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The NSW Department of Education recognises that student wellbeing has a significant impact on student's engagement and success in learning (NSW DEC, 2015) and _The wellbeing framework for schools_ recommends that schools provide students with opportunities to develop the social and emotional skills they need to fulfil their learning potential. In their article, Joseph Ciarrochi, Professor, Institute of Positive Psychology and Education, Australian Catholic University, and Louise Hayes, PhD, Senior Fellow, Centre for Youth and Mental Health, The University of Melbourne, outline how developmentally appropriate mindfulness techniques might assist schools to develop an environment where students can thrive and succeed.

MINDFULNESS-BASED SOCIAL AND EMOTIONAL LEARNING:
a new approach to promoting positive development in young people

Social and emotional learning

Social and emotional learning (SEL) refers to the process through which children and adults acquire and apply skills to manage emotions, relationships and decision making ([CASEL](#), 2015).

The evidence that SEL improves academic performance is especially encouraging for school staff who feel pressured to increase achievement scores and feel worried that SEL will take valuable time away from study. A meta-analysis of 213 American school based social and emotional learning programs suggests that SEL programs added an average 11-percentile gain in achievement (Durlak, Weissberg, Dynmicki, Taylor and Schellinger, 2011).

The meta-analysis focused on six student outcome variables:

- social and emotional skills
- attitudes towards the self and others
- positive social behaviours
- conduct problems
- emotional distress
- academic performance.

The analysis revealed that SEL programs led by teachers were effective in all six outcome categories. However, the programs were somewhat less effective when they were led by non-school personnel, producing only three significant outcomes (improved SEL skills and prosocial attitudes, and reduced conduct problems). This finding is consistent with *The wellbeing framework for schools*, which recommends that schools should consider the development of wellbeing as a parallel process to learning and teaching.
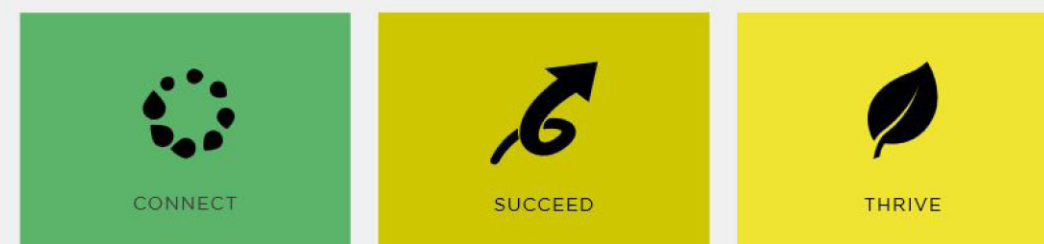
The wellbeing framework for schools

Implementing SAFE practice

The findings from the meta-analysis also suggested that all programs are not created equally. Specifically, programs that followed best practice procedures were associated with better outcomes than those that did not follow best practice (Durlak et al., 2011). Best practice programs follow the SAFE procedure (CASEL, 2015; Durlak et al., 2011):

- *Sequenced*: The program utilises a series of connected and coordinated activities to foster skills development.
- *Active*: The program utilises active, experiential forms of learning.
- *Focused*: The program is focused on developing social and emotional skills.
- *Explicit*: The program targets the core SEL skills identified by CASEL, which are self-awareness, self-management, social awareness and relationship skills, and responsible decision making.

The mindfulness revolution

Society is in the midst of a mindfulness revolution. Adapted from Buddhist meditation practices and popularised in the west by Jon Kabat-Zinn at the University of Massachussetts, through the Mindfulness-Based Stress Reduction (MSBR) program, mindfulness techniques are becoming increasing popular in western clinical psychology and psychiatry as an effective treatment for a range of psychological conditions in adults including chronic pain, anxiety and depression (Grossman, 2004).

The last two decades of research has shown that mindfulness is beneficial to nearly every aspect of human functioning. Mindfulness helps people to handle negative events, have self-control, build productive relationships, reduce chronic stress, improve mental performance, and overcome bad habits (Davis and Hayes, 2011; Keng, Smoski, and Robins, 2011).

