

CAN TEACHING YOGA IN PRIMARY SCHOOLS CONTRIBUTE TO PUPILS' ACADEMIC ATTAINMENT?

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Over the last decade, there has been a marked increase in the interest of yoga practice in schools. Numerous books have been written and worldwide research projects undertaken, as well as national conferences on the subject featuring leading global experts. With so much evidence on why this is needed and how it can impact positively on child wellbeing, the question that arises is why aren't more schools introducing yoga as part of the school day? I asked this question of a number of colleagues, all of whom teach in primary schools in and around the city of Hull, and, unsurprisingly, all answers included both lack of time and pressure from academic targets. Most teachers could easily be persuaded that yoga practices, including mindfulness and meditation, would benefit children's overall wellbeing, but few would commit to integrating a yoga practice in their classroom without clear evidence to show how this could also benefit their academic progress. As with many professions, teachers are constrained by government and local authority targets and are under pressure to achieve these, often unrealistic, expectations. As a result, I can appreciate that for teachers to designate precious time in the school day to a wellbeing intervention, it needs to come with the promise of better academic performance as a result. However, although targets might drive the education profession, the vast majority of teachers did not enter the profession to train children to pass tests, but rather to make a positive difference in the whole life of a child, including their social and emotional wellbeing. Fortunately, I believe that a

regular yoga practice, delivered as part of the school day, could deliver both – and here are the reasons why!

TRAINING THE ATTENTION WILL IMPACT ON BEHAVIOUR FOR LEARNING

Palmer (2006) has described how some of the changes in the 21st century have impacted on children. Many of her observations directly mirror my own classroom experiences, particularly in terms of the deterioration in children's behaviour over the last two decades. A decline in children's readiness and ability to focus their attention is one of the most obvious symptoms observed daily by classroom teachers. This has a direct impact on the progress that can be made in all aspects of education. For children to be able to learn they must first be able to focus their attention. As teachers we often catch ourselves using phrases such as 'pay attention' or 'concentrate' but how often do we teach children *how* to do this? (Erricker & Erricker, 2001). The practices of meditation and mindfulness are both ways teachers could help children to learn this skill and subsequently apply it to their learning. Claxton (1999 cited in Erricker and Erricker 2009, p.36) refers to the two ways of paying attention as the "spotlight" of attention and the "floodlight" of attention. As focus is crucial to learning, knowing how to develop and use the attention spectrum would be highly valuable to teachers and pupils. Erricker and Erricker (2001, p.36) explain: "The whole spectrum of attention is necessary at different times in learning. A good learner will learn to vary

the direction and quality of attention for maximum appropriateness to the task in hand." At school age, children must move from choosing what and when to focus their attention to having this prescribed for them. To be able to maintain attention, even when not directly interested in a topic, is a skill in itself and requires practice. Using mindfulness games to practise training the attention would be a simple and easy way to show children how to use their spotlight focus in a relaxed and non-threatening way. Greenland (2016) claims that this can be achieved through simple anchor games, which teach children to choose what to focus their spotlight on. As we know through the science of neuroplasticity, the more opportunities we provide for these pathways to develop, the more long-term change will occur as the neural networks strengthen. Building these focusing games into the school day would provide children with a regular opportunity to train their attention and, over time, the regular practice and repetition of this skill would develop into a habit or pattern of behaviour. This view is shared by Erricker and Erricker (2001, p.37): "Meditation is first and foremost a technique to cultivate attention. For something that is so obviously deemed important for learning as well as for life, it is surprising that the art of paying attention is a subject that never appears on the curriculum". As well as providing a small sanctuary of peace within a busy day, meditation could benefit children throughout the rest of their day and help the mind to develop a habit of being in the moment. If the ultimate goal for teachers is to gain their pupils' attention, being in the moment is a requirement!

LEARNING RELAXATION TECHNIQUES WILL REDUCE THE NEGATIVE EFFECTS OF STRESS AND AID SELF-REGULATION

One of the main sources of stress in primary schools, for both pupils and teachers, are the national statutory tests undertaken at age 11. External pressure on schools to perform well in league tables is often unintentionally disseminated to the pupils. The NSPCC (2018) reported a two per cent increase in the number of counselling sessions they provided last year on the previous year, reporting a “definite surge around the exam period”. Yoga is one way that we can support children to both recognise and manage their stress. If schools could offer a simple programme of relaxation exercises for children to use leading up to and during exam periods, this would not only reduce their stress but also, undoubtedly, enable them to perform better. Teaching simple movement exercises through yoga asana would have the physiological benefits of increasing blood flow and oxygen absorption, which in turn releases the stress hormone from the blood. This differs from the type of breathing required in sports where we breathe through our mouths for the respiratory system to keep up with effort. This has the effect of the

