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When it matters most: a trauma-informed, outdoor learning programme to support children’s wellbeing during COVID-19 and beyond

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Abstract This paper presents a unique school-based programme that harnesses the benefits of both trauma-informed practice (TIP) and outdoor environments to support children’s social and emotional wellbeing throughout the pandemic and beyond. In the opening sections of the paper, we discuss the extant literature and conceptual underpinning of TIP and outdoor learning, and highlight why both are needed, particularly in the context of Covid-19. We then chart the design of a six-week outdoor trauma-informed programme, devised to support children’s emotional regulation and overall sense of wellbeing. The programme activities are aligned to the Northern Ireland curriculum, and are tailored to make use of the outdoor spaces available in the first author’s place of work – a primary school in South Belfast. We conclude the paper by highlighting the importance of trauma-informed curriculum and pedagogical innovations and note future directions for trauma-informed schools. Whilst there are many generic guidelines on trauma-informed care in schools, this paper makes a distinct contribution to the field; firstly by demonstrating how teachers can use their craft – teaching – as a component of TIP; and secondly by infusing trauma-informed principles within outdoor learning environments.

Keywords: COVID-19; outdoor learning; emotional regulation; trauma-informed practice; trauma and adversity

Context and rationale

Covid-19 has dramatically altered the everyday lives of children, with many experiencing isolation, worry, loneliness, and uncertainty about the future (Burke and Dempsey 2020; O’Toole and Simovska *in press*; Walsh 2020). Escalating cases of domestic violence along with rises in alcohol consumption within family homes, has placed children and young people at a higher risk of exposure to violence and abuse (Save the Children 2020), whilst school closures have not only denied children of their right to education, but also their access to a place of safety, security, and connection (United Nations 2020). It is increasingly evident that the pandemic has exacerbated pre-existing inequalities, increasing the economic, social, and psychological pressures on children.

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Trauma-informed practice (TIP) has been advocated in many countries to support teachers to respond to children who have been exposed to abuse, trauma, and other adverse experiences (Maynard et al. 2019). TIP is a strengths-based approach that is based on knowledge and understanding of how trauma affects people's lives. It integrates an awareness of the pervasive biological, psychological, and social consequences of trauma with the ultimate aim of ameliorating, rather than exacerbating, their effects (SAMHSA 2014). Many academics and advocacy groups in Ireland and elsewhere have argued that the pandemic has created a new urgency for TIP in schools (Alcohol Action Ireland 2020; NCTSN 2020).

The pandemic has also created many practical challenges for schools in lowering the risk of virus transmission and/or ensuring social distancing. This has prompted many schools to consider the opportunities afforded by outdoor environments (Simovska 2020; Childhood by Nature 2020). In addition to providing a safer space in the context of Covid-19, outdoor environments have many benefits for children's learning, health, and development, including supporting emotional regulation and overall sense of wellbeing (IFSA 2017; Louv 2010; Lovell and Roe 2009). Against this backdrop, we present a unique school-based programme that harnesses the benefits of both TIP and the outdoor environment to support children's social and emotional wellbeing throughout this time of crisis.

Theoretical perspectives

The design of the programme was informed by research and theory in trauma studies and outdoor learning and pedagogy. Recent decades have seen advances in our understanding of trauma and its impact on mind, body, and behaviour. When children grow up in relationally impoverished environments, and when they experience danger or threat, the body's stress response system initiates a cascade of biological changes, responsible for the fight, flight, or freeze (Porges 2009). Prolonged activation of the stress response system impacts brain development and takes a toll on the body, potentially developing into chronic illness over time (Maté 2003; van der Kolk 2014). In the aftermath of overwhelmingly stressful events, children are often flooded with distressing sensations, images, or implicit body memories. They are likely to have a narrow *window of tolerance* (Siegel 1999), meaning that they have a lower threshold for high-intensity emotion, which can cause them to become hypo-aroused (dissociated, withdrawn, or shut down) or hyper-aroused (distracted, panicked, or enraged). Both states interfere with children's ability to autonomously regulate their emotions and reduce their capacity to concentrate, process, and store information. There are obvious implications for school performance and relationships (Perry and Szalavitz 2017).

