AcademiWales

sowing seeds

Explore and Walk

Connecting body and mind

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Photo provided by: James Moore, Welsh Ambulance Services NHS Trust

Introduction

'Explore and Walk' was co-created by Moira Morgan (Career and Personal Development Manager, Academi Wales) and James Moore (Assistant Director, Organisational Design and Development, Welsh Ambulance Services NHS Trust) in 2013.

The programme was created in response to some of the issues that currently exist in the workplace, such as stress, burnout and workplace toxicity. This personal development programme uses learning techniques informed by the field of neuroscience to enable leaders to:

- re-connect with their authentic selves amidst the challenges of life and exponential change
- move out of their 'comfort zone' to develop adaptability
- explore their **their 'negative capability'** in a conducive and supportive environment.

This three day programme uses four evidence based methods.

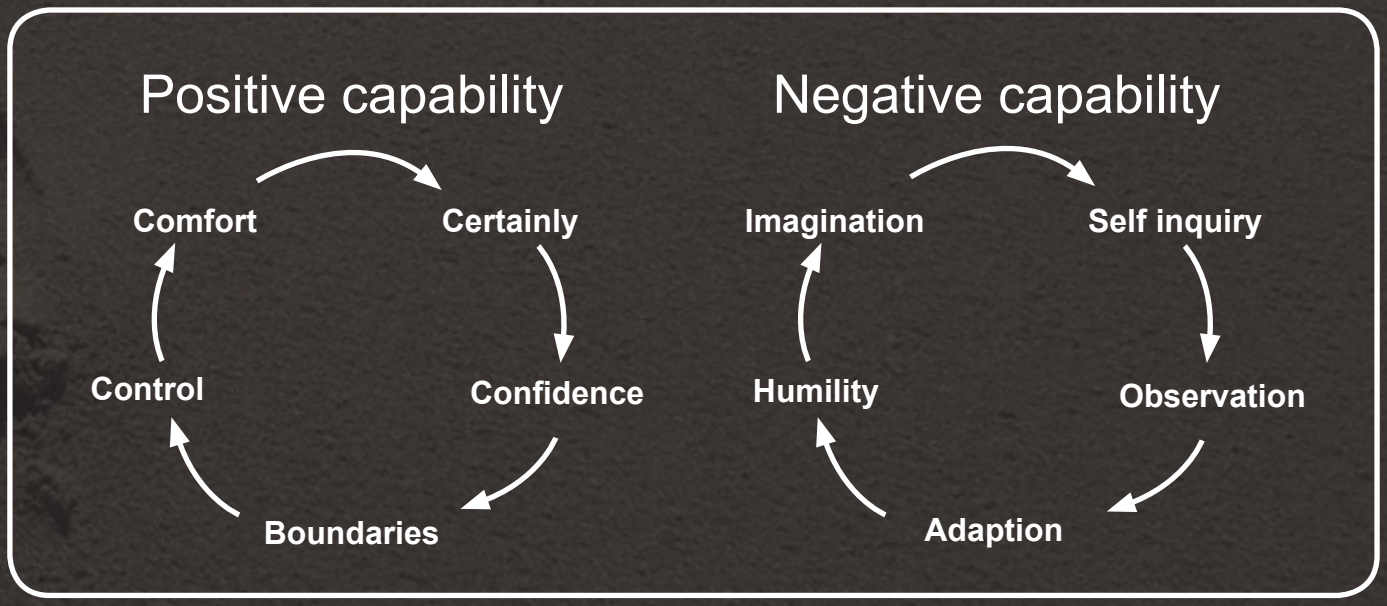
- Mindfulness
- Physical movement
- Space to connect with nature
- Music

Explore and Walk takes you through a physical and mindful journey so that you are better able to sustainably adapt yourself and help others to do the same. You are supported to do this by understanding the evidence, participating in the approaches and encouraged to commit to ongoing practice.

The aim is to create time and space for you to develop your negative capability through reflection, development and appropriate physical exercise. You will also be supported to find ways to make any positive changes habitual.

