

What we mean by Learning

(by Edith Ackermann and Aaron Falbel for LEGO Dacta)

Learning means making sense of our experience in the world. Learning happens all the time, not just, or not even primarily, in educational settings. This booklet takes a look at learning as it occurs naturally, in the stream of life.

Learning is not the same as schooling or education

Some people, when they hear the word "learning," immediately think of classrooms, teachers, curriculum, and the other components of schooling. At LEGO, we define the word much more broadly to mean exploring and making sense of the world and the ability to do more things in it. In this sense, we are, all of us, learning all the time. As long as our minds are active, we are thinking and wondering about something. Children are born curious, and unless something happens to them to stifle and deaden their curiosity, their desire to learn lasts a lifetime.

However, most children are not self-conscious about their learning they are not even aware that they are learning at all! If asked, they would say they are just "doing stuff," or just thinking, or even just "doing nothing." Similarly, most of the time, we are not aware that our hearts are beating and our lungs are breathing. We only become aware of these natural processes when they break down, when we become sick, or when the environment becomes unhealthy.

Children are natural learners

Learning is as natural as breathing. From the moment of birth, human beings are actively involved in learning: that is, in making sense of their experience. In babies, toddlers, and small children, learning can properly be called a biological instinct. Their desire to understand the world around them, to gain skill and competence in that world, and to play a meaningful part in it, is as strong as their desire for food, warmth, comfort, and love.

The sense organs of small children are particularly acute. Their vision and hearing are sharp, their taste buds are very sensitive, and they have an irresistible desire to touch everything – at first with their mouths and then with their fingers. The amount of learning that goes on during these early years is truly phenomenal from physical coordination, to standing and balancing, to walking and running, to the amazing feat of understanding language and talking, to learning how objects behave, to creating the idea of numbers and counting, to developing their own theories of the way the world works, to acquiring an ear for music, rhythm, and poetry, to developing a sense of conscience, justice, morality and fairness, to mastering social skills and interpersonal dynamics ... the list goes on and on.

Moreover, children learn all these things without being taught, without any explicit instruction or educational program. How do they do it? They learn through being immersed in a human culture, and through keen observation, play, imitation, and participation within that culture. They see what older, more skilled people are doing, and they have a powerful urge to do those same things.

Indeed, little children explode with rage when they are not permitted to do things they see others do. They want to join in that dance called "life," not just sit on the sidelines. Children are like scientists; they develop theories, make hypotheses, test them, and revise or abandon their theories as necessary.

Most learning is not the result of teaching

The main problem with equating learning with schooling is that we begin to think that learning happens only when someone is teaching us something. But we all began learning long before we got to school, and we certainly don't stop learning the moment we leave the school building.

Teaching does not cause learning. Learners cause learning. Or more precisely, the thought, reflection, resourcefulness, ingenuity, attention and curiosity of the learner causes learning.

Teaching can help learning when it genuinely supports and enables people to do what they want to do, when it helps them figure out whatever they're trying to figure out but only when such an intervention is wanted, asked for, invited, or in some way accepted by the learner. Teaching that is uninvited, unwanted, and unasked for does not help learning. It hinders it.

"Most of the time, children seem to be just playing, not learning."

There is no "just" about playing. Play is a child's most serious work. Of all the ways that children make sense of the world, the most important is through play and fantasy. Children's pretend play is rarely far removed from reality. Often children work through their life experiences, digesting them so to speak, through their play with dolls, stuffed animals, trucks, cars, blocks, or what have you. This is especially true when children undergo scary or traumatic experiences, such as the illness or death of someone close, a car accident, separation or divorce of their parents, etc.

But even in more mundane situations, when children play store, or house, or cops & robbers, or doctor, they are trying on roles and attempting to understand what it might be like to be such-and-such a person or to be in such-and-such a situation. This sort of play not only aids their learning, their ability to make sense of the world, it is their learning. Fantasy play and role playing

allows children to take possession, in a very personal way, of the sometimes bewildering events happening around them.

Much of children's play takes the form of "Let's see what happens if I..." When a baby repeatedly throws objects off of her high chair, she does so because she wants to see how objects behave, and how people behave. Will the objects always fall down? Will the people always pick the objects up again? When a child tries to take a clock apart or perhaps a radio, a telephone, or some other toy, he is trying to find out how things work. The child may have no idea how to put these things back together again, but in playing with them, in "messing about," he or she may come to understand something about how the everyday objects function: "Oh, that's how the bell rings. That's what the knob does. That's how those gears work." Indeed, this sort of experimental play is a powerful means for learning. As John Holt put it, "The process by which children turn experience into knowledge is exactly the same, point for point, as the process by which those whom we call scientists make scientific knowledge. So we don't need to teach children to be scientists: we just need to give them the chance to practice their craft. As it turns out, this is not a hard thing to do.

How can adults best support this type of natural learning?