In school, children who have experienced trauma may appear angry and disruptive, spaced-out and inattentive, and/or confused and disengaged. These responses to trauma may seem bizarre or incomprehensible to those who do not understand how trauma and adversity impact mind, body, and behaviour. Children's outbursts and/or withdrawals often lead to them getting into trouble, as staff misinterpret these behaviours as wilful defiance, a lack of respect, or laziness (O'Toole *in press*). The reality is that these trauma responses are rooted in deep emotional pain.

It is important therefore, that schools are aware of trauma and how it impacts children's emotions and behavioural responses. TIP is a strengths-based approach,

The Principles of Trauma-Informed Practice

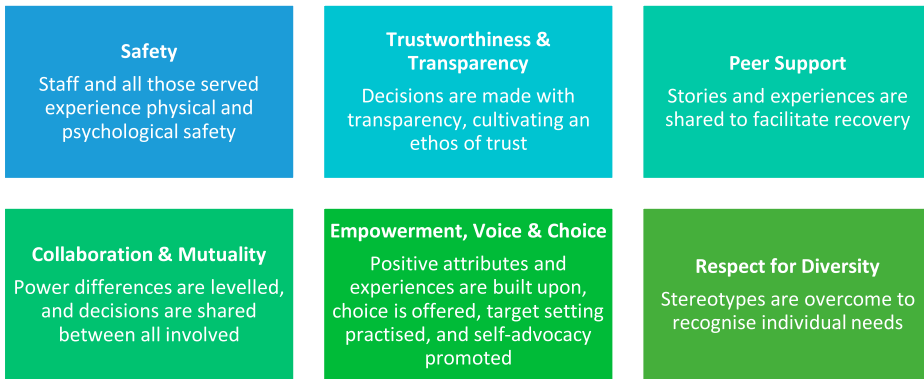


Figure 1. The principles of trauma-informed practice. Adapted from SAMHSA (2014) and Harris and Falot (2001).

guided by the six principles shown in [Figure 1](#). Central to trauma-informed work is the establishment of nurturing environments and positive relationships between teachers and pupils, which offer ‘more compassionate, open-hearted encounters’ and pave the way for healing and growth (O’Toole 2019, 17). Indeed, successive studies show that the single most important factor in healing from trauma is positive relationships with significant others (Treisman 2017).

Trauma-informed educators recognise the need to move away from punitive responses to dysregulated behaviour. Instead, they acknowledge the need to help children learn and reflect by intervening in a simple sequence; firstly, they support children to *regulate*, or to calm the body’s fight/flight/freeze response, making them feel soothed and safe; then they *relate*, or connect by validating children’s feelings; and lastly they *reason*, offering reassurance but negotiating a more positive way forward (Perry 2019). Through these attuned and responsive interactions, children’s window of tolerance (or optimal zone of arousal) can be expanded to enable them to not only manage, but thrive in everyday life (Siegel 1999; Treisman 2018).

In addition to the power of relationships, it is increasingly recognised that interacting with natural spaces helps to soothe or regulate the body’s stress response system. Research demonstrates that the calming sounds of nature and even outdoor silence can lower levels of the stress hormone cortisol, which calms the body’s fight/flight/freeze response (Strauss 2018). Connection with the natural world supports children’s sense of security and trust and is associated with higher levels of self-esteem, self-confidence, and self-expression (Bento and Costa 2018; Berger 2008; Richardson and Murray 2017), all of which is crucial for children dealing with the aftermath of stress and trauma.

It has been suggested that outdoor environments support both learning and emotional regulation through the dynamic interaction between the child, others, and space (Waite and Pratt 2017). In relation to the child, the parts of the brain responsible for self-regulation are developed through the physical movement of outdoor learning (White 2014), whilst emotional development is supported

through risk-taking, impulse control, and behavioural self-management (Thomas and Harding 2011; McNair 2012). With respect to others, outdoor learning supports the development of empathy, cooperation, problem-solving, and leadership skills (McArdle, Harrison, and Harrison 2013), which enables children to contribute to the wellbeing of their peers. Finally, the space, full of open-ended elements and multiple loose parts, encourages effective child-initiated interactions (Waters and Maynard 2010; Nicholson 1971) and offers a safe environment for children to navigate their challenges (Passy 2014).

