

Toys made of atoms & toys made of bits:

reflections on play, learning, and ethics.



Children's playful learning with a robotic construction kit

Robotic construction kits, conjugating the physical building of artefacts with their programming, can foster the development of new ways of thinking that encourage new reflections on the relationship between:

- life and technology;
- science and its experimental toolset;
- robot design and values and identity.

On the role of tools in learning

*Nec manus, nec intellectus,
sibi permissus, multum valet;
instrumentis et auxiliibus res perficitur.*

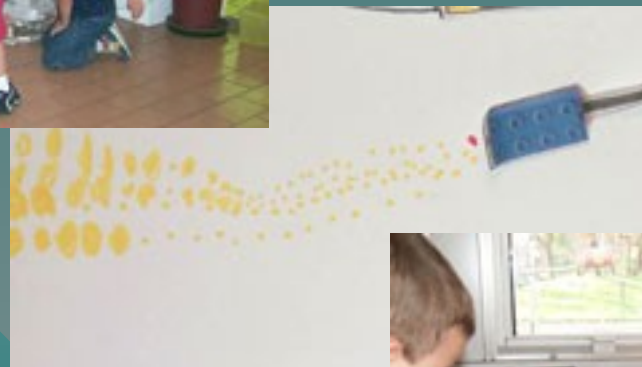
Sir Francis Bacon

Learn by
playing



hard fun

CAB



No way.
The hundred is there.

The child
is made of one hundred.
The child has
a hundred languages
a hundred hands
a hundred thoughts
a hundred ways of thinking
of playing, of speaking.
A hundred always a hundred
ways of listening
of marveling of loving
a hundred joys
for singing and understanding
a hundred worlds
to discover
a hundred worlds
to invent
a hundred worlds
to dream.
The child has
a hundred languages
(and a hundred hundred hundred more)
but they steal ninety-nine.
The school and the culture
separate the head from the body.

They tell the child:
to think without hands
to do without head
to listen and not to speak
to understand without joy
to love and to marvel
only at Easter and at Christmas.
They tell the child:
to discover the world already there
and of the hundred
they steal ninety-nine.
They tell the child:
that work and play
reality and fantasy
science and imagination
sky and earth
reason and dream
are things
that do not belong together.
And thus they tell the child
that the hundred is not there.
The child says:
No way. The hundred is there.

Loris Malaguzzi