We have found every group to be different which has helped us evolve the programme.

What is negative capability?



Academi Wales, 'Principles of Learning', 2014

Negative capability is "a state in which a person is capable of being able to hold uncertainties, mysteries & doubts without irritably reaching after fact or reason"
Keats (1817)

While positive capability is our known, certain and often comfortable place, negative capability is the ability to resist going straight to what we know.

Using both in the right measure allows us to think and act in a way which both explores our unknown and then allows us to have a full range of choices which we can then turn into reality.

Humility

Being humble means having a modest opinion and estimate of your importance and status. It means that you're not scared or frightened if you don't know the answer. Trusting that an answer will emerge rather than having to react to an issue/question is the key to humility. Some suggested prompts to help develop your humility:

- saying "I don't know, but I'd love you to tell me more"
- asking more questions of others and yourself
- invite yourself to spend some time thinking about and listening to something that is important to others

Imagination

Being able to see, hear and feel things that 'could be' is the key to imagining.
It means leaving what you know now so that you can be creative about anything you want to think about. By creating a world of possibilities, we can move beyond being constrained by the risks of doing something and the practicalities about how we might get there. Some suggested prompts to help develop your imagination:

- thinking about something that could be; letting go of what you know and imagining the wackiest ideas
- asking "but why couldn't it be that?"
- using pictures/scenes as a way of imagining what's going on

Photo provided by: Ross Storr, Academi Wales

Self-inquiry

'Searching for knowledge and truth about yourself'. At the heart of self-inquiry is honesty with yourself. Some suggested prompts to help develop your self-inquiry:

- reflective writing, both diaries and a time-limited non-stop writing on something reflective and personal to you
- asking yourself "why do I think that?" and "why did I do that?"
- asking others for their feedback as to how you come across; reflect on it, and explore it further

Observation

Really noticing things around you with real attentiveness is the key to observation. It means being more interested in what's around you rather than just yourself. It also means noticing the impact that you have around you. Some suggested prompts to help develop your observation:

- asking yourself "what can I see, hear and feel now?"
- using all your senses – the rich blending should help you really notice
- 'vision trumps all our senses' – try taking pictures of what's around you; notice the little detail

Adaptation

'Change to or modification to suit new conditions or needs'. Changing our thinking means we need to form new neural pathways – this might be a fundamental rewiring of our brains or it might be one/a series of new things that we try and then form a subsequent habit. Some things that might help you develop your ability to adapt:

- design an experiment to test new ideas
- make the test small scale and failure survivable
- keep what works (and create a new habit – do it 21 times)
- share your learning with others

1. Why we use mindfulness

Mindfulness is: paying attention in a particular way, on purpose, in the present moment, without judgement
(*Kabat-Zinn, J., Full Catastrophe Living, 1996*)

Mindfulness, in this context, was developed by a clinician, John Kabat-Zinn in the USA and was (and still is) subject to rigorous evaluation. Mindfulness 'practice' is a way of **training the mind to increase levels of sustained awareness** – of oneself, of others and of the environment. In cultivating this self-awareness we can be more skilful at using our energy – mental, emotional and physical – in a way that increases our inner resources, rather than depleting them.

Automatic pilot

In a car we can sometimes drive for miles on 'automatic pilot' without really being aware of what we are doing. In the same way, we may not be really 'present', moment-by-moment, for much of our lives. In fact we may be 'miles away' without even knowing it.

On automatic pilot we are more likely to have our 'buttons pressed'. Events around us, thoughts, feelings and sensations (of which we may be only dimly aware) can trigger old habits of thinking that are unhelpful. We may also be 'prisoners of our own expertise'. By becoming more aware of our thoughts, feelings and body sensations – moment-by-moment – we give ourselves the possibility of greater freedom and choice. We do not have to go down the same old tracks or be stuck in unhelpful habits.

