# The REPLACE framework

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A framework for happy brain chemicals for children for learning and wellness.

| | ACTION or CONDITION | Social, emotional and intellectual growth |
|---|---|---|
| **R** | Relationships and touch | Social intelligence: Developing trust |
| **E** | Exercise and movement | Physical wellness improves learning |
| **P** | Play and joy | Creative intelligence: Imagination |
| **L** | Learning and challenge | Intellectual growth: Critical reflective thinking, problem solving |
| **A** | Appreciation, empathy, encouragement | Emotional intelligence: Empathy, kindness, gratitude |
| **C** | Comfort and safety | Destress the learning climate |
| **E** | Experience and novelty | Problem solving intelligence, multisensory exposure |

The **REPLACE** framework is a brain based model used to promote positive emotional states in children by activating the release of the brain's natural happy chemicals. The key neurotransmitters and hormones are dopamine, oxytocin, serotonin and endorphins. Each of the letters in REPLACE corresponds to an action or condition that stimulates one or more of these brain chemicals, helping learners feel more engaged, motivated and emotionally well.

Here's the REPLACE framework:

## R – Relationships and touch

**Stimulates:** Oxytocin

- Positive social interactions, connection, and trust-building with peers and adults.
- Encouraging kindness, empathy, and teamwork boosts oxytocin, the bonding chemical.
- Safe, appropriate touch (e.g., high fives, pats on the back) fosters connection.
- Students who like their teacher try harder and are less anxious.
- Comforting gestures from trusted adults can calm the nervous system and build trust.
- Enhancing the human element of teaching as AI improves.

## E – Exercise and movement

**Stimulates:** Endorphins, Brain-Derived Neurotrophic Factor (BDNF)

- Physical activity reduces stress and triggers the release of endorphins, improving mood.
- Even short movement breaks, dancing, or stretching can reset the brain for learning.
- BDNF is released during exercise and supports growth, and the plasticity of neurons.

## P – Play and joy

**Stimulates:** Dopamine, Endorphins

- Unstructured or imaginative play leads to joy, exploration, and motivation.
- Play nurtures curiosity and releases dopamine, supporting focus and reward-based learning.
- Storytelling stimulates the emotional and cognitive functions of the brain
- Storytelling prepares students for life experiences.

## L – Learning and challenge

**Stimulates:** Dopamine, Oxytocin, Noradrenaline, Acetylcholine

- Structured learning and challenge build neural pathways
- Problem solving and intellectual creativity build neural schemas in the long term memory
- Slightly challenging tasks build self-efficacy in learning
- Noradrenaline is released when attention peaks.
- Creative academic rigour to fire neural pathways
- Embracing technology to prepare for the world we live in

## A – Appreciation and encouragement

**Stimulates:** Serotonin and dopamine

- Feeling valued, expressing gratitude, or reflecting on purpose boosts serotonin.
- Celebrating small wins and fostering a culture of respect can increase well-being
- Providing four scoops of encouragement to one scoop of challenge helps override the brains negativity bias.
- Learning empathy and kindness so resentment and anger are not cultivated.

## C – Comfort and safety

**Stimulates:** Reduces cortisol and serotonin

- The early brain maximises development with a calm, consistent loving parent.
- Serotonin has a role in mood and a calm composure.
- Students who like their teachers try harder and are less anxious.
- When the brain is stressed, access to the prefrontal cortex is diminished, making higher order thinking and learning more difficult.

## E – Experiences and novelty

**Stimulates:** Dopamine

- New, engaging, tasks activate the brain's reward system.
- Novel learning experiences help encode memory and drive intrinsic motivation.

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Disclaimer: This framework is only a guide and should be interpreted by qualified teachers only.