What is mindfulness?

So, what is mindfulness exactly? It has been defined as paying attention, on purpose, in the present moment, while refraining from judgments and impulsive reactions (Kabit-Zinn and Hanh, 2009). Many interventions have focused on having people do structured meditation to achieve mindfulness. However, mindfulness does not refer to a single *thing* or single activity like meditation. Nor is it a special state of self-improvement that is achieved. Rather, it consists of a number of skills that help an individual learn to be compassionate with themselves and others (Sahdra, Ciarrochi, and Parker, in press). These skills include:

- *observing* – paying attention to sensations, such as wind in your hair

- *describing* – describing inner experience, such as emotions and sensations
- *acting with awareness* – focusing on what one is doing in the present moment
- *focused attention* – turning all attention to a task that requires concentration
- *accepting without judgment* – accepting negative experience without judging it as bad
- *non-reactivity to inner experience* – having inner experiences, such as impulses and self doubt, and not behaviourally reacting to them
- *non-attachment* – relating to experiences in a flexible, balanced way, without clinging or suppressing them (Sahdra, Ciarrochi, and Parker, in press).

Research, mostly undertaken with adults, has shown such convincing benefits of mindfulness that many educators are rushing to bring mindfulness interventions into schools. But is this rush justified? Evidence suggests that there are a couple of dangers to rushing in. First, the desire to implement the new, fashionable programs may lead us to throw out old social and emotional learning practices that have been empirically shown to work. Not all mindfulness practices are beneficial to everybody and might even be harmful to some if taught inappropriately. For example, some studies find that mindfulness practices have negative side effects for more than half of the people involved (Farias and Wiholm, 2015; Shapiro, 1992), which might include recalling of hidden memories and themes from the past such as incest, rejection, and abandonment (Kutz, Burysenko, and Benson, 1985; Kutz, Leserman, Dorrington, Morrison, and Borysenko, 1985), uncomfortable physical sensations, mild dissociation, feelings of guilt, anxiety, tension and panic (Craven,

1989; Shapiro, 1992). Mindfulness interventions are not magical pills that automatically create benefit for everybody. They need to be integrated carefully into school practice, in a way that is evidence based and age appropriate.

Why is mindfulness-based SEL important?

In their article, *How SEL and mindfulness can work together*, Lisa Lantieri, Senior program advisor for CASEL, and Vicki Zakrzewski, education director at the Greater Good Science Center, explains how mindfulness training can complement SEL skills programs by cultivating an individual's capacity for compassion, empathy, emotional self-regulation, cognitive flexibility and creativity, acting as a powerful fertiliser for SEL competencies (Lantieri and Zakrzewski, 2015).

This article presents one way of integrating mindfulness with best practice social and emotional learning (SEL) interventions. To minimise potential negative effects on students, mindfulness must be integrated with existing SAFE criteria. The DNA-V model seeks to integrate mindfulness into a social and emotional learning program, in a way that is intended to be SAFE, fun, and inspiring.

DNA-V: Integrating mindfulness practices into social and emotional learning

The DNA-V model is based on a combination of Acceptance and Commitment Therapy and Positive Psychology (Hayes and Ciarrochi, 2015). There has been increasing evidence for the use of both of these approaches with young people (Halliburton and Cooper, 2015; Livheim et al., 2014; Merry et al., 2011; Smith, 2015; Wicksell, Melin, Lekander, and Olsson, 2009). The DNA-V model is not an attempt to apply an adult model of young people; instead, it is grounded

in developmental research and seeks to describe the conditions that help children grow into strong and healthy young people. DNA-V follows the evidence based, SAFE practice, by:

- *Sequencing* training from basic to more advanced
- *Actively* engaging young people in the exercises through experiential practices
- *Focusing* on skills development
- *Explicitly* targeting the SEL skills of self-awareness, self-management, social awareness, relationship building, and responsible decision making (CASEL, 2015).