Sometimes, 'automatic pilot' has tragic consequences:

Professor David Denyer, BSc, PhD, Director of Research at Cranfield School of Management, recently presented to the Healthcare People Management Association (HPMA), 'Learning from the Francis Report' during which he catalogued the failings at Mid Staffordshire NHS Foundation Trust. Professor Denyer has worked with a number of organisations in the wake of catastrophic events or during crises of public confidence. He has found that these organisations follow similar patterns of incurring many small failures rather than one big one.

Interestingly, the very first failure he notes is:

'a lack of mindfulness across the organisation'.

In this context he refers to mindfulness as 'situational awareness' i.e. attention, alertness and care. He found that many people were on 'automatic pilot'.

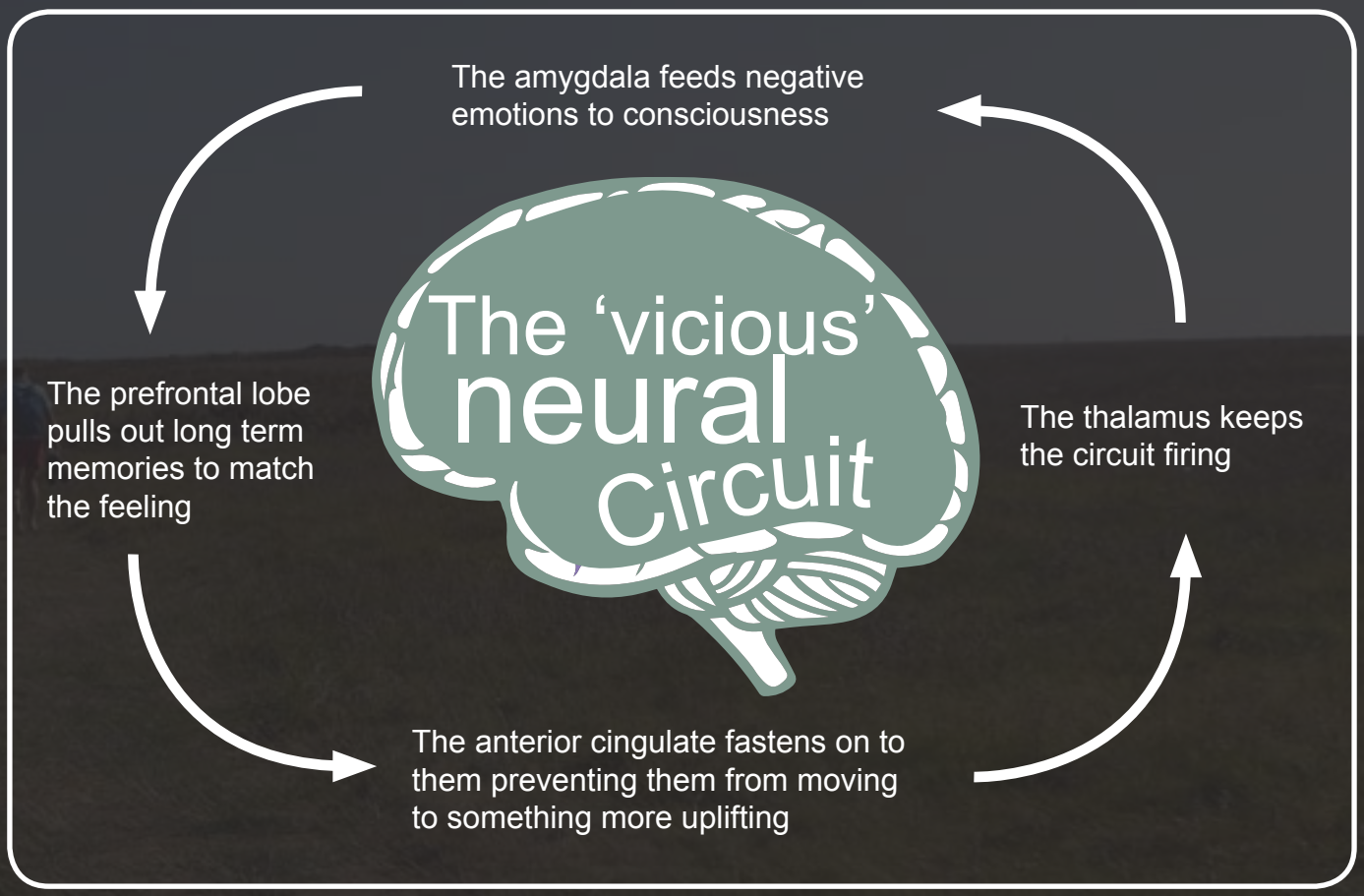
Mindfulness is the opposite of 'automatic pilot' and helps us become more aware of our selves and our environment (*Sowing Seeds, Mindfulness, Academi Wales, 2014*).

