NEUROCOMB25 LAB

A NEUROCOMB25 RESEARCH REPORT



Bonsai Thinking™

Using Metaphor to Communicate the Science of **Learning, Unlearning, and Relearning**

Based on:

Halchenko, O. (2025). Introducing Bonsai Thinking™: The Science of Learning, Unlearning, and Relearning for the Age of Continuous Adaptation.

Neurocomb25 Lab Research Division

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About Neurocomb25 Lab

Neurocomb25 Lab conducts original, multi-method research to uncover the communications strategies that drive public understanding of social issues and strengthen support for meaningful policy solutions. The Lab also equips organisations and changemakers with science-based communications tools and approaches to power their social change efforts. Neurocomb25 Lab shares its findings, recommendations, and practical resources — including toolkits and other materials — designed specifically for organisations and ministries working towards social change.

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Introduction

> *'The illiterate of the future are not those who cannot read or write but those who cannot learn, unlearn, and relearn.' — Alvin Toffler*

The research presented in this report is based on the peer-reviewed paper 'Introducing Bonsai Thinking™: The Science of Learning, Unlearning, and Relearning for the Age of Continuous Adaptation' by Oleksandra Halchenko (2025).[1] That paper introduced a novel conceptual framework — Bonsai Thinking™ — designed to address one of the most urgent gaps in contemporary education and organisational development: the absence of a systematic, multi-dimensional approach to not just learning, but unlearning and relearning as well.

Halchenko (2025)[1] argues that Toffler's words have proved particularly apt in the AI era, where knowledge and skills quickly become outdated and irrelevant, and where the failure to unlearn and relearn actively threatens individuals' ability to remain competitive and beneficial in society. A study utilising semantic content analysis and machine-based analysis of 432 peer-reviewed papers revealed a striking shortage of evidence on unlearning and relearning in curriculum development and research.[1] Conventional organisational learning theories — including Argyris and Schön's [11] double-loop learning and Senge's [12] systems thinking — do not adequately address the multidimensionality of learning nor the dynamic interplay between learning, unlearning, and relearning required to foster innovation in a rapidly changing context.

In response to these gaps, Halchenko (2025)[1] introduces Bonsai Thinking™ as a theory-constitutive metaphor — a conceptual framework that uses the science and art of bonsai cultivation to explain the cyclical, three-dimensional nature of learning, unlearning, and relearning. The framework integrates cognitive, affective, and conative dimensions through the Trilogy of Mind — cognition, affection, and conation — and grounds these in the Trilogy of Education: neuroscience, happiness studies, and future studies.

Halchenko (2025)[1] validates Bonsai Thinking™ as a coherent conceptual framework and discipline using the System Test (Arnold and Wade, 2015)[2] — a structural framework from systems thinking that examines whether a proposed discipline can be defined through three core system archetypes: purpose, elements, and interconnections. This report presents those findings and extends them into communications guidance, practical application, and the

programmes through which Neurocomb25 Lab is bringing Bonsai Thinking™ to organisations, schools, and coaches worldwide.

The fundamental research gaps that Halchenko (2025)[1] identifies are also communications gaps. When policymakers, organisational leaders, educators, and communities do not understand that unlearning is a distinct, effortful, and necessary process; that relearning requires the creation of meaningful environments; and that learning is simultaneously cognitive, emotional, and future-oriented, they cannot support the conditions that make transformative learning possible. Bonsai Thinking™ offers a powerful communicative tool to close these gaps.

Executive Summary

Bonsai Thinking™, introduced by Halchenko (2025)[1] as a conceptual framework for organisational learning, is both a scientifically rigorous theory and an effective Simplifying Model for communicating the science of learning, unlearning, and relearning to the public and policymakers. The metaphor draws on the art and science of bonsai cultivation to express a three-dimensional, cyclical view of how human beings, organisations, and countries learn.

Halchenko's (2025)[1] framework is built around three core dimensions of learning and validated through the System Test (Arnold and Wade, 2015)[2] against criteria of purpose, elements, and interconnections:

The Three Dimensions of Learning in Bonsai Thinking™ (Halchenko, 2025)

1D — Life-Long Learning (Length): The learner is 'planted in the pot' — placed within the context of genetic, environmental, and organisational factors. Like bonsai, which requires lifelong care and shaping, learning is a never-ending process of turning schemata (general knowledge) into mathemata (personal, contextual knowledge).

