

at the heart of education

Scientific research from the Institute of HeartMath shows that the heart plays an important role in reducing emotional stress, developing higher-order thinking skills, improving academic performance, and regulating social and emotional behaviour. **DIANA KILLEN** reports.

Extensive studies in schools in the United States of America (USA) and the United Kingdom (UK) show that use of HeartMath's practical skills and technology is associated with significant improvements in student academic outcomes and social-emotional wellbeing, as well as improved teacher resilience and retention rates.

The same skills and technology are used internationally in hospitals and organisations such as BP and Unilever to lower stress, improve health and help leaders to think more effectively and creatively under pressure. While changing the way we work is an important part of reducing occupational stress, it's equally important to address how stress impacts on learning, performance and wellbeing.

Connecting heart and stress control

Research into the physiology of stress shows that it's how we respond to stressful situations and events, and particularly how we feel about them, that really creates long-term problems. Emotions have a powerful impact on the human body. Emotions like frustration, insecurity and anger inhibit optimal health and relief from stress. Positive emotions like appreciation, care and love not only feel good, they promote health, performance and wellbeing.

HeartMath is unique in its extensive scientific and case study

validation on reversing the effects of stress on individuals and organisations. This research has shown that by learning how to intentionally shift to a positive emotion, you can change your heart rhythm immediately. A shift in heart rhythms may not seem important, but it creates a favourable cascade of neural, hormonal and biochemical events that benefits the brain and entire body. This state is called 'coherence'.

During coherence, our inner systems function with a higher degree of synchronisation, efficiency and harmony. This correlates with improved emotional balance, reduced anxiety and depression, enhanced health (including heart health) and immunity, reduced levels of the hormone cortisol and increased levels of dehydroepiandrosterone (DHEA), and improved cognitive performance. The stress relief effects are both immediate and cumulative.

One of the most obvious features distinguishing HeartMath's work from stress reduction techniques such as relaxation or meditation is interactive learning software to develop skill in changing heart rhythms and the messages sent by the heart to the brain.



An integral part of the HeartMath system, *Freeze-Framer* is a unique interactive learning system with a patented heart rhythm monitor. It uses a fingertip or ear sensor to objectively monitor the heart rhythm and confirm when users are in the coherent mode—when they are 'in sync'. It helps them learn to self-generate emotional and physiological stability and coherence and to track their progress.

The *Freeze-Framer* is very different from devices that simply measure heart rate. It measures the subtle beat-to-beat changes in heart rate and shows the rhythmic patterns as they develop. This is called heart rate variability (HRV) analysis. HRV provides a well-recognised window into the functioning of the autonomic nervous system. A smooth sine-like heart rhythm pattern is correlated with coherence.

Students can use the interactive software at home as well as in the classroom. For those wanting mobile technology, the recently released *emWave* technology, provides the functionality of the *Freeze-Framer* software in a hand held device.

Improving teacher wellbeing

Stress among educators is a well-documented problem. A study by the Victorian Education Department in October 2004 reported that 80 per cent of school principals experienced high levels of stress; nearly 50 per cent reported a medical problem linked to work, including heart disorders, headaches and weight control. Surveys in the UK and USA report similar statistics. Teacher burn-out has been described as physical, emotional and attitudinal exhaustion—a lack of energy, enthusiasm, satisfaction, motivation, concentration and self-confidence.

HeartMath's 'Resilient Educator' programs have been shown to significantly improve teachers' ability to manage stress, with consequent improvements in energy, health and wellbeing, handling of conflict and staff retention. In one case study, 34 per cent of participants said that they felt exhausted. Three months after the workshop, that number had dropped to 11 per cent. Those who said they felt like leaving their job dropped from 21 per cent to 14 per cent during the same period.

HeartMath and learning

There is a direct link between a student's ability to self-manage emotions and academic performance. The state of coherence sends messages to the emotional and thinking centres in the brain, which greatly improve our ability to focus, learn, perceive, feel, reason and perform at our best.

HeartMath skills increase students' ability to recognise stress and to make the necessary emotional and physiological shifts to clear

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the emotional stress—from family issues, peer pressures, over-stimulation and boredom—that increases resistance to learning and mental blocks under exam conditions. These pressures can erode self-motivation and especially stifle the motivation to learn. Anxiety about exams is a well-recognised cause of both stress and reduced academic performance.

Work with students in the USA and the UK has demonstrated both behavioural and academic benefits from HeartMath programs. At an inner city elementary school in Phoenix, an educational psychologist worked with learning-disabled fifth and sixth grade students to improve reading skills. The students had already practised a variety of learning methodologies for years with very minimal improvement and their self-esteem was extremely low. Most of the students also had behavioural and/or academic problems. The class met for 1.25 hours each day for a total of 14 days over three weeks.

Dr Edie Fritz decided to focus on teaching the students the HeartMath techniques and provided very little traditional reading instruction. Evaluations of students' reading skills were accomplished using the Wide Range Achievement Test (WRAT) both before and after the program. At the end of the three weeks, there were improvements in the classroom environment, children's attitudes and behaviour. In addition, every student's reading performance improved dramatically, ranging from a two month jump in reading proficiency for a bilingual student to over three years' growth (average growth of 1.5 years in grade level).

Improved attitudes and behaviour

A 1999 joint research study between the Institute of HeartMath and the Miami Heart Research Institute

examined the impact of a HeartMath program on psychosocial functioning and physiological responses to stress in students at Palm Springs Middle School. The study measured psychological and behavioural changes in 32 at-risk seventh grade students.

Following the HeartMath program, there were significant improvements in 17 of the 19 areas of psychosocial functioning, including anger management, self-reliance, work management and focus, perceptions of family support/satisfaction and decreases in risky behaviour.

In the UK, at Plessington Technical College and schools in the Portsmouth area, trials with students identified to have Attention Deficit Hyperactivity Disorder (ADHD) have also resulted in significantly improved social-emotional wellbeing, recording reduction in oppositional behaviour. For more information about research, visit

www.hunterkane.com/ and
www.heartmath.com.au/education/index.html

There is wisdom in the saying that we think with both our hearts and our heads. Stress, performance and wellbeing are inextricably linked. Finding new ways to improve levels of health and achievement, of having students and teachers who are 'in sync' is surely a benefit to all. ☺

References

McCarty, R (2003). *The Scientific Role of the Heart in Learning and Performance*, available as an e-booklet from www.heartmath.com.au/

McCarty et al (1999). 'The Impact of an Emotional Self-Management Skills Course on Psychosocial Functioning and Autonomic Recovery to Stress in Middle School Children', *Integrative Physiological and Behavioral Science*, 34 (4), pp. 246–248.



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