Of course, the use of outdoor environments is also beneficial in the context of Covid-19 mitigation efforts, as they are associated with a lower risk of virus transmission and enable effective social distancing (Qian 2020). This further strengthens the calls for increased use of outdoor learning in schools (Simovska 2020; Krarup 2020). All of this points to the benefits that could accrue from introducing trauma-informed, outdoor curriculum and pedagogy innovations. In the next section we outline the design and development of one such innovation.

Programme design and development

We designed an outdoor socio-emotional learning programme infused with trauma-informed principles and values. This programme was designed to facilitate the participation of a small group of around ten children, aged between four to six years old. It runs for six-weeks, with a planning session prior to commencement and each session lasting between 70 and 90 min.

The principles of TIP guided programme content and implementation (see Figure 1). A sense of *safety* is fostered through working in a small group, with lessons following a predictable structure within familiar outdoor grounds; *trustworthiness and transparency* through positive self-regulation modelling and informing the participants about what to expect during the lessons; *peer support* through employing activities which invite the children to assist each other; *collaboration and mutuality* through allowing the participants to contribute to the programme design; *empowerment, voice and choice* by respecting the children's views and acting upon them; and *respect for diversity* through responsive facilitation which follows the children's lead. The infusion of these principles and values into the curriculum and pedagogy sets the foundation from which positive relationships and emotional regulation can be fostered.

The programme content was designed to enrich the cognitive, emotional, and behavioural domains of self-regulation. Figure 2 provides a summary of programme activities and the self-regulation skills that were targeted. Full lesson plans and accompanying resources can be acquired by contacting the first author. The activities were chosen to encourage children to employ individual strengths to overcome challenges, as well as support others through peer co-regulation (Perry 2020). By engaging in programme activities, children are empowered to identify, compliment, and learn from their own and each other's skills and talents. A range of high and low energy activities were selected to promote inclusive and open-ended play (Tovey 2007) and enhance physical, social, imaginative, and creative development (Waters and Maynard 2010). Adventure activities, such as the den building, identify nature as 'an obstacle to be overcome' and promote communication skills, joint decision-making, and teamwork (Berger 2008, 324). Creative opportunities, such as the

Programme Outline

Activities	Summary	Self-Regulation Skills
Preparation Session		
<ul style="list-style-type: none"> • Explanation of programme • Planning of programme content • Selection of suitable areas in the school grounds 	<p>This preparation session seeks to inform the children about the aims of the programme and their role within it. They will collaborate to decide the programme content and identify suitable areas in the school grounds for the 'meeting space' and relaxation area.</p>	<ul style="list-style-type: none"> • Teamwork • Collaboration • Compromise
Lesson One		
<ul style="list-style-type: none"> • Animal Hunt: Exploring and appreciating the outdoor areas available • 'Y' Stick Challenge: Wrapping a 'Y' stick with yarn to collect natural items which satisfy given properties 	<p>This lesson seeks to help the children relax in the facilitator's company and in the outdoor grounds. The 'Animal Hunt' and 'Y stick challenge' activities should develop their curiosity in the living things, places, objects, and materials in our environment.</p>	<ul style="list-style-type: none"> • Physical movement • Teamwork • Attentional flexibility • Working memory • Processing skills
Lesson Two		
<ul style="list-style-type: none"> • Designing and building an obstacle course • Supporting a partner to complete the obstacle course blindfolded 	<p>This lesson should support the children to develop trust in the facilitator, their peers, and in their own capabilities. Designing the obstacle course and adding some natural obstacles should develop their awareness of the potential usages of natural materials. Completing the obstacle course unblindfolded initially should promote the children's confidence and awareness of how to support a blindfolded partner most effectively.</p>	<ul style="list-style-type: none"> • Physical movement • Teamwork • Emotional intelligence • Risk taking • Impulse control • Behavioural self-management
Lesson Three		
<ul style="list-style-type: none"> • Working together to build a den • Story-time in the den 	<p>This lesson should enable the children to recognise when they can offer help and when they should ask for help from others. Creating the den should develop their awareness of how different materials can be assembled and ways to increase stability and protection. The story, 'Peter digs a den' by Amy Stretch-Parker, should reiterate the power of helping and supporting each other.</p>	<ul style="list-style-type: none"> • Physical movement • Teamwork • Risk taking • Prosocial behaviours • Attentional flexibility • Working memory • Processing skills