Photo provided by: Ross Storr, Academi Wales

Mindfulness and resilience

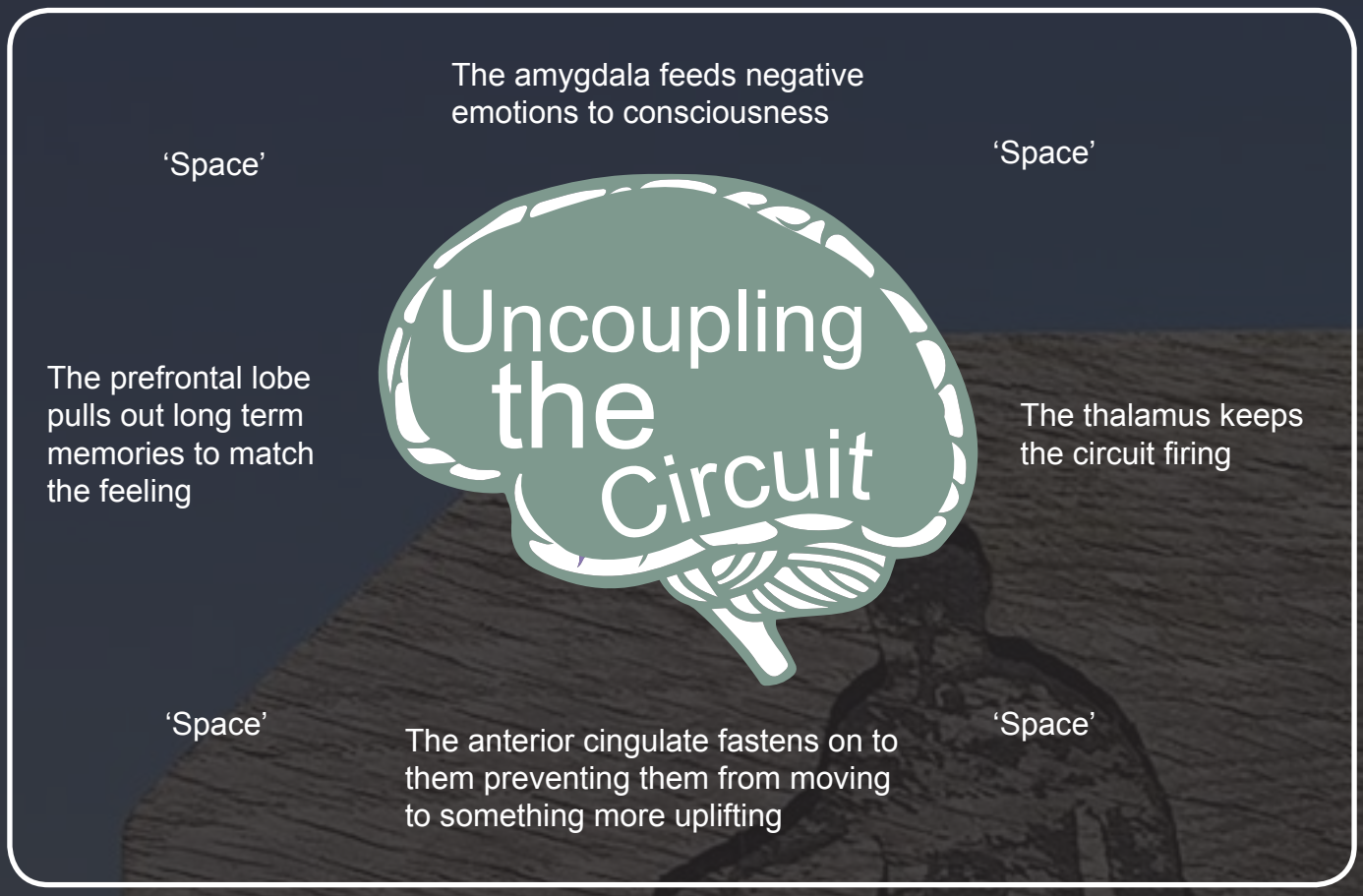
According to Mind, the mental health charity, 'right now one in six workers are dealing with a mental health problem such as anxiety, depression or stress'. Their research shows that **work** is the biggest cause of stress in people's lives, more so than debt or financial problems.