2D — Life-Deep Learning (Depth / Unlearning): The sophistication of personal knowledge through deliberate pruning of what no longer serves the learner's purpose. Grounded in happiness studies and Self-Determination Theory: both hedonia (happiness at work) and eudaimonia (happiness for work) are conditions for effective unlearning.

3D — Life-Wide Learning (Width / Relearning): The construction of new perspectives from existing experience through meaningful, systemic environments. Grounded in future studies: futures literacy and systems thinking as the skills that enable new meaning to emerge.

The core points of the Bonsai Thinking™ Simplifying Model, as established in Halchenko (2025)[1]:

- The mind is a living bonsai — 'planted in the pot' of its genetic, environmental, and organisational context. Like bonsai, it is never finished, always capable of being shaped throughout life.
- Watering represents learning through metacognition — the capacity for brain health optimisation, executive functioning, and self-regulated learning that sustains growth within the learner's context.

- Fertilising represents learning through meta-motivation — meta-motivational strategies such as growth mindset, attention regulation, and delayed gratification that replenish the learner's motivational resources in restricted life, organisational, and even geopolitical environments.
- Pruning represents unlearning — the deliberate removal of knowledge, habits, and practices that no longer serve the learner's purpose, connected to the science of happiness (hedonia: happiness at work; eudaimonia: happiness for work).
- Wiring and positioning represent relearning — both grounded in aesthetic intelligence: wiring reshapes established pathways towards new configurations through futures literacy; positioning creates the systemic, aesthetically intelligent environments in which new perspectives emerge.
- The Trilogy of Mind — cognition, affection, conation — interconnects all three dimensions: learning engages cognition; unlearning engages affection; relearning engages conation.
- The Trilogy of Education — neuroscience, happiness studies, and future studies — provides the disciplinary bedrock for each dimension of the cycle.
- The gardener — individual, educator, leader, organisation, or nation — is the active agent of transformation. Bonsai does not shape itself.
- The environment is not a backdrop but a condition of possibility: like the pot, soil, light, and protection that determine bonsai longevity, organisational culture, physical space, and social dynamics actively enable or inhibit learning, unlearning, and relearning.

Neurocomb25 Lab is bringing Bonsai Thinking™ to life through three applied programmes: Bonsai Executive Coaching™ — the world's only coaching certification in Learning, Unlearning, and Relearning; the New Era Subjects™ Programme for Schools — introducing Neuroscience, Happiness, and Future Studies as the missing architecture of a contemporary education; and an upcoming year-long Certificate in Learning, Unlearning, and Relearning.

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The Framework: What Is Bonsai Thinking™?

Bonsai Thinking™ is defined by Halchenko (2025)[1] as the science of learning, unlearning, and relearning. As a metaphor, it helps to develop an increasingly deep understanding of the underlying processes of a learning-unlearning-relearning cycle in an organisational context. The framework was developed through a theory synthesis approach (Jaakkola [23]), integrating theoretical standpoints from educational neuroscience, happiness studies, and future studies into a novel conceptual architecture.

The metaphor of bonsai is employed as a 'theory-constitutive' tool (Boyd [22]) — not merely to illustrate but to develop and frame the theory itself. Halchenko (2025)[1] argues that bonsai thinking clearly defines the function, purpose, and goal of learning, unlearning, and relearning in a way that relates to everyday individual, organisational, and national life and practice.

Purpose: The Three Dimensions of Learning

Halchenko (2025)[1] approaches the science of learning as a three-dimensional process and introduces the 3D Model — 1D length, 2D depth, 3D width — as the purpose of the Bonsai Thinking™ system.

1D — Life-Long Learning. In essence, to learn through life means to be committed to lifetime development and growth within one's context. Like bonsai — which literally means 'planted in the container' in Japanese — learners are placed within their learning contexts: the context of their brains (genetic make-up and its interaction with the environment), and in organisations, the context of mission, vision, and the emotional and social climate of the workplace. Learning is an ongoing process that is never complete. Halchenko (2025)[1] defines this first dimension as the process of turning schemata (general knowledge) into mathemata (personal, lived, contextual knowledge).

2D — Life-Deep Learning (Unlearning). For a long life, bonsai trees require ongoing pruning to help them fit into their pots and maintain the aesthetics valued by the bonsai master. Like bonsai, which is the art of achieving a specific aesthetic through cultivation, learning is a way of achieving a specific purpose at work and in life. Halchenko (2025)[1] introduces unlearning as the sophistication of personal knowledge through deliberate mental effort — acknowledging that an old mindset, knowledge, habit, or skill no longer serves

its purpose. This is what she calls life-deep learning: deepening understanding by pruning what has become obsolete.