Figure 2. Programme outline. Note: full lesson plans and accompanying resources can be obtained by contacting the first author.

'stick people' activities, address nature more symbolically as 'a strength-giving partner' and support creativity and individuality (Berger 2008, 324). Story-making activities using the stick people community enable the exploration of imaginary or real-life situations and allow children to embody and act out roles (Kroll 2017). The relaxation activities at the end of every lesson demonstrate the sense of safety and calm that can be found in nature (Berger 2008).

Lesson Four		
<ul style="list-style-type: none"> Collecting natural materials Creating stick people 	This lesson should promote the recognition and celebration of similarities and differences. Creating stick people should demonstrate the variation that exists in natural materials, just like in the human race. Devising identities for their stick people enables the children to 'tell their own stories' or create imagined ones.	<ul style="list-style-type: none"> Empathy Prosocial behaviours Imagination Critical thinking skills
Lesson Five		
<ul style="list-style-type: none"> Designing and creating a community for the stick people 	This lesson should help the children to identify who exists in a community and how they assist us, as well as recognise our mutual obligation to support each other. Designing and creating a shared community should promote the teamworking skills of collaboration, delegation, and compromise.	<ul style="list-style-type: none"> Teamwork Collaboration Compromise Problem-solving Imagination Critical thinking skills
Lesson Six		
<ul style="list-style-type: none"> Using the stick people community to engage in storytelling 	This lesson should promote the power of exercising choice. The children will work together to set up their stick people community, before engaging in free play, transporting their stick people and the natural objects around them into personal or imagined stories. They will then create a shared story.	<ul style="list-style-type: none"> Imagination Problem-solving Prosocial behaviours Attentional flexibility Working memory Processing skills

Figure 2 *Continued*

The programme content is designed to align with various aspects of the Northern Ireland Curriculum (CCEA 2007a), especially the areas of Personal Development and Mutual Understanding (CCEA 2007b), the World Around Us (CCEA 2007c), and Thinking Skills and Personal Capabilities (CCEA 2015). However, whilst identifying a range of activities and cross-curricular links was deemed important, it should be noted that the programme is designed with flexibility in mind. In line with trauma-informed principles, a key role of the facilitator is to be attuned and responsive to children's developing interests and ideas. Programme content should be co-constructed by children and facilitator during the planning session and post-lesson reflections. Thus, a priority is given to flexibility and adjustments throughout the curriculum enactment.

Another important feature of the programme is its tailoring to the local context. This programme was designed with the first author's particular school context in mind. It takes account of the children's social and cultural background, as well as the school's available resources and facilities. For instance, the first author's school has a large natural outdoor space, and the programme harnessed this strength. Other schools would need to be creative in adapting the programme to suit their own contexts.

To ensure on-going improvement and development, it would be important to monitor and evaluate the implementation of the programme. This could be approached from different angles depending on your role as either researcher or practitioner. If the programme was part of a research project, a *realist* approach to evaluation might be appropriate (Pawson and Tilley 1997). Here the focus would be on identifying and evaluating both situational processes and causal factors that affect children's outcomes and experiences. For the educational practitioner, the programme could be evaluated through on-going observations and critical reflections with peers,