Evidence from the field of neuroscience tells us that anxiety, depression and stress are held in a 'vicious neural circuit' (*Rita Carter – Mapping the Mind 2010*). Michael Posner PhD describes it as:



(Posner and Rachlie – Images of Mind, 1994)

As Ruby Wax says in her book (*Sane New World –Taming the Mind, 2014*), 'circuits that fire together, wire together', but by bringing these circuits to conscious awareness we can 'uncouple' the component parts. Mindfulness helps us make a space between them so that we can choose our responses to situations versus reacting to them.



(Moira Morgan, 2015)

There is compelling evidence emerging from the field of neuroscience that mindfulness practice actually changes the structure of the brain as well helping to dismantle the vicious neural circuit. There is more traffic between the left and right hemisphere, thought to create balance, increase creativity and positivity and increase cortical thickness which means the brain retains its plasticity into older age and has many other benefits (*Sowing Seeds, Mindfulness, Academi Wales 2014*).

Participant quote

"I used mindfulness at the start of a meeting and felt quite nervous about trying something so different with the team, but I thought it was important for them to see that I was willing to try different things and experiment. Everyone looked completely shocked when I started the meeting by asking them to sit comfortably and close their eyes! We did a very brief exercise, which I guided, and I noticed all the team appeared to 'go with it'. If nothing else it gave them a couple of minutes break between the pressures of the 'day job' before launching into the meeting where I hoped to generate some creative ideas."

Photo provided by: Ross Storr, Academi Wales

2. Why we use physical movement

Movement is our natural state – we're not designed to be still for a long time! Moving also helps us to see, hear and feel the world from a different place which is often vital to really connecting with other people.

Consistently, neuroscience evidence points to the importance of movement to stimulate our brains to help us think and feel better. Recent research highlights the real benefits of standing and moving approaches over being still/sitting. From learning to delivering actions to keeping ourselves well, movement has a proven track record.

When we use different perspectives we are much better able to connect with other people and the world around us. By positioning ourselves in different places, we are able to change our perceptions and approaches, which makes us much more effective as people.

What movement does for us

We all know that movement makes us feel good. Whether it's hard exercise and getting our heart rate up, a stroll, regularly standing up or just putting ourselves in a different place, movement helps us think and do things better. Whether it is:

- hard physical activity *(see 'Spark', Naperville High School, Ratey 2008)*
- gentle ambling (walking meetings, walking coaching)
- experiencing different perspectives

Movement: hard exercise and neuroscience

Neuroscience research consistently points to the importance of movement to get the best from our brains. For example, John Medina describes exercise as his first 'Brain Rule'. When we exercise, our brain produces Brain-derived Neurotrophic Factor or BDNF proteins (equivalent to 'brain fertiliser') and this makes our cerebral cortex (the human brain) alert and ready to work efficiently. Exercise also takes away 'free radicals' from our brains which can be damaging.

In *Spark*, Dr John Ratey describes how movement and exercise became the focus for Naperville High School in West Chicago.

The school, which describes itself as typical for the USA, made a conscious choice to encourage pupils to exercise before lessons which involved 'hard' learning. They particularly did this before maths and science.