release of adrenaline, which is useful in competitive sports to help you go faster for longer. However, in yoga asana the breath is controlled, keeping it steady and even, which stimulates the vagus nerve and lowers the stress responses associated with fight-or-flight. This sends a message to the brain that the body is relaxed and encourages the rest and digest response associated with the parasympathetic nervous system. Although few studies have examined these physiological outcomes of regular yoga practices in school, initial pilot studies have been very promising with results showing a decrease in cortisol concentrations (Butzer *et al.* 2015, cited in Khalsa 2015) and more stable breathing patterns (Jensen, Stevens and Kenny 2012, cited in Khalsa 2015). Alternate nasal breathing has also proven to calm the nervous system, which would help children to self-regulate in times of stress. This simple pranayama practice supported my own daughter, last year, to cope with the stress and worry of her Key Stage 2 SATs. She, and some of her friends, used Nadi Shodhana (alternate nostril breathing) to clear and calm the mind whilst the exam papers were being handed out. Simple and subtle, this effective breathing practice is just one of the ways that we can help our children to manage stress and ultimately perform better as a result.

DEVELOPING A MIND-BODY CONNECTION WILL HELP CHILDREN WITH SELF-EFFICACY

In the western world we live mostly in our heads with little real connection to the rest of the body. This has intensified in children with the increased use of technology and, in particular, social media. However, technology is here to stay so we need to find ways to educate children on how to manage the impact of it. Checking in with techniques such as body scanning at the beginning of a yoga practice could be one way of reconnecting with the whole body in order to develop a more real sense of self. Greenland (2016) offers several activities such as ‘Mind, Body, Go’ or ‘Butterfly Body Scan’, which support children in making a mind-body connection. An increase in rewarding feelings linked to their physical bodies would result in a more positive body image overall and general self-belief. Yoga is one way to slow things back down to real time. Working towards a larger goal, through small steps and continual effort, will encourage both perseverance and resilience. Developing self-efficacy in this way will help support children when facing the challenges of learning new knowledge and skills in the classroom.



PHYSICAL ACTIVITY AND MOVEMENT CAN LEAD TO BETTER ACADEMIC PERFORMANCE

Most modern children lead more sedentary lives than ever before. The statistics on childhood obesity show that one in five children in the UK is overweight at age 11 (Public Health England, 2018). Since the time of the ancient Greeks, the link between exercise and intelligence has been researched widely. From a basic physiological perspective, exercise increases oxygen to the brain, enabling effective cognitive function and decision-making. In a study of over one million children in California (Grissom, 2004), physical activity was strongly correlated with academic achievement. The idea of the mind being separate from the body, which has moulded the way learning is approached in schools, can be traced back to René Descartes and his dualism theory. Yoga asana can help to reconnect the body and mind, enabling them to work in unison to promote optimum overall health. A physical asana practice is an opportunity for children to get moving as well as increase their strength, flexibility, balance and respiratory function. This, in itself, is a step in the right direction and, furthermore, may also provide a bridge to other more physically challenging sports that may have previously seemed unobtainable. Helping children to work on their coordination, strength and balance, in a non-competitive safe environment, will help to promote a positive self-image and increased confidence to try other physical activities. This would undoubtedly benefit children in terms of their academic performance but also encourage healthy habits for life!

CHILDREN WHO SLEEP WELL WILL BOTH LEARN AND RETAIN MORE KNOWLEDGE

The impact of poor quality, or lack of, sleep is one of the factors affecting progress in the classroom. Palmer (2006) highlighted that UK teachers reported lack of quality sleep as one of the main barriers to children's progress at school. According to Hill (University Hospital Southampton, 2017), "The burden to the NHS, education system and society as a whole is immense, with lack of sleep among children leading to a wide range of problems including reduced school performance, behaviour problems and the hidden epidemic element of obesity." The link between sleep deprivation and behaviour/mood are well known but what about the impact on learning? Knowledge and understanding acquired during the day are transferred by the brain into long-term memory during sleep.

Children who are regularly not getting the required amount of sleep are missing out on these opportunities and this could be one of the reasons why teachers are having to re-teach the same knowledge. Slow wave sleep is required to transfer academic learning into long-term memory and this happens during the deep sleep stage of the sleep cycle (Walker, 2009). Meditation is the only other time that the same slow wave patterns are observed in the brain. During meditative practices, the two hemispheres of the brain are synchronised, which results in a deep relaxation, like in deep sleep, yet the mind is alert at the same time (Erricker and Erricker, 2001). Research has shown that high achievers require synthesis of both sides of the brain, further strengthening the argument for the impact on learning. This unique state could be highly valuable to bring about deep relaxation during the school day, especially for children who aren't getting enough sleep at night. Simple asana can also be very useful to calm children down to prepare for sleep. Poses such as balasana (child's pose) can help reduce sympathetic activity in the nervous system, calming the heart rate and inducing the relaxation response. Similarly, breathing techniques such as diaphragmatic breathing or alternative nostril breathing (leading from the left) could help to calm and cool their energy at bedtime. Working through such relaxation techniques on a regular basis, with a class of children, would empower them to be able to call on this peace at any time, enabling them to sleep better and, inevitably, learn better.