Lesson Evaluations

PRACTITIONER REFLECTIONS	
<ul style="list-style-type: none"> • <i>What went well in the session? What evidence is there for this?</i> • <i>What could have been improved? How?</i> • <i>How were the children offered a felt sense of safety?</i> • <i>How well did I support the children through co-regulation and positive self-regulation modelling?</i> • <i>Could further opportunities have been offered to promote peer support?</i> • <i>How did the children guide the lesson?</i> • <i>What opportunities were offered for them to share and build upon their ideas?</i> • <i>How well were the strengths of the outdoor grounds harnessed?</i> 	
PARTICIPANT REFLECTIONS	
<ul style="list-style-type: none"> • <i>Detail some verbal and non-verbal responses communicated by the children during the lesson.</i> • <i>Detail some contributions offered by the children during the lesson discussions. What did they enjoy about the lesson? What ideas did they have for subsequent lessons? What did they suggest could be done differently from this lesson?</i> 	

Figure 3. Lesson evaluation template.

whilst also drawing on evaluative discussions with the participants themselves (already a key aspect of the lessons). Evaluations should avoid simply trying to quantify behavioural changes and instead appraise more broadly, focusing on how well the principles of TIP have been enacted. [Figure 3](#) displays a lesson evaluation template

FUTURE STEPS	
<ul style="list-style-type: none"> • <i>Drawing on both the practitioner's and participants' responses, what should be modified, developed, or initiated in subsequent lessons? What steps should be taken to achieve this?</i> 	

Figure 3 *Continued*

which could be used at the end of each session. Whilst avoiding a narrow 'checklist' format, it does offer questions relating to the principles of TIP, to act as thinking prompts. It also aims to reflect and draw on the participants' responses when outlining future steps.

Discussion

The increased levels of adversity experienced by children since the pandemic began have heightened the impetus for TIP in schools (Alcohol Action Ireland 2020; NCTSN 2020). Internationally, there are many examples of trauma-informed guidelines and resources. However, Thomas and colleagues (2019) noted a dearth of empirical work describing how teachers use their craft – teaching – as a component of trauma-informed care. Similarly, O'Toole (*in press*) has highlighted that existing trauma-informed guidelines are limited in that they do not typically extend to supporting teachers in identifying ways to respond through their ongoing pedagogical practices or curriculum innovations. This paper responds to these concerns by presenting an example of how trauma-responsiveness can be infused into the cut and trust of teacher's everyday practice.

There has been criticism of a potential over-reliance on generic trauma-informed guidelines; with fears that they may be little more than a ‘tick box’ exercise. Some authors have highlighted the need to support educators in developing a rich contextual understanding of their students’ lives and a deep appreciation of the various strengths and challenges that exist in the particular communities they serve (Alvarez 2017). A strength of this programme is that it is specifically tailored to the lead author’s place of work and is responsive to the local context. Whilst educators would indeed benefit from being offered pragmatic examples of how to realise TIP in school life, they themselves must be prepared to think creatively and strategically about how to adapt generic trauma-informed guidelines to suit their own unique contexts.

Whilst this programme provides a helpful example of how TIP can be infused into curricula and pedagogy, it should be noted that trauma sensitivity and responsiveness require a whole school approach. Treisman (2017) highlights that embedding trauma responsiveness within schools means attending to all aspects of school life, including organisational dynamics, leadership, the social milieu, physical environments, school structures, policies and procedures, and so on. Future directions for this work would be to expand on this programme and explore ways to infuse TIP at a whole-school level.

In conclusion, embedding the principles of TIP in school life is imperative, not only to alleviate the consequences of increased levels of adversity and trauma experienced because of the pandemic, but also to contribute to improving the challenging life circumstances that many will continue to find themselves in. However, schools must be supported in making TIP a reality. To do this, they require high-quality Continuous Professional Development opportunities and resources which highlight not only the theory of TIP, but also offer tools and practical examples of how to realise it in action.

Ethical considerations

Initiating new curriculum and pedagogical innovations can present ethical challenges. Indeed, working with your own students risks evoking pressure to conform and please. Planning the sessions collaboratively with the participants minimises the power differential. The guidance of the principles of TIP fosters a supportive and inclusive ethos and limits the possibility of children who struggle with self-regulation feeling inadequate or judged. Effective support is given in the lead up to activities and participants’ emerging needs are monitored and responded to. They are reminded regularly that they can opt out of activities at any stage.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributors

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