By giving pupils heart rate monitors, the focus was on how hard they were working their heart when exercising and not how good they were in any particular sport. Therefore, the sport wasn't the focus and pupils were rewarded with grades when they achieved high heart rates (80% or so).

Other than encouraging regular exercise, the school did nothing else; it didn't change its teachers/teaching methods, it just put 'hard' lessons after exercise. The results, as measured by Trends in International Mathematics and Sciences Study (TIMSS), were staggering (as well as a number of qualitative experience measures).

The pupils went from average in the USA (18th in maths and 16th in science) to comparison rankings of 6th in maths and 1st in science. They outperformed pupils in China, Japan, Singapore and Scandinavia!

Movement: walking, standing and our health

Our bodies are not designed to be still – especially in a sitting position. Our body structure is designed to move – it's our natural state! Daniel Lieberman describes how our health, wellbeing and behavioural state are positively affected when we move. Charles Darwin is famous for his midday walking circuit of the Sand Walk (he named it his thinking path) where he would do turns every day. He always described it as where he did his best thinking. Moving our bodies helps our brains think.

The latest research *(Wilmot et al., 2012)* highlights that by just sitting still rather than regularly standing up, we are doing harm to ourselves. We have a 112% higher chance of developing diabetes, 147% increase of suffering a cardiovascular event, a 90% increase in cardiovascular mortality and a 49% increase in all-cause mortality. Sitting still is killing us, movement is keeping us alive!

Increasingly, individuals and organisations are actively encouraging movement of bodies to help movement of thinking (both to develop new ways of doing things, but also to leave past beliefs behind). Standing and walking conversations are becoming a normal activity. Whether it's group meetings, one to ones, coaching sessions or as a way of energising the brain, movement keeps us healthy, well and alive.

Movement: positioning and our behaviours

Have you ever noticed that when you go on a journey for the first time following instructions, that the return journey feels much quicker? Do you notice different things? By physically changing our position, we change our perspective and experience. If we position ourselves in a place where someone else is experiencing something, it helps us to understand them as we see, hear and feel the world from a position where they do – it literally helps us see the world through their eyes and walk in their shoes.

Mahatma Gandhi is reputed to have been far more effective at understanding others by his physical positioning. Before important meetings with the British High Commissioner, he used to visit the rooms and sit in each of the seats. This helped him get a sense of what each participant in the meeting would see, hear and feel. By doing this, he felt he better understood their perspective. Sometimes termed 'perceptual positioning' this describes how, by physically moving yourself, you can attempt to experience situations from a different place to your default.

Understanding someone else's view is important as it allows us to build relationships, do our best for another person and reduce conflict by appreciating difference.

Participant quote

"We held our monthly meeting on the beach at Llanstephan. It was a beautiful warm day and all eight of us sat happily on the beach. We had a brief check in (you haven't arrived until you've spoken) and decided to use an action learning format to focus on one issue. We couldn't believe how easy it was to solve a 25 year problem just be taking ourselves out of the confines of four walls. This was probably the most successful meeting I have attended in my nine years as a manager"

"We bonded in a way that we had never done before; we work so much better now"

"We are achieving so much more by moving in our meetings"

Photo provided by: Ross Storr, Academi Wales

3. Why we include space to connect with nature

Being outside in nature makes people 'feel more alive', a series of studies published in the June 2010 issue of the Journal of Environmental Psychology found. And the studies show, that sense of increased vitality exists above and beyond the energising effects of physical activity and social interaction that are often associated with our forays into the natural world.

"Nature is fuel for the soul", says Richard Ryan, lead author and a professor of psychology at the University of Rochester. "Often when we feel depleted we reach for a cup of coffee, but research suggests a better way to get energized is to connect with nature" he says.

The findings, adds Ryan, are important for both mental and physical health. "Research has shown that people with a greater sense of vitality don't just have more energy for things they want to do, they are also more resilient to physical illnesses. One of the pathways to health may be to spend more time in natural settings."

In recent years, numerous experimental psychology studies have linked exposure to nature with increased energy and heightened sense of wellbeing. For example, research has shown that people on wilderness excursions report feeling more alive and that just recalling outdoor experiences increases feelings of happiness and health.