An illustration of the DNA-V model is presented in Figure 1. The letters DNA describe three functional classes of behaviour, which are described using the metaphorical names *discoverer* (D), *noticer* (N), and *advisor* (A). All three D, N, or A behaviours are used in the service of values. These behaviours are further influenced by context, which includes factors in the immediate and historical environment, an individual's learned view of themselves, and their attachments and relationships in their social world.
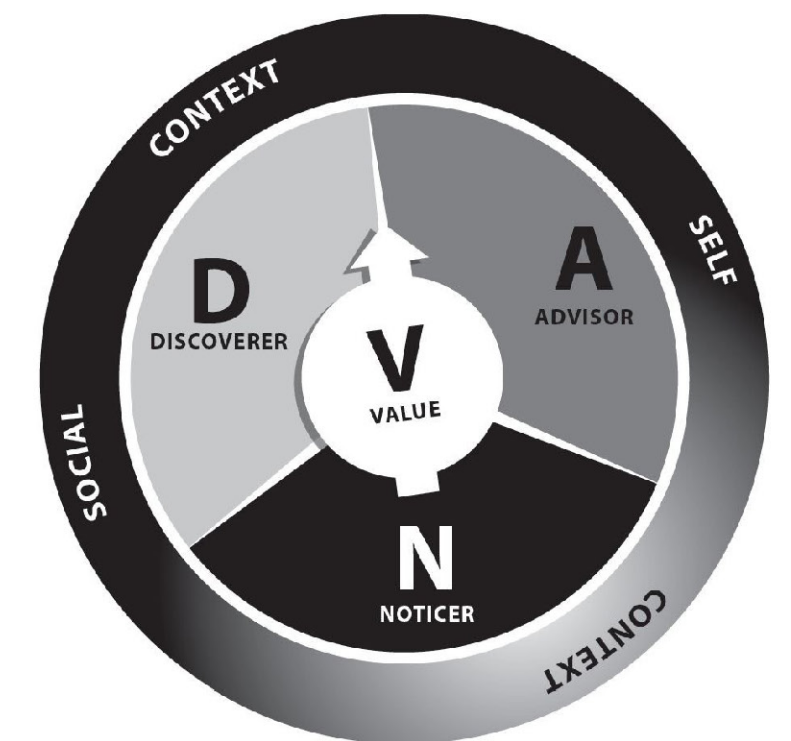
Figure 1 The DNA of value and vitality

The primary aim of the DNA-V model is to help young people learn these mindfulness skills and to use them to build psychological flexibility or, to use a term young people can relate to more readily, to help them develop flexible strength. Flexible strength is the ability to mindfully engage with the present moment and use our D, N, and A skills in a way that promotes learning and growth, while also being able to change behaviour or persist in order to build values and vitality. This movement is depicted using the pointer in Figure 1. In other words, flexible strength involves the ability to redirect energy into *advisor*, *noticer*, or *discoverer* space, in a way that feeds values and vitality. Young people who lack D, N, or A skills tend to be stuck using the same behaviour over and over and are unable to shift out of unhelpful ways of behaving, or they have a weakness in one or more of the *discoverer*, *noticer* and *advisor* skills.

Everything in the model is guided by values, which come from answering questions such as:

• What do I care about in this moment?
• What kind of person do I want to be?
• What do I want my life to stand for?

Common values involve connecting with others, giving to others, being active, embracing the moment, challenging oneself and learning, and caring for oneself (Ciarrochi, Bailey, and Harris, 2014). Vitality can be defined as the capacity to live, grow, and develop, physical or intellectual vigour, energy, and power to not just survive but thrive.

The *advisor* skill
The term *advisor* is a metaphor for how humans use their language and cognition skill to make sense of the world. In lay terms, it is how individuals use their inner voice or self-talk to make sense of the past, form beliefs, and predict the future. The *advisor* label is also used as a way of helping young people see that humans are always giving themselves advice, sometimes helpful advice, sometimes unhelpful.

