

THE CONDITIONS OF DEEP LEARNING

MIRA Notebooks

INTRODUCTION TO THE COLLECTION

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Juan María Rodríguez González

MIRA model

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The book MIRA Aprendizaje answers one question: what does a student need in order to truly learn — the four conditions that give the model its name. These notebooks answer another, complementary and less-visited one: where and how those conditions are cultivated. Because the four letters of MIRA do not float in a vacuum: they develop, or wither, according to the environment, the tools and the brain mechanisms that surround them.

This collection of notebooks neither repeats the book nor summarises it. It extends it into territory the book names but does not develop: that of the conditions that make deep learning possible — or impossible. Each notebook takes one of those factors, examines it in the light of the best available evidence, and shows how MIRA takes it into account.

Why these topics and not others

The notebooks are not a list of loose matters surrounding MIRA. They all answer one and the same underlying question: *what makes a piece of learning be etched or be erased?* That is the question that gives the collection its unity, and the one that explains why these topics and not others. Each one illuminates one of the conditions of deep learning, and together they cover the four dimensions in which those conditions are played out.

How the brain learns

Two notebooks descend to the neuroscientific base, the physical substrate where learning happens. *The Power of the Senses* explains how knowledge enters and is fixed: the more sensory doors that open in a coordinated way, and the more emotion and depth that accompany them, the more solid the trace. *The Thinking Gap* explains the reverse: how digital immediacy atrophies the capacity to sustain effort, and how that muscle — the only one on which thinking depends — is trained or lost. And *Time and Attention* closes this triad with the scarcest resource in the classroom: sustained attention, a limited capacity that fragmentation destroys and that deep learning needs.

The classroom's decisions

Two notebooks deal with what the teacher chooses each day. *MIRA and Methodology* clarifies that the model is not a methodology, but the framework of meaning that gives the criterion for choosing them — and shows which ones fit best with each condition and each stage. *MIRA and Technology in the Classroom* submits digital tools to a single criterion: do they build agency or foster immediacy? Technology that extends production and makes the process visible adds; the kind that feeds passive consumption subtracts.

The human environment

Two notebooks deal with the ground on which everything else happens. *Group Cohesion* argues that a good atmosphere is not a prerequisite for learning, but a result of applying the model well — and, once it appears, a lever that enhances it. And *The Bond and the Adult's Gaze* reaches the bottom of the whole collection: what a student learns depends, to a degree research keeps confirming, on the relationship with the person who teaches them and on what that adult expects of them. The teacher as a secure base and their expectations — the Pygmalion effect — are the medium in which the four conditions develop.

The thesis that unites them

If the collection had to be summed up in a single idea, it would be this: solid learning depends not so much on *what* is taught as on the conditions — cerebral, methodological, technological and human — in which it is taught. And those conditions are neither chance nor luck: they can be designed deliberately. That is, at heart, MIRA's wager, and the reason these notebooks exist.

Schools usually look at the syllabus and take the rest for granted. These notebooks do the opposite: they take for granted that the syllabus matters, and look at everything else — because it is there, in the

conditions, that it is decided whether what is taught becomes learning or evaporates.

How to read them

Each notebook is independent and can be read separately, according to the interest or need of the moment. But read as a whole they compose a map: that of everything surrounding MIRA's four conditions and deciding their fate. The book explains the model; these notebooks explain why it works — and what must be cared for so that it works.

Companion notebooks to the book MIRA Aprendizaje. MIRA model · Juan María Rodríguez González · miraaprendizaje.org · CC BY-SA 4.0