All of the evidence clearly indicates that yoga practices would be a valuable addition to children and schools. The potential for contributing to academic achievement is merely one of the possible benefits but one that will hopefully entice more teachers to explore the potential of this ancient practice. More schools than ever are open to, or are already using, yoga practices and the evidence shows that this is having a positive impact on both teachers and children. For the introduction of yoga in schools to be successful in the long term, research indicates it is most effective when teachers become trained in the practices (Childress and Harper, 2015). This means that it can be incorporated in all aspects of the school day. Evidence suggests that this doesn't only impact positively on stress levels of pupils but on teachers' stress levels too and, as discussed in the introduction, teachers are also more stressed than ever before! If the evidence discussed in this article encourages more schools to teach yoga to their pupils, the only obvious side effects will be less-stressed teachers and happier children! ■

REFERENCES

- Childress, T. & Harper, J. 2015. *Best Practices for Yoga in Schools*. Atlanta, GA: YSC – Omega Publications.
- Erricker, C. & Erricker, J. 2001. *Meditation in Schools*. London: Continuum.
- Farhi, D. 1996. *The Breathing Book*. New York, N.Y.: St. Martin's Press.
- Greenland, S.K. 2016. *Mindful Games*. Colorado: Shambhala Publications.
- Palmer, S. 2015. *Toxic Childhood*. 2nd Ed. London: Orion.
- Nararaja, D. 2010. *Buddha at Bedtime*. London: Watkins Publishers Ltd.
- Khalsa, S.B. 2018. Yoga in Schools: A Scientific Rationale and Research Review. In: Childress, T. and Harper, J. 2015. *Best Practices for Yoga in Schools*. Atlanta, GA: YSC – Omega Publications. P.xi
- Public Health England, 2019. *The National Child Measurement Programme*. [online] Available at: www.gov.uk/government/statistics/ncmp-and-child-obesity-profile-academic-year-2017-to-2018-update. [accessed on 2nd September 2019]
- Marlynn, W. 2015. 7 Ways to Help Teens and Children with Yoga. *Psychology Today*. [online] Available at: www.psychologytoday.com [accessed 20th August 2019].
- Hill, C. 2017. University Hospital Southampton. *Top doctor calls for children's sleep to be part of public health agenda*, [online] Available at: <http://www.uhs.nhs.uk> [accessed 25th August 2019].
- Kauts, A. & Sharma, N. 2009. Effect of yoga on academic performance in relation to stress. *International Journal Of Yoga*. 2(1), p.39-43. [online] Available at: <https://www.ncbi.nlm.nih.gov> [accessed 2nd September 2019].
- Weale, S. 2017. *More primary school children suffering stress from SATs, survey finds*. The Guardian. [online] Available at: <https://www.theguardian.com/education/2017> [accessed on 1st October 2019].
- Harvard Health Publishing. 2015. (updated 2018) Relaxation techniques: Breath control helps quell errant stress response; *Harvard Medical School*, [online] Available at: <https://www.health.harvard.edu> [accessed 5th October 2019].
- NSPCC. 2018. *Young people turn to Childline over exam stress*; [online] Available at: <https://www.nspcc.org.uk> [accessed 10th October 2019].
- N Am J Med Sci. 2014. Slow Yogic Breathing Through Right and Left Nostril Influences Sympathovagal Balance, Heart Rate Variability, and Cardiovascular Risks in Young Adults. *North American Journal of Medical Sciences* [online] Available at: www.ncbi.nlm.nih.gov [accessed on 03/11/19].
- Madhusudan, D., Deepeshwar, Subramanya, P. & Manjunath, N. 2016. *Influence of Yoga-Based Personality Development Program on Psychomotor Performance and Self-efficacy in School Children*; 6(3), p.145-151 [online] Available at: <https://www.frontiersin.org/articles/10.3389> [accessed 2nd September 2019].
- Walker, M.P. 2009. The Role of Slow Wave Sleep in Memory Processing. *Journal of Clinical Sleep Medicine*. 5 (2), P.20-26 [online] Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2824214/> [accessed on 25/11/19].
- Freeman, D. 2011 *Yoga Helps Kids Sleep*; [online] Available at: <https://stressfreekids.com/> [accessed 9th October 2019].
- Grissom, G.B. 2005. A study of the relationship between physical fitness and academic achievement in California using 2004 test results. *Journal of Exercise Physiology*. 8(1), p. 11-25. [online] Available at: <https://www.citeseerx.ist.psu.edu> [accessed 30th August 2019].

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