You can think of the *advisor* like a Global Positioning System (GPS) in a car. A GPS is constantly directing the car, evaluating, predicting, and telling where to go. Our internal *advisor* does the same, trying to tell us what to do by evaluating, predicting, and using rules.

Thanks to this internal *advisor*, humans do not have to rely on experience and trial and error to figure everything out; they can simply use their history of learning to advise themselves quickly and efficiently. To continue the GPS metaphor, the GPS can tell the driver how to navigate through the city to a particular address, instead of relying on trial and error to find the address.

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Using the *advisor* skill to make a decision

The upside of the *advisor* skill is that it helps people to be efficient and avoid danger. It also has a downside because, at times, the *advisor* gives decidedly unhelpful advice. For example, a person sometimes tells themselves they are *not good enough* and then avoids things they want to do, like forming friendships or trying out for a sport. Everybody's *advisor* is unhelpful at times. Fortunately, with DNA-V young people can be taught that when the *advisor* is being unhelpful, they have the power to shift into another DNA-V skill. In other words, they learn to mindfully unhook from their *advisor* in order to find another way forward.

Table 1 highlights the skills targeted in the *advisor* component of the intervention. High skill involves helping young people to have workable beliefs, such as hope and self-esteem and to notice and unhook from unworkable beliefs, such as hopelessness. This ability to utilise workable beliefs and mindfully unhook from unworkable beliefs promotes the CASEL skill of self-management. Young people experience more positive academic and well-being outcomes if they are guided by useful beliefs such as the belief that they can accomplish their goals (authentic hope), that they have social worth (authentic self-esteem), and that problems are more of a challenge rather than an overwhelming threat (effective problem orientation) (Ciarrochi, Heaven, and Davies, 2007; Ciarrochi, Leeson, and Heaven, 2009; Ciarrochi, Parker, Kashdan, Heaven, and Barkus, in press; Leeson, Ciarrochi, and Heaven, 2008; Marshall, Parker, Ciarrochi, and Heaven, 2014). The word *authentic* is used here to suggest beliefs that are sensibly linked to action in the world, rather those beliefs that are unrealistic and excessively positive (e.g. narcissism). *Advisor*

DNA process	High skill example	Low skill example	CASEL skill*	Example character strength
Advisor	Workable beliefs guide action	Unworkable beliefs guide action	Self-management	Authentic Hope and Self-esteem Effective problem orientation
Noticer	Mindful of self, others, and life. Able to make space for difficult inner experience to come and go, without reacting to it	Mindless and unaware. Reacting to inner experience in a way that is often value inconsistent	Self-awareness Self-management	Mindfulness Inner balance Non-reactivity
Discoverer	Expanding, learning, creating, testing, finding new behaviour that promotes vitality and valued living Spotting and developing values and strengths	Impulsive exploration that provides short-term reinforcement but long-term negative consequences. Failure to try new behaviour when old behaviour is not working	Self-awareness Social awareness Self-management	Curiosity Love of learning Creativity Workability focus
DNA self-view	Follows useful self-concepts and disregards unhelpful self-concepts. Sees that self-concepts are not fixed things, merely words and thoughts Growth mindset: People believe they can grow and improve as a person	Dominated by unhelpful self-concepts Believes themselves to be their self-concepts (e.g., *I am broken is treated as true*) Fixed mindset: People believe themselves to be fixed due to history, and they cannot change	Self-management	Self-compassion Growth mindset Wisdom
DNA social-view	Recognises the value of social connection, is able to have empathy and compassion, cooperate, and build friendships and love Sees that their history with others influences present interactions, and believes they can change Sees personal agency, *I can choose*	Fails to recognise the value of social connection, lacks empathy and compassion, fails to build supportive relationships Does not see that their history with others influences present. Reacts without awareness. Blames others, *they made me like this*	Social awareness Relationship skills Responsible decision making	Social intelligence Leadership Capacity for friendship Teamwork Perspective taking

Table 1 Skills taught in the DNA model and how they map to social and emotional learning and Positive Psychology interventions
*core skills targeted by best practice social and emotional learning programs, as identified by the Collaborative for Social and Emotional Learning

interventions seek to help young people to develop helpful beliefs, whilst also becoming mindful and non-reactive to thoughts that indicate hopelessness, low self-esteem, and negative problem orientation.