Other studies suggest that the very presence of nature helps to ward off feelings of exhaustion and that 90% of people report increased energy when placed in outdoor activities.

What is novel about this research, write the authors, is that it carefully tests whether this increased vitality associated with the outdoors is simply the feel-good spill over from physical activity and people-mixing often present in these situations. To tease out the affects of nature alone, the authors conducted five separate experiments, involving 537 college students in actual and imagined contexts. In one experiment, participants were led on a 15-minute walk through indoor hallways or along a tree-lined river path. In another, the undergraduates viewed photographic scenes of buildings or landscapes. A third experiment required students to imagine themselves in a variety of situations both active and sedentary, inside and out, and with and without others.

Two final experiments tracked participants' moods and energy levels throughout the day using diary entries. Over either four days or two weeks, students recorded their exercise, social interactions, time spent outside and exposure to natural environments, including plants and windows.

Across all methodologies, individuals consistently felt more energetic when they spent time in natural settings or imagined themselves in such situations. The findings were particularly robust, notes Ryan; being outside in nature for just 20 minutes in a day was enough to significantly boost vitality levels. Interestingly, in the last study, the presence of nature had an independent energising effect above that of being outdoors. In other words, conclude the authors, being outdoors was vitalising in large part because of the presence of nature.

The paper builds on earlier research by Ryan, Netta Weinstein, a psychologist at the University of Hamburg, Germany, and others showing that people are more caring and generous when exposed to nature. “We have a natural connection with living things”, says Ryan. “Nature is something within which we flourish, so having it more a part of our lives is critical, especially when we live and work in built environments.” These studies, concludes Ryan, underscore the importance of having access to parks and natural surroundings and of incorporating natural elements into our buildings through windows and indoor plants.

Participant quote

“It’s amazing connecting with nature – it helped me connect with myself”

“I noticed things I had never noticed before: the different colours of sand; the noise of the wind and the stillness out of it; the feel of fresh air in my lungs and face”

Photo provided by: Ross Storr, Academi Wales

4. Why we include music

When you play music, you are exercising your brain in a unique way. A way in which neuroscience tells us that it is possible to harness those abilities in new ways. On the second evening of Explore and Walk, we run a samba workshop which involves letting go of self consciousness as we explore 'negative capability'. This proves to be an uplifting and invigorating experience for participants as we discover that the quietest and most ungainly contributions, contribute to the 'whole'.

The field of neuroscience has much to say on this subject. "I think there's enough evidence to say that musical experience, musical exposure, musical training, all of those things change your brain", says Dr. Charles Limb, an associate professor of otolaryngology and head and neck surgery at Johns Hopkins University. "It allows you to think in a way that you used to not think, and it also trains a lot of other cognitive facilities that have nothing to do with music."

Music releases a chemical in the brain, i.e. dopamine, that has a key role in setting good moods, a study has suggested. The study reported in Nature Neuroscience Researchers from McGill University in Montreal.

Dopamine is a common neurotransmitter in the brain. It is released in response to rewarding human activity and is linked to reinforcement and motivation – these include activities that are biologically significant such as eating and sex.

Music activates so many parts of our brain that it's impossible to say that we have a centre for music the way we do for other tasks and subjects, such as language. When we hear a song, our frontal lobe and temporal lobe begin processing the sounds, with different brain cells working to decipher things like rhythm, pitch and melody.

Many researchers believe that most of this action happens in the right hemisphere, though others say reducing music to a right brained or left brained activity isn't possible. Regardless of where the brain activity takes place, it does seem to differ based on a whole host of factors, including how much experience with music the person has, whether he or she is hearing live or recorded music and whether or not the music has lyrics.

If the song has lyrics, the parts of the brain that process language can be activated. Researchers have found that songs can activate our visual cortex, perhaps because our brain tries to construct a visual image of the changes in pitch and tone. Songs can trigger neurons in the motor cortex, leading you to tap your foot and boogie. Your cerebellum gets into the act, trying to figure out where a piece of music will go next based on all the other songs it's heard before.

