

20 Ways to Nurture an Innovative Beginner's Mind

Avoiding Frozen Thinking

As learners and as teachers we often rely on the habitual modes of thinking that we developed along with our expertise. This reliance can create a fixed orientation, or mental rut that limits how we act in, and react to, the world around us. We therefore tend to experience things in an autopilot mode, in the ways we always have – the ways we've come to expect. These thinking habits can become highly limiting and impede our abilities to create or accept ideas that conflict with our assumptions or with conventional wisdom. This is '*dogmatic cognition*'. The political theorist Hannah Arendt rather poetically referred to it as '*frozen thinking*' whereby we adhere to deeply held ideas and principles that we have developed over time and no longer question them. Instead, we must look at our world with what Zen Buddhists would call, a beginner's mind, predicated on a commitment to question what we think we know and believe.

Experimenting with ignorance and doubt

Encouraging learners to rigorously interrogate the cosy comforts of consensus, helps them to become more attentive to the irregular, the odd. In this way we are starting to develop in them a flexibility of thought, creating more free-range minds that can embrace ambiguity and complexity and thereby resist easy conclusions. This commitment to deliberate doubt does so much more than simply encourage new ideas, it also helps set up productive 'collisions' between existent ideas: in particular the kinds of collisions that happen when different fields of expertise converge in some shared physical or intellectual space.

This is what the physicist James Clerk Maxwell meant when he made the point that a thoroughly conscious ignorance is the prelude to every significant advance in science. In essence we judge the value of science by the ignorance it reveals and defines. Our fact-fetishism shackles us only to the allure of the already known. Instead, facts should serve to access the ignorance beyond, to reveal what we don't know. Feynman adds that in order to make progress, we must leave the door to the unknown ajar. These are all useful strategies we must engage with to try to **counter the anaesthetic** of our own familiarities.


"Rather than trying simply to accumulate knowledge, we ought to expose ourselves and our learners to ignorance on a daily basis."

We might also call this approach just mucking about in the unknown. As Jonah Lehrer puts it '*The only way to be creative over time – to not be undone by our expertise – is to experiment with ignorance, to stare at things we don't fully understand.*' Rather than trying simply to accumulate knowledge, we ought to expose ourselves and our learners to such ignorance on a daily basis.

Classroom approaches that nurture a beginner's mind

So, what might Montaigne's assertion that, '*only fools make up their minds and are certain*' look like in a school classroom? What are the best ways to create the uncertainty that fuels learning? How do we develop learners that look to multiple academic disciplines and make connections between them? How can we set up classrooms that offer genuine surprise, complexity and independence?

1. **Encourage students to learn more scatteringly and instinctively** by sharing with them the premise that so much of what we learn about the world is provisional and complicated.
2. **Create, cultivate and embrace a classroom culture of collaboration and discussion** by inviting more diverse questions and creating a group dynamic that encourages more serendipitous peer interactions.
3. **Draw attention to challenging but manageable gaps in student knowledge** by using them as a necessary exposure of their ignorance and thereby an insight into what they still need to learn.
4. **Explore and embrace the notion of desirable difficulties** by acknowledging that increasing accumulated information encourages greater interest and growth.
5. **Set up elements of struggle to stimulate learning and remembering** by offering just enough information to stimulate a need for resolution and further investigation.
6. **Give more opportunities for multi dimensional thinking** by asking learners to negotiate unfamiliar materials and more tangential resources in off-syllabus ongoing projects.
7. **Create and use stories that provide drama, uncertainty and resolution** by bringing the world you want to focus on into the room, using music and pictures to immerse students into the subject matter.
8. **Embrace ambiguity and keep learning outcomes open** by framing your lesson with a series of big-idea questions rather than objectives as part of a constant quest for new options.

9. **Create a classroom bursting with complexities that invite questions and multiple solutions** by encouraging learners to generate, play with and integrate a wide variety of ideas.
10. **Encourage curiosity into the causes of errors as an index of what needs to be learned** by planting questions in learners minds that can ripen, via deferral, into genuine interests.
11. **Slow down the learning process** by spacing the sessions, varying the pace, savouring ideas, delaying conclusions and offering broader, deeper and richer experiences.
12. **Find ways to reinvent materials rather than simply restudying them** by offering learners the opportunity to experience alternative outcomes which are decidedly indeterminate.
13. **Encourage learners to re-deliver material and lead sections of a lesson** by occasionally taking a less controlling position and dividing up the responsibilities for the learning.
14. **Don't accept first answers, avoid surface slide discussions and press for justifications** by insisting on extended and detailed responses to several 'so what' follow-up questions.
15. **Actively encourage learners to generate their own materials, rather than receiving or reading passively** by encouraging independent research without the use of search engines.
16. **Try to vary the setting and procedures in which the learning takes place** by introducing more flexible approaches such as starting with the most challenging elements of the lesson.
17. **Present learning materials in a less organised form** by introducing more abrupt cross-cuts and transitions from far flung ideas to more complex and unusual information.
18. **Encourage more flexible mastery and expertise** by helping learners to let go of beliefs acquired at earlier stages of learning and to revise what they assume they already know.
19. **Support learners to develop a metaphoric perspective** by shuffling ideas and exploring how everything can be connected by thinking aside and weaving together disciplines.
20. **Develop the capability to rise above conventional mind-sets** by disrupting ingrained assumptions, exploring new paradigms and embracing contradictions and anomalies. 



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