3D — Life-Wide Learning (Relearning). Bonsai trees live even longer than normal trees due to protection from environmental stresses: the controlled environment is the source of their longevity. Halchenko (2025)[1] argues that learners are more productive when placed in meaningful environments. Relearning requires learners to decode and encode meaning from and to the environments they interact with. It is not about re-acquiring forgotten knowledge — it is about gaining new perspectives and seeing things from a different angle. A bonsai master positions and wires her tree to create a special, controlled environment for development and growth. Organisations are similarly encouraged to create thought-provoking environments that provide qualitative, sensorial, and meaningful experiences.

Elements: The Five Principles of Bonsai Thinking™

Halchenko (2025)[1] translates five main principles of bonsai cultivation into five main principles of learning, unlearning, and relearning: watering, fertilising, pruning, wiring, and positioning.

Watering — Learning through Metacognition. Watering and fertilising are crucial for bonsai growth because bonsai trees are planted in small pots with minimal space for water and nutrient reserves. Through the watering metaphor, Halchenko (2025)[1] introduces metacognition as the core neuroscience intervention to enhance learning at an organisational level. Metacognitive competences — brain health optimisation, executive functioning, and self-regulated learning — are crucial for employees to manage and direct their behaviour, achieve desired progress, and reach an optimal learning state at work. Halchenko (2025)[1] introduces metacognition as the watering element of Bonsai Thinking™ because of its importance for sustaining learning and supporting personal and professional development, just as water is essential for the life of bonsai.

Fertilising — Learning through Meta-Motivation. As fertiliser replenishes the nutrient content of bonsai soil in a restricted environment, meta-motivation replenishes the learner’s motivational resources in restricted life, organisational, and even geopolitical environments. Halchenko (2025)[1] introduces meta-motivational strategies — growth mindset, attention regulation, and delayed gratification — as the fertilising element of Bonsai Thinking™, drawing the analogy that just as fertiliser is crucial for bonsai whose root systems are restricted within a small pot, meta-motivation is crucial for sustaining learning drive and energy where life, organisational, or geopolitical conditions constrain natural growth.

Pruning — Unlearning through Spiritual Intelligence. In nature, trees grow with apical dominance — the central stem growing more dominantly than the side stems, driven by competitive pressure to reach sunlight. Bonsai aesthetics is heavily reliant on pruning to counter this and maintain the desired shape. As pruning facilitates the chosen aesthetic, Halchenko (2025)[1] uses it as a metaphor for unlearning as a means to facilitate the specific goal of an individual, an organisation, or a nation. Through pruning, she introduces spiritual intelligence — the capacity for meaning-making, values clarification, and purposeful reflection — as the inner resource that enables individuals, organisations, and nations to recognise what no longer serves their deeper purpose and to let it go with intentionality. This connects to happiness studies interventions: both hedonia ('happiness at work': psychological safety, joy, and satisfaction) and eudaimonia ('happiness for work': meaning, purpose, and objective wellbeing), grounded in Ryan and Deci's [16] Self-Determination Theory.

Wiring — Relearning through Aesthetic Intelligence. Wiring refers to the styling and training of bonsai trees to reposition the branches to one's preference. It takes time for branches to get into their new position and, so to speak, to relearn a new way of being. Through wiring, Halchenko (2025)[1] introduces aesthetic intelligence — the capacity to perceive beauty, discern meaning, and engage with the poetic dimensions of experience — as the skill that enables relearning through its ability to question norms, allow novel interpretations of familiar environments, and provoke non-conscious learning. Aesthetic intelligence is further supported by futures literacy — described by UNESCO as the ability to shape the present by understanding and engaging with the role of the future.

Positioning — Relearning through Aesthetic Intelligence. Positioning describes the best environment where bonsai should be placed for growth, particularly to ensure protection and plenty of sunlight across different seasons. Through positioning, Halchenko (2025)[1] extends aesthetic intelligence into the design of systemic environments: the physical, social, and cultural spaces that carry ideas, stimulate action, and provide multi-modal patterns of experience. Systemic environments — characterised by integrative whole-systems thinking, exposure to nature, uplifting social interactions, and aesthetically inspiring places — make aesthetic intelligence operational at the organisational level. Both wiring and positioning are grounded in aesthetic intelligence: wiring develops it within the individual; positioning embeds it within the environment.