Adults can provide support by making children's explorations in the world both possible and safe. Older people have the advantage that they have been in the world longer than younger people. They know what's out there. Like a travel agent, they can describe what the possibilities are, what fascinating sights there are to see, what interesting things there are to do, and so on.

They can also provide answers to questions when asked, or work with the child to find an answer if they don't know the answer themselves.

Moreover, adults can make the world more accessible to children by making their own lives, their work and concerns, as visible as possible. Adults who are serious about supporting this type of learning need to think about how to make the circles in which they travel more welcoming and hospitable to children.

Children are naturally drawn to people who are skilled at what they do, people who do real, meaningful work -- work worth doing. They want to watch and often join in that work to the extent that their capabilities allow. They want to use real tools to do real work. Again, the role of adults is to provide access: not to drag children along and "expose" them to this and that, but to make certain opportunities available and place them within reach. We can provide access to tools, people, places, books, records, toys, films, animals, musical instruments, sports equipment ... in general; the greater the variety, the better. Providing access is rather like extending an invitation or giving a gift. It is an offer, and as such, it can be rejected.

"But how will children learn the things they will need to know to become functioning members of society and responsible citizens?"

All children learn to talk (or to use sign language), which is both a necessary and an extraordinarily complex skill. Most other things they need to know are far easier to learn than that.

Knowledge and skills that are truly necessary are easy to learn precisely because they are accessible, abundant, and manifest in the world, and these are also the very things children are most eager to learn.

Children learn to talk because they are surrounded by talkers, and they see that talk makes things happen. Even before babies can form the sounds of their native language, their babbling contains the intonation and rhythms of the speech they hear going on around them. The same learning process is at work even for skills we call "academic."

For example, in a culture such as ours where printed words are everywhere, there are many opportunities for a child to learn how to read. Many children teach themselves this skill before they get to school. They see that older people can make sense of signs and get stories and other information out of books, newspapers, and magazines. Kids are powerfully attracted to this literate culture; they want to be part of it. Their earliest attempts at writing their scribbles or invented spelling mirror their earlier attempts at talking through babbling or baby talk. Only when children are made to feel anxious about learning to read does the task pose difficulties for them.

Paulo Freire and others have shown that when people are not pressured to learn to read, they learn very easily with little or no instruction (thirty hours or less). The same is true for writing or calculating or using certain kinds of tools and technologies. Kids are good at learning all of these things when they are not shoved down their throats.

It must be said, however, that much of the knowledge and skills that are said to be "essential" are not essential at all. At best they are convenient or handy in certain circumstances. Some people need to know calculus or the history of ancient Egypt not everybody does.

How can we tell what children are learning?

To a large extent, we can't tell what they are learning. As we just observed, most children are not aware of what they themselves are learning. The best that an outside observer can do is to observe very carefully what children are doing, and from that, extrapolate what they are learning

(or have learned). Here we can learn a lot from the fields of cultural anthropology or human ethology. However, our ability to see inside the mind of another person is very limited.

Sometimes we can ask questions or design experiments (as Piaget and his colleagues did) to try to figure out what another person's mental model is in other words, what sort of sense they are making out of the world. But even here we are on very shaky ground. Such inventions are rife with methodological flaws and pitfalls. Sometimes what a person learns from an experience does not appear until months or even years after the fact. And no experience ever happens in isolation. Experiences feed on other experiences over time in a fluid yet complex manner. Before-and-after tests, no matter how sensitive, would miss the real essence of learning: this self-organizing aspect of human intelligence.

Viewing learning this way implies trusting children

It is often difficult for adults to trust children to learn in this way to learn through living, to make sense of the world in their own way and time. This is because most adults were not trusted when they were children. Adults feel a great temptation to check and "make sure" that children are really learning something worthwhile. But if one constantly pulls up plants out of the ground to inspect their roots to "make sure" they are growing, they will wither and die. If we constantly test, probe, measure and inquire about what, how and how fast children are learning, their learning will similarly suffer. Our anxiety and lack of trust in them will convey the debilitating message that they should not trust themselves, that they are too stupid to learn, and that their true concerns and interests are not worth much.

But if we do trust children, we will be rewarded with people who are fully alive, deeply engaged, curious, competent) and resourceful who meet life with energy and enthusiasm, who are not afraid of new challenges, who are good at figuring things out and making sense of things in short, people who have retained their childhood powers of learning.

Further Reading

Ferreira, Emilia and Ana Teberos. *Literacy Before Schooling*, Exeter, NJ: Heinemann Educational Books, 1982. Small children's self-directed excursions into the world of literacy.

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Holt, John. *Learning all the Time*, Addison Wesley, 1989. How small children begin to read, write, count, and investigate the world without being taught.

Piaget, Jean, et al. *The Child's Conception of the world*, London: Routledge & Kegan Paul, 1929. Important for Piaget's discussion of methodology and its inherent limitations.

Stallibrass, Alison. *The Self-Respecting Child*. Addison Wesley, 1989. An astute observer of children's free-form play chronicles their growth and development.

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