


# WHAT WE KNOW ABOUT **Well-being: Connections to Deep Learning**

How the work of Jean Clinton and Stephen de Groot dovetails with Deep Learning




The New Pedagogies for Deep Learning Global Team recently collaborated with Jean Clinton, a Clinical Professor of Psychiatry and Behavioural Neurosciences at McMaster University in Hamilton, and her colleague, Stephen De Groot. Together we identified what's happening in a young person's brain when it's engaged in learning and then considered how fostering conditions, environments and practices that promote deep learning can support mental health and well-being. The following summary provides some fresh perspectives for educators to consider as they deepen the learning in their classrooms, schools and districts.

- As great educators have always known, we all learn best when we have an interest in an area and we are engaged. The brain's attentional circuitry works in synch; **when the brain's attentional networks are activated, the brain's learning systems also light up.**


 **Deep Learning Connection:** Teachers facilitate rich learning experiences that engage students in relevant topics and problems that have ignited their curiosity. Deep Learning teachers combine choice, authenticity and wonder to engage student interest. Deep Learning design invites students to engage in authentic tasks that serve a purpose beyond themselves.

- The Brain is a social organ; **we have an innate instinct to connect and help each other.** Neuroscience is showing us that a **sense of belonging plays a huge role in learning** and protection against stress. The emotional brain works with the thinking brain (the cortex). The brain thrives when we have a sense of belonging-- that who we are is valued and valuable and also when we have a sense of being accepted and that our contributions matter. These positive feelings result in release of more neurotransmitters, like oxytocin, which neutralizes the effects of stress hormones like adrenaline and cortisol.


 **Deep Learning Connection:** The Deep Learning Framework focuses on the 6Cs (collaboration, citizenship, character, communication, creativity and critical thinking). Each of these competencies speaks to the importance of human connection. And, each competency has a learning progression tool that clarifies what it is and how to develop it. So, students, teachers, and learning partners can support the growth of healthy human connections in an explicit and practical way.

Also, Deep Learning teachers are recognizing that students want to help. Around the world students are engaging in collaborative learning experiences that not only support their own growth but serve beyond themselves. They are finding creative ways to demonstrate learning while also helping humanity.

- Ironically, despite the infusion of new technologies and social media that increase our ability to communicate, children have fewer emotional, social and cognitive interactions with people. This has led to multiple and frequent interactions but fewer and fewer meaningful connections where kids "feel felt" by others. It's no surprise then that **loneliness, depression, and anxiety are on the rise.**

 **Deep Learning Connection:** Aside from the primary focus on face to face collaborative learning and the collaborative inquiry approach towards learning for professionals and students, the Deep Learning framework also addresses how we can appropriately and meaningfully leverage digital to optimize the development of the 6Cs.

- **Stress in the classroom interferes with learning.** When the brain focuses on threat and survival, the amygdala triggers the release of cortisol and epinephrine. The "learning brain" goes off line and turns "reptilian," thinking only of survival. The moment then, becomes "non-teachable."

 **Deep Learning Connection:** The NPDL framework speaks explicitly about enhancing the physical and psychological Learning Environment to invite students into the authorship of their own learning. As well, the framework encourages the forging of Learning Partnerships through peer: peer relationships, equitable relationships with the teacher, community and beyond.


## WHAT WE KNOW ABOUT

# Well-being: Connections to Deep Learning (Continued)



What underlines all of this is recognizing that the student is an active player in designing and executing the learning design, not a passive recipient.

- Children who come from disadvantaged settings learn survival strategies. Their brains also learn to be more vigilant to detect threat in an environment. Their brains more rapidly shift to a survival stance and over time their brains are formed by these experiences. **When students are constantly facing this “toxic stress” they have difficulty focussing, thinking critically, and memorizing. They also have increased fear and anxiety. What some perceive as misbehaviour is actually stress behaviour and not deliberate; their brains are doing what it was designed to do, to survive.**

 **Deep Learning Connection:** With an emphasis on creating a place of safety and sense of belonging, and by levelling the playing field so there is a focus on the equity of relationships, that perceived threat can be minimized. The DL classroom uses an asset lens, recognizing the strengths and interests each student brings to the classroom. It promotes the voice of each student and invites them to share their diverse perspectives and needs in the learning experience. As well, the disadvantaged student voice and life knowledge is welcomed (and even honoured) rather than dismissed. Perhaps most importantly, deep learning moves beyond conventional paper and pen tasks, students from various backgrounds (who struggle to find success through traditional methods) feel they can bring their assets to the table. When these conditions are in place, disadvantaged students feel they can be successful in school.

In summary, we are learning that the conditions that support deep learning are also good for our mental wellbeing. If we can focus on these three conditions, we can enable young people to optimize their full potential. First, students need to feel safe: emotionally, physically, socially, and mentally. Second, they need to feel significant--that they are worthy and their ideas are worth listening to. Lastly, students need to feel a sense of purpose, knowing why they are here and that their contributions can make an impact. Deep Learning experiences aim to bring these three conditions to the fore and help children become their best selves.

## About New Pedagogies for Deep Learning

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