Interconnections: From the Trilogy of Mind to the Trilogy of Education

The way the elements of Bonsai Thinking™ feed into and relate to each other is based on the Trilogy of Mind and extends into the Trilogy of Education.

Halchenko (2025)[1] grounds this in Hilgard's [37] foundational division of mental activity into cognition, affection, and conation — knowing, feeling, and willing — which has been the foundation of all behavioural science theories since the eighteenth century.

All three mental faculties are important individually; together they illuminate how thinking, emotions, and intentions are interconnected, and how a change in one domain affects the others. This reveals the interconnectedness of learning, unlearning, and relearning: learning refers to cognition (thinking and beliefs), unlearning to affection (feelings and values), and relearning to conation (future intention and action).

Halchenko (2025)[1] notes that in organisational learning, the same dominance of the cognitive component has been pervasive: much attention is placed on learning, while unlearning and relearning have been neglected. The introduction of the Trilogy of Education — neuroscience for learning, happiness studies for unlearning, and future studies for relearning — directly corrects this imbalance. Together, these form the 3D Approach™ to organisational learning, which addresses:

- The content of change: continuous professional development in neuroscience, happiness studies, and future studies.
- The process of change: planning, intervention, and evaluation of the learning-unlearning-relearning cycle.
- The people of change: pundits-in-residence who bring disciplinary expertise in neuroscience, happiness studies, and future studies into organisations.

Validation: The System Test

Halchenko (2025)[1] validates Bonsai Thinking™ as a coherent conceptual framework and discipline using the System Test developed by Arnold and Wade (2015).[2] Since the cycle of learning is a goal-oriented system, a systems thinking approach is required to analyse learning, unlearning, and relearning — and the System Test provides a structural framework for doing so by exploring three core system archetypes: purpose, elements, and interconnections.

Halchenko (2025)[1] is explicit that this is a conceptual framework development paper and not an empirical study; accordingly, the framework's validity and reliability are based on literature triangulation, System Test validation, and conceptual value, which differs from the empirical research reliability and validity established through real-world observations and experiments. Future empirical testing through intervention research is explicitly called for as a primary future research direction.

The System Test Results (Halchenko, 2025[1]; Arnold and Wade, 2015[2])

PURPOSE ✓ Bonsai Thinking™ clearly defines the function, purpose, and goal of learning, unlearning, and relearning that relates to everyday individual, organisational, and national life. The three dimensions — life-long, life-deep, and life-wide learning — describe the main purpose of the system in terms that can be applied to everyday practice.

ELEMENTS ✓ The five elements — watering, fertilising, pruning, wiring, and positioning — manifest as the characteristics of the Bonsai Thinking™ system, handling the complexity of learning, unlearning, and relearning as specific, functional concepts grounded in accepted theories.

INTERCONNECTIONS ✓ The relationships between the elements are strong. The Trilogy of Mind and the Trilogy of Education interconnect and relate to each other, promoting systemic change by addressing root causes of individual, organisational, and national learning problems rather than just symptoms.

As Halchenko (2025)[1] concludes: "As demonstrated through the System Test, bonsai thinking successfully defines a goal-oriented system for understanding learning, unlearning, and relearning. The framework clearly articulates its purpose through life-long, life-deep, and life-wide learning, identifies its elements through watering, fertilising, pruning, wiring, and positioning, and

clarifies interconnections through the Trilogy of Mind and the Trilogy of Education.”

What Bonsai Thinking™ Communicates

The communicative strengths of Bonsai Thinking™ derive directly from the theoretical architecture that Halchenko (2025)[1] developed. Each element of the bonsai metaphor maps precisely onto a scientifically grounded component of the learning-unlearning-relearning cycle.

