secondary Four Students' Writing in a CMI School'. University of Hong Kong, Masters dissertation.

[14] Al-Jarf, R. (2009), 'Enhancing Freshman students' Writing Skills with a Mind Mapping software'. Paper presented at the 5th International Scientific Conference, eLearning and Software for Education, Bucharest, April 2009.

Verifying this is research conducted by Mueller et al (2002)[15] describing how the use of Mind Maps to plan patient care at Front Range Community College resulted in enhanced thinking skills including critical thinking, whole-brain thinking and comprehensive thinking.

[15] Mueller, A., Johnston, M. and Bligh, D. (2002), 'Joining Mind Mapping and Care Planning to Enhance Student Critical Thinking and Achieve Holistic Nursing Care'. *Nursing Diagnosis,* 13, 1, pg. 24.

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1. Toi, H (2009), 'Research on how Mind Map improves Memory'. Paper presented at the International Conference on Thinking, Kuala Lumpur, 22nd to 26th June 2009.

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15. Mueller, A., Johnston, M. and Bligh, D. (2002), 'Joining Mind Mapping and Care Planning to Enhance Student Critical Thinking and Achieve Holistic Nursing Care'. *Nursing Diagnosis,* 13, 1, pg. 24.