It is worth mentioning how a DNA-V intervention approaches unhelpful thoughts. The common approach is to directly challenge these thoughts and seek to change them. For example, if young people think they cannot achieve their goals, an adult can directly challenge that thought by saying something like, *You've succeeded in the past. You have plenty of evidence you can succeed*. Evidence shows that this does not always work. Indeed, there is growing population of young people who are distressed and struggling with thoughts (McGorry, 2012; McGorry, Purcell, Goldstone, and Amminger, 2011). The mindfulness movement and DNA-V advocate a different way. Instead of challenging thoughts, the DNA-V approach encourages young people to become mindful and less reactive to the thought. Young people are encouraged to notice when thoughts like *I can't do it* show up, and to allow the thought to just be without reacting to it or trying to make it go away. In this way, young people learn to continue to engage in valued action even in the presence of difficult thoughts (Ciarrochi and Bailey,

2007). Thoughts are no longer the enemy, they are merely advice.

The *noticer* skill

The *noticer* allows an individual to connect with their feelings, their body, and the physical signals coming from the world around them. Humans all start life with the ability to notice the world without judgement or evaluation. During infancy, the world is what is seen, heard, touched, tasted, and smelled. However, as *advisor* skills are developed, it is easy to lose touch with the ability to notice and experience the world as a physical place.

Noticing has at least four important functions.

• First, the *noticer* is able to tune in to the body and use this powerful system. The world gives out signals, and they usually show up first in the body. The *noticer* is adept at recognising physical cues that reflect emotions, stressful events, joy, pain, danger, and so on. These cues provide essential information about the individual and how they are in the world. For example, anger tells someone that they believe an injustice has happened, and fear tells them that something undesirable might happen in the future.

• Second, the *noticer* is aware of the individual's actions. Without *noticer* skills, an individual cannot know how

their actions are affecting others.

• Third, the *noticer* tunes in to the external world and what it has to offer. This helps individuals connect with people, things, and places and detect the potential rewards that are available in the environment.

• Finally, for those who tend to get stuck in difficult thoughts or with a critical *advisor*, the *noticer* provides a way to reconnect with the physical realm and loosen an overly tight grip on the symbolic world. The *noticer* helps an individual to mindfully pause and observe their experience when they are uncertain whether their *advisor* is helpful.

Noticing is a central skill. No matter how confusing, difficult, or busy life gets, it is always possible to shift into a *noticer* space and find stability.

The *noticer* skill most clearly maps to the common idea of mindfulness narrowly defined, and to the CASEL skills of self-awareness and self-management (Table 1, column 2). *Noticer* training helps young people to identify and label their emotions, a skill they need in order to build supportive social relationships (Rowsell, Ciarrochi, Deane, and Heaven, 2015) and develop well-being (Ciarrochi, Heaven, and Supavadeeprasit, 2008; Ciarrochi, Kashdan, Leeson, Heaven, and Jordan, 2011). *Noticer* training also involves teaching young people that

they can have feelings, like fear or pride, and, that instead of trying to avoid or cling to them, they can allow them to arise and pass. They can feel afraid and still do what is important, and they can feel envy and still be humble and supportive of another. Research suggests that youth who are able to relate to their own experiences in a flexible, balanced way, without clinging or suppressing them, are better able to connect with their peers and behave towards them in a more kind, helpful and friendly manner (Sahdra, Ciarrochi, Parker, Marshall and Heaven, 2015).

Noticing involves a kind of being rather than doing. It is like being in neutral gear in a car. It is useful for taking a look around and not driving fast in the wrong direction; however, at some point, it is necessary to shift out of neutral gear if the individual wants to go somewhere. The *noticer* skill is like this; a place to pause, check around, experience the world, and then decide where to go. An individual can then shift into *advisor* space and follow the *advisor's* suggestions. Or they can shift into *discoverer* space.