Core Mapping: Bonsai Thinking™ (Halchenko, 2025[1])

Bonsai planted in the pot = The learner placed in context (genetic, environmental, organisational)

Watering = Learning through Metacognition (brain health optimisation, executive functioning, self-regulated learning)

Fertilising = Learning through Meta-Motivation (growth mindset, attention regulation, delayed gratification)

Pruning = Unlearning through Spiritual Intelligence (meaning-making, values clarification, purposeful reflection)

Wiring = Relearning through Aesthetic Intelligence (reshaping pathways; futures literacy; perceiving new meaning)

Positioning = Relearning through Aesthetic Intelligence (systemic environments; aesthetically inspiring spaces)

Points from the Science That Become ‘Thinkable’

Using Bonsai Thinking™ makes the following points from Halchenko’s (2025)[1] science accessible and communicable to non-expert audiences:

- Learning is multidimensional — it has length (lifelong), depth (life-deep, through unlearning), and width (life-wide, through relearning). It is not merely the accumulation of information.
- Unlearning is distinct from forgetting: it is the pruning of what no longer serves, requiring deliberate reflection, critical examination, and affective engagement. As Halchenko (2025)[1] argues, individuals, organisations, and nations that accumulate knowledge without pruning grow upwards — taller, perhaps, but not deeper.
- Relearning requires environmental design: organisations must create meaningful, aesthetically intelligent, systemic environments that provoke new perspectives. Motivation alone is insufficient.

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- Cognition alone is insufficient: effective learning simultaneously engages thinking (cognition), feeling (affection), and future intention (conation), as established through Hilgard's [37] Trilogy of Mind.
- The three dimensions of learning are interconnected and cyclical — neglecting any one dimension weakens the whole system. Bonsai thinking employs functional and relational criteria to study a learning cycle as a whole, not as isolated components.

Counterproductive Cultural Models Addressed

Bonsai Thinking™ addresses the counterproductive assumptions that Halchenko (2025)[1] identifies as the primary barriers to understanding learning, unlearning, and relearning in contemporary individuals, organisations, nations, and educational systems:

The 'accumulation' model. Contemporary education and organisational culture still 'prioritise outcomes — scores and conventional measures over creativity and innovation' (Halchenko, 2025).[1] Bonsai Thinking™ insists that a well-formed bonsai is shaped by what is removed as much as by what is added: pruning is as central as watering.

The 'unlearning as failure' model. The public associates revision of prior knowledge with failure or cognitive decline. Bonsai Thinking™ reframes this: skilled pruning — far from diminishing the tree — enables the aesthetic that the master envisions. Unlearning is a mark of mastery.

The 'cognition-only' model. In psychology and in organisational learning alike, "the prominence of the cognitive component of attitude has been pervasive, whereas affection and conation have been neglected" (Halchenko, 2025).[1] Bonsai Thinking™ restores all three dimensions to equal visibility.

The 'relearning as repetition' model. Halchenko (2025)[1] is explicit that relearning is not about acquiring knowledge or skills that were previously forgotten, which would be better described as "learning again". Wiring bends an existing branch towards a new configuration; it does not remove and replant it.

The 'motivation is enough' model. Individual willpower is insufficient. Halchenko (2025)[1] argues that systemic environments must be deliberately designed. Organisations must position and wire — not merely inspire.

Using Bonsai Thinking™

Below, we provide two textual iterations of the Bonsai Thinking™ Simplifying Model and a set of guidelines for communications use, all grounded in Halchenko's (2025)[1] framework.

Shorter Iteration

> *Think of your organisation — or your country — as a bonsai tree: planted in the pot of its context, shaped by everything around it, and never truly finished. Learning is the watering and fertilising: the neuroscience-grounded practices that sustain growth in individuals, organisations, and nations alike. But growth alone is not enough. A bonsai that only grows upwards sacrifices depth and character. That is why pruning matters: unlearning is the skilled, purposeful removal of what no longer serves — whether for a person, an institution, or an entire nation. It is not forgetting — it is the art of deepening. And then there is wiring and positioning: creating the environments, the conditions, the future-oriented spaces that allow people, organisations, and countries to relearn — to see familiar things from new angles and generate genuinely new understanding. All three must happen together. Without pruning, the tree grows wild. Without the right environment, nothing takes root. Without the gardener's intention and skill, the tree finds its own shape — and it may not be the one you need.*

Longer Iteration

> *Alvin Toffler wrote that the illiterate of the future would not be those who cannot read or write, but those who cannot learn, unlearn, and relearn. What he did not give us was a framework for understanding how these three processes actually work and what it takes to cultivate them. Bonsai Thinking™ offers that framework. A bonsai tree is planted in a container — shaped, always, by the context it is placed in. The genetic character of the tree, the quality of the soil, the light it receives, the space it is allowed, the hands that tend it: all of these are the conditions of its growth. Learners — whether individuals, organisations, or countries — are no different. Their growth depends on context, and context is not a neutral background — it is the pot that either enables or constrains what is possible. Learning, in this framework, is the*