Hearing a piece of music is also tied to memories. If this is the song that was playing during a first kiss, then the medial prefrontal cortex, where memory is stored, lights up. Since this is one of the last brain areas to fall prey to the ravages of Alzheimer's disease, researchers have found that people with the condition can remember songs from long ago, even when they can't remember what they did yesterday.

While many parts of the brain are involved in deciphering a piece of music, brain imaging scans appear to demonstrate

that our emotional reaction to music also takes place in the brain. In a study of a woman who had damage to her temporal lobe, researchers found that while the woman was unable to distinguish between melodies, she was still able to have the emotional reaction that you might expect from hearing happy or sad melodies *(Weinberger, 2011)*. Further imaging studies have shown that music we'd expect to be happy activates the reward centres of the brain, releasing dopamine.

Playing music is the brain's equivalent of a full-body workout!

Playing an instrument engages practically every area of the brain at once – especially the visual, auditory, and motor cortices. And, as in any other workout, disciplined, structured practice in playing music strengthens those brain functions, allowing us to apply that strength to other activities. Playing music has been found to increase the volume and activity in the brain's corpus callosum – the bridge between the two hemispheres – allowing messages to get across the brain faster and through more diverse routes. This may allow musicians to solve problems more effectively and creatively, in both academic and social settings.

Because making music also involves crafting and understanding its emotional content and message, musicians also have higher levels of executive function – a category of interlinked tasks that includes planning, strategising and attention to detail, and requires simultaneous analysis of both cognitive and emotional aspects.

This ability also has an impact on how our memory systems work. And indeed, musicians exhibit enhanced memory functions – creating, storing and retrieving memories more quickly and efficiently. Studies have found that musicians appear to use their highly connected brains to give each memory multiple tags, such as a conceptual tag, an emotional tag, an audio tag and a contextual tag – like a good internet search engine! (*Maria Popover, BrainPickings.org*)

Music is a uniquely effective tool for treating neurological impairment because it recruits nearly every region of the brain. Imaging studies show that both listening to and making music spur activities and foster connections across a wide swath of brain regions typically involved emotion, reward, cognition, sensation and movement *(Wan and Schlaug, Neuroscience, vol.16, 2010).*

Participant quote

"I was most nervous about this aspect of the programme, but once I relaxed it became really enjoyable and reinforced the importance of listening and appreciating difference"

"I noticed that I was compelled to follow the rhythm, melody and lyrics set down at the start although I was invited to improvise. Eventually I was able to play counter rhythms, and sing my own words – it was a really uplifting and energising experience"

Photo provided by: Ross Storr, Academi Wales

Conclusion – applying the techniques to the workplace

As Albert Einstein said, "Insanity is doing the same thing over and over again and expecting different results". In this age of 'Permanent White Water' *(Vaill, 1996 and Covey, 2006)*, when we need public servants to be more resourceful, resilient and adaptable than ever, we need to be more innovative in the way we develop leaders. The compelling evidence coming from the field of neuroscience, regarding how individuals learn, adapt and maintain mental and emotional stability, points to new and healthier ways of working, running meetings and holding conversations in a way that can create a positive working environment. A place where individuals and teams can thrive, and ultimately, the people of Wales have the public services they deserve.

Written by Moira Morgan, Career and Personal Development Manager, Academi Wales and James Moore, Assistant Director, Organisational Design and Development, Welsh Ambulance Services NHS Trust.

Edited by Zoe Sweet, Director of Organisational Development, Academi Wales

A word from the authors:

"Evidence aside, our passion for and expertise in mindfulness, music, physical exercise, the outdoors and its relationship to learning and wellbeing gave us a powerful gut feeling that the mix of all four elements would make for a powerful developmental experience.

"We feel proud and privileged to have been sponsored by Academi Wales in order to facilitate these rich and sometimes magical experiences. We would like to thank Academi Wales, along with all the participants on the programmes for their openness and willingness to 'give life' to our original 'observations and gut feeling'."

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