The *discoverer* skill

The *discoverer* represents behaviours related to exploring and testing the world. Discovery is where new behaviours are tried in the attempt to broaden and build life experience.

Without discovery, individuals would just keep repeating the same old behaviours they have always done, getting similar results. Also, without discovery, an individual can be trapped into believing what others or society says about them. For example, imagine someone says that a young person is *too lazy to succeed at university*. If they believe this person's view, they can become stuck and may never get to find out if they can succeed at university. Learning to use the *discoverer* skill means an individual does not have to believe others, or even their own critical voice. Instead *discoverer* skills teach people how to explore the physical world through their own experiences.

Discoverers know how to track their behaviour and consider the consequences of their actions, and they learn to do this so they can identify what works in building a values-based life. Young people are drawn to risk, novelty, and sensation seeking behavioural patterns that are essential to positive development (Siegal, 2014). *Discoverer* skills allow them to use these tendencies to broaden and build and use these tendencies to test themselves in the world in order to grow. The DNA-V model guides young people in such a way that they can see when their risk taking is maladaptive, such as substance abuse or driving too fast.

The *discoverer* reminds an individual that it is not necessary to rely on their *advisor* (self-talk) for everything. People can learn to get out of their heads and into life to discover what is best for them. Discovery is both scary and exhilarating: scary because it is not clear what is going to happen when something new is tried and exhilarating because, by trying something new, it is possible to build a better life and connect more fully with the things of value.

Discoverers **explore the physical world**

The *discoverer* maps closely to what has been described as broaden and build behaviour (Fredrickson, 2001). That is, the *discoverer* engages in actions that are novel, varied and exploratory. This behaviour has been shown to have many benefits, including increasing understanding of the environment, developing skills through play and engaging in challenges, and building social networks through relationship exploration (Cohn and Fredrickson, 2006; Garland et al., 2010; Waugh and Fredrickson, 2006).

Higher order skills: self-view and social view

The DNA skills are the foundations for higher order skills that involve building a young person's sense of self and their connection to their social world. The bottom two rows of Table 1 illustrate what some of these higher order skills look like.

Concerning self-view, young people utilise DNA

processes to develop self-compassion to overcome setbacks (Marshall et al., in press), and recognise that they are not fixed by their self concepts and that they can grow and improve (Yeager and Dweck, 2012). Concerning social view, young people learn to recognise the value of social connection and to take perspective, cooperate, and build friendship and love (Sahdra, Ciarrochi, Parker, Marshall, and Heaven, 2015).

Young people can also use DNA processes to develop *higher order* character strengths. For example, character strengths such as willpower, persistence, and grit require one to notice (N) impulses, boredom, fear and frustration, have a clear understanding of values (V), and unhook from discouraging *advisor* (A) statements such as *give up or you'll never be able to succeed*. These traits also involve the willingness to try something new (Discovery) when there are genuine barriers to success.

Conclusion

The education system can be brilliant at teaching academics, and still fail students. About 17% of Year 7 Australian students who are doing well in school and achieving above benchmark standards, fail to complete Year 12 or equivalent by age 19 (Lamb, Jackson, Walstab, and Huo, 2015). These students are more likely to be unemployed and to have psychological, social, and health problems (Hollands et al., 2013; Lamb et al., 2015; Waldfogel, Garfinkel, and Kelly, 2007). They have as high a risk of premature death as someone who smokes cigarettes (Krueger, Tran, Hummer, and Change, 2015).

The future of Australian young people does not need to be left to chance. Every school is justified

in implementing social and emotional learning practices and it is important that those SEL practices be evidence based. Mindfulness interventions are currently popular, but the many programs being tried are not necessarily integrated with the best practice SEL guidelines. The same can be said for Positive Psychology interventions. This article has provided one example of how mindfulness-interventions, Positive Psychology interventions, and traditional SEL interventions can be integrated in a way that is consistent with best practice and can assist young people to reach their full potential.

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