> *watering and fertilising: the metacognitive skills and meta-motivational strategies that keep the brain healthy and the learner engaged in restricted life, organisational, and even geopolitical environments. But here is where most learning stops. It tends the tree — waters and feeds it — but it does not prune. And trees that are never pruned grow upwards at the expense of depth, accumulating branches that pull in the wrong direction. Pruning is unlearning. It is the deliberate, skilled act of removing what no longer serves the purpose. It requires safety to do it: you prune a tree when the environment supports the act of letting go. This is why happiness studies — the science of wellbeing at and for work — is a prerequisite for unlearning, not a luxury. And then there is wiring and positioning: relearning. This is the most misunderstood stage. Relearning is not learning the same thing again. It is taking a branch that has grown strong in one direction and bending it, with wire and patience, towards a new configuration — held in place long enough that the new form becomes natural. It requires futures literacy: the ability to imagine a different future and allow that imagined future to reshape how you see the present. Learning, unlearning, and relearning are not three separate events. They are a cycle — three dimensions of a single living system. Neglect any one of them, and the tree grows wrong.*

Guidelines for Effective Deployment

- Lead with the context — the pot. Always establish that the learner is ‘planted’ in a context: genetic, environmental, organisational. This grounds the metaphor structurally before any element is introduced.
- Name all five elements. Watering, fertilising, pruning, wiring, and positioning are the communicative load-bearers of the framework. Use all five in context rather than relying on pruning alone.
- Distinguish unlearning from forgetting every time. Pruning is always active, skilled, and purposive. Without this distinction, the metaphor collapses into the ‘forgetting is failure’ cultural model.
- Introduce the happiness dimension of unlearning explicitly. Organisations cannot prune in a climate of fear or insecurity. Psychological safety is the soil.
- Use wiring and positioning to explain the environment’s active role. The organisation’s physical, social, and aesthetic environment is a primary learning intervention, not a backdrop.
- Introduce futures literacy as the wire. Without the ability to imagine a different future, the wire has nothing to bend towards.
- Use the Trilogy of Mind as a diagnostic. When a learning strategy is not working, ask: Are we only watering (cognitive learning) without pruning

(affective, happiness-grounded unlearning) or positioning (conative, future-oriented relearning)?

- Use visuals. Images of bonsai at multiple stages of cultivation — with wire, with pruning marks, with new directional growth — are essential. Halchenko's (2025)[1] grounding in embodied cognition means visual engagement amplifies the metaphor's communicative power significantly.
- Connect to policy and systemic change through the 3D Approach™: content of change, process of change, and people of change, including pundits-in-residence in neuroscience, happiness studies, and future studies.

Bonsai Thinking™ in Practice: Neurocomb25 Lab Programmes

Neurocomb25 Lab is translating Halchenko's (2025)[1] framework into concrete, applied programmes that bring the science of learning, unlearning, and relearning to executives, schools, and practitioners worldwide. Each programme is grounded in the Bonsai Thinking™ framework and delivers the Trilogy of Education — neuroscience, happiness studies, and future studies — through Halchenko's 3D Format™.

Bonsai Executive Coaching™

Bonsai Executive Coaching™ inspires leaders and leadership teams to learn, unlearn, and relearn to foster personal, professional, and societal growth and innovation. It is a customised, science-backed programme designed to help leaders transform their practice into what Halchenko describes as an evergreen project — a living, continually growing leadership identity that never stops developing.

Bonsai Executive Coaching™ is grounded entirely in the five-pillar architecture of Halchenko's (2025)[1] framework:

The Five-Pillar Approach of Bonsai Executive Coaching™

1. Watering — Optimise and rewire your brain: applying educational neuroscience to build metacognitive capacity.
2. Fertilising — Meta-skills: metacognition and meta-motivation for sustained, self-directed professional growth.
3. Pruning — Change your metaphor, change your life: unlearning the mental models and leadership habits that no longer serve.
4. Positioning — Optimise your environment: redesigning the contexts that enable or inhibit learning and growth.
5. Wiring — Optimise your context value: applying futures literacy and systems thinking to shape the direction of growth.

The flagship coach training programme within Bonsai Executive Coaching™ is the world's one and only coaching certification in Learning, Unlearning, and Relearning — and the gold standard for executive and professional coaching certification in this domain. Carefully designed to equip coaches with the most

cutting-edge knowledge of the Trilogy of Education in Halchenko's renowned 3D Format™, the programme offers the opportunity to multiply innovation whilst helping C-suite executives and busy professionals to learn, unlearn, and relearn.

The certification is ICF CCE-accredited and limited to six participants per group to ensure transformational depth. Certified coaches receive a licence to use the Bonsaiï Game™ with their clients, together with a complimentary workshop on how to apply it. Those completing the certification become Neurocomb25-accredited Bonsai Executive Coaches™.

CPD Workshops in Learning, Unlearning, and Relearning — available for C-Suite and VPs through the 'Bonsai Thinking™ Goes to Business!' format — offer organisations an accessible entry point to the framework, with limited places available per cohort.

New Era Subjects™ Programme for Schools

The New Era Subjects™ Programme for Schools is Halchenko's most direct intervention in the education system — a structural response to the argument at the heart of Bonsai Thinking™: that industrial-age curricula were designed for a world that no longer exists, and that no amount of reform within existing subjects can equip young people for the complexity of the 21st century.

Halchenko introduced the New Era Subjects™ Programme for Schools at the Learning Planet Festival on 23 January 2026 — a global festival of education organised by the Learning Planet Institute — under the title "The Science of Learning, Unlearning, and Relearning: Introducing New Era Subjects™ Programme for Schools." The presentation argued that New Era Subjects™ are not enrichment: they are the missing architecture of a genuinely contemporary education.

The Programme proposes three new subjects for schools, each corresponding to one dimension of Halchenko's Trilogy of Education:

The Three New Era Subjects™

Neuroscience — Understanding how the brain works, cognitive development, metacognitive skills, and optimising learning potential. Corresponds to the cognitive dimension of learning.

Happiness — Building spiritual intelligence, emotional wellbeing, resilience, positive psychology, and values. Corresponds to the affective dimension of unlearning.

Future Studies — Developing foresight, aesthetic intelligence, pattern recognition, systems thinking, and the capacity to engage with emerging

> global challenges. Corresponds to the conative dimension of relearning.

The New Era Subjects™ Programme includes a Teacher Training Programme — available through the 'Bonsai Thinking™ Goes to Schools!' CPD Workshop format — equipping educators with the science and practice of Learning, Unlearning, and Relearning, with limited places per cohort. An Ambassador Programme is also available for schools wishing to lead the introduction of New Era Subjects™ in their region.

The entire programme and all materials are available in eleven languages, and include certificates for children completing the programme. As Halchenko argues, young people who grow up understanding how their own brains work, what makes them happy and why, and how to imagine and engage with the future, are not merely better learners — they are better equipped for life, work, and citizenship in an age of continuous adaptation.

Certificate in Learning, Unlearning, and Relearning (Upcoming)

Neurocomb25 Lab will shortly launch a year-long Certificate in Learning, Unlearning, and Relearning — a comprehensive foundation programme in the complete cycle of knowledge transformation, designed for educators, organisational leaders, coaches, HR and learning and development professionals, and anyone seeking a rigorous, science-backed grounding in Halchenko's (2025)[1] framework.

The Certificate is built on the 3D Format™ and the full architecture of Bonsai Thinking™: the three dimensions, the five elements, and the Trilogy of Mind and Trilogy of Education. It integrates cognitive, affective, and conative dimensions throughout, delivered through cohort learning with expert faculty across the disciplines of neuroscience, happiness studies, and future studies.

The programme addresses the content of change (building knowledge across all three dimensions of the Trilogy of Education), the process of change (applying the learning-unlearning-relearning cycle in real organisational and educational contexts), and the people of change (developing the leadership and facilitation skills to bring others through the cycle). Participants will develop the capacity to learn deeply, unlearn gracefully, and relearn continuously — and to support others in doing the same.

The Certificate sits within Neurocomb25 Lab's broader vision for the Learning, Unlearning, and Relearning Academy — an institution dedicated to the proposition that the most urgent educational work of our time is not the

transmission of new content, but the cultivation of the capacity to transform how we know, what we believe, and who we are becoming.

Further details on intake, accreditation, and registration will be announced at neurocomb25.net.

Appendix A: The Science of Bonsai Thinking™ (Halchenko, 2025)

Purpose: The Three Dimensions of Learning

- 1D — Life-Long Learning (Length): The learner is placed in the context of genetic, environmental, and organisational factors (the 'pot'). Learning is a never-ending process of turning schemata (general, basic knowledge) into mathemata (personal, lived, contextual knowledge).
- 2D — Life-Deep Learning (Depth / Unlearning): The sophistication of personal knowledge through deliberate pruning of what no longer serves the learner's purpose. Grounded in happiness studies and Self-Determination Theory (Ryan and Deci): both hedonia (happiness at work) and eudaimonia (happiness for work) are conditions for effective unlearning.
- 3D — Life-Wide Learning (Width / Relearning): The construction of new perspectives from existing experience through meaningful, systemic environments. Grounded in future studies: futures literacy and systems thinking as the skills that enable new meaning to emerge.

Elements: The Five Principles of Bonsai Thinking™

- Watering = Learning through Metacognition (brain health optimisation, executive functioning, self-regulated learning)
- Fertilising = Learning through Meta-Motivation (growth mindset, attention regulation, delayed gratification)
- Pruning = Unlearning through Spiritual Intelligence (meaning-making, values clarification, purposeful reflection; happiness studies)
- Wiring = Relearning through Aesthetic Intelligence (reshaping pathways; futures literacy; perceiving new meaning)
- Positioning = Relearning through Aesthetic Intelligence (systemic environments; aesthetically inspiring spaces; affordances)

Interconnections: Trilogy of Mind and Trilogy of Education

- Learning ↔ Cognition ↔ Neuroscience
- Unlearning ↔ Affection ↔ Happiness Studies
- Relearning ↔ Conation ↔ Future Studies

Validation: System Test (Arnold and Wade, 2015)

- Purpose ✓ The three dimensions clearly define the function and goal of

the system in terms applicable to everyday individual, organisational, and national life.

- Elements ✓ The five principles are specific, functional characteristics of the system, grounded in accepted theories.
- Interconnections ✓ The Trilogy of Mind and Trilogy of Education create strong, systemic relationships between the elements.

References

1 Halchenko, O. (2025). Introducing Bonsai Thinking: The Science of Learning, Unlearning, and Relearning for the Age of Continuous Adaptation. Blockchain, Artificial Intelligence, and Future Research, 1(2). https://doi.org/10.70211/bafr.v1i2.313

2 Arnold, R.D. and Wade, J.P. (2015). Definition of Systems Thinking: A Systems Approach. Procedia Computer Science, 44, pp.669–678. https://doi.org/10.1016/j.procs.2015.03.050

3 Boyd, R. (2002). Metaphor and Theory Change. In A. Ortony (Ed.), Metaphor and Thought (3rd ed., pp. 481–532). Cambridge: Cambridge University Press.

4 Jaakkola, E. (2020). Designing conceptual articles: four approaches. AMS Review, 10, pp.18–26.

5 Argyris, C. & Schön, D. (1978). Organisational Learning: A Theory of Action Perspective. Reading, MA: Addison-Wesley.

6 Senge, P.M. (1990). The Fifth Discipline: The Art and Practice of the Learning Organisation. New York: Doubleday.

7 Hilgard, E.R. (1980). The trilogy of mind: Cognition, affection, and conation. Journal of the History of the Behavioural Sciences, 16(2), pp.107–117.

8 Ryan, R.M. & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55(1), pp.68–78.

9 Inayatullah, S. (2008). Six pillars: Futures thinking for transforming. Foresight, 10(1), pp.4–21.

10 Ben-Shahar, T. (2021). Happiness Studies: An Introduction. Springer.

11 Thomas, M.S., Ansari, D. & Knowland, V.C. (2018). Annual Research Review: Educational neuroscience: progress and prospects. Journal of Child Psychology and Psychiatry, 60(4), pp.477–492.

12 Toffler, A. (1970). Future Shock. New York: Random House.

13 Kolb, D.A. (1984). Experiential Learning: Experience as the Source of Learning and Development. Englewood Cliffs, NJ: Prentice-Hall.

14 Learning Planet Festival (2026). The Science of Learning, Unlearning, and Relearning: Introducing New Era Subjects™ Programme for Schools. https://www.learning-planet.org/event/the-science-of-learning-unlearning-and-relearning-introducing-new-era-subjects-programme-for-schools/

15 Breckler, S.J. (1984). Empirical validation of affect, behaviour, and cognition as distinct components of attitude. Journal of Personality and Social Psychology, 47(6), pp.1191–1205.