

It Takes a Village to Raise a Child – An Interview with Brain Researcher Gerald Huether

From “The Art of Education – Waldorf Pedagogy Today” (Erziehungskunst- Waldorfpädagogik Heute), April, 2010. Thomas Stoeckli, a Swiss Waldorf teacher, interviewed the renowned brain researcher Gerald Huether about the ideal conditions for learning.

“Learning doesn’t happen in schools most of the time...”

Thomas Stoeckli/ How did it go for you when you were in school?

Gerald Huether/ In East Germany everything was totally regimented. School passed me by and I hoped it would be over quickly. In spite of this, I did have teachers who awakened my interest in some subjects.

TS/ So, didn’t you learn anything in school?

GH/ Rote learning doesn’t matter in real life. We learn from our experiences. Nowadays, where do children and teenagers have those experiences that truly impact them? They have them on the playground, at home with their parents, and by mastering tasks with their peers, but not in school.

TS/ What would need to change?

GH/ We don’t need “greenhouses”, where plants are protected from the environment, but open schools where there’s life, schools that embody the African wisdom that it takes a village to raise a child. Schools need to provide learning experiences that you’d have in a village and above all, interactions with many different types of people that aren’t only teachers.

TS/ Does brain research support this?

GH/ The first important thing to know is that the human brain is not an assemblage of genetic “programming”. It’s built up and develops from experiences. These experiences begin much earlier than previously thought. The nine months of pregnancy can be viewed as the most important period of learning in life. Later, experiences in relationships are metamorphosed into neuron nets: relationships with the primary care-givers, family members, peer and friends in kindergarten and school. This goes on throughout a person’s life. The human brain is far more plastic and impressionable than it was always assumed to be.

TS/ Can a person alter the way that his or her brain is structured during life?

GH/ Yes, the only pre-condition or necessity to get the experiences into the brain is to have experiences. These experiences release neuroplastic messages within the brain. When these messages are stimulated, they can begin to grow, like when a watering can sprinkles on seeds. This allows the anchoring of the experiences of what has been learned.

TS/ In which situations does this “watering can” emerge?

GH/ It always happens when a person is enthused and when s/he considers what’s being learned as meaningful. It also occurs when someone is invited, encouraged, or inspired by others to new learning experiences. Enthusiasm is crucial to brain development. This is why the rediscovery of enthusiasm in schools is a prerequisite for creating a different kind of learning environment.

TS/ Do you have any other insights?

GH/ Genetic “programming” doesn’t produce any neuron nets, but ensures that when someone’s born, then the right “material” is available. The genetic programming doesn’t know how many nerve cells a brain will eventually use, nor do they know how these nerve cells are connected with each other. Which of these linking possibilities are stabilized depends on which nets are used and which aren’t.

Children who watch a lot of TV build up the TV-network. Children who play football build up the football network. The potential of a child at birth is much greater than after they have been educated. Awaken

enthusiasm in a child and that child will not only be able to participate in their own culture, they can become a contributor to the cultural good.

As we get older, we're less thrilled about success. A three or four year-old has maybe forty or fifty times a day when s/he is overcome with enthusiasm. A teenager has maybe one a day. A middle-aged man or woman has one per week. I'm not referring to a fleeting joy, instead I mean genuine enthusiasm, which activates the "watering can", or the powers of growth in the brain.

TS/ How is it for the elderly? Can an 85 year-old person learn Chinese?

GH/ Maybe not in a community college, because there's not enough critical mass of enthusiasm there. However, if the person moved to China with a 75 year-old Chinese friend, it would take six months to learn Chinese.

TS/ Do we assume then, that it's desirable to have as many experiences as possible?

GH/ Children need an environment in which two basic requirements are nurtured. Every day a child must be able to grow a little bit beyond him/herself and have opportunities for development in his or her environment. A child also needs to feel that it belongs to a supporting community. If one of these two things is much stronger than the other, it's not good for the child. This leads to insecurity, fear and stress because the expectations aren't met. The child has to find a solution. Often children find their solution in the form of a substitute. Computer games and TV satisfy them in the short-term, but because children aren't filled by these experiences in the long-term, they always need more. Such children lose an interest in helping to form the world and focus on how to get the most out of the little that they've found. By doing this, they blot out large parts of the world and deny themselves much. From the perspective of brain development, this produces a worrying version of "what could have been".

TS/ How do we recognize whether a school offers this type of learning environment?

GH/ You know it when a child loves going to school and is sad when vacation comes.

TS/ In most schools that isn't the case. How could we change the school system?

GH/ At the moment we're trying to get by with an educational system from the time of the Industrial Revolution. Students, according to their achievements have been placed in different schools and streams, with the result that they only achieve what the system allows them.

Schools have got to get rid of the pressure to perform and competitiveness. If children are expected to compete and fear of failure is built in, then the school culture which I imagine is impossible. The students revert to a "fight or flight" mentality and all they think about is how to get through school. Enthusiasm, the spirit of discovery, and formative forces can't play a role in such an environment.

TS/ What could schools do then?

GH/ Remove pressure from schools, get rid of grades, and motivate the students to be creative and to discover. To do this we need teachers who are not just taking up space, but working as true educational leaders. They need to be able to invite and encourage their students to want to learn new things themselves. If a teacher doesn't have a personal connection with a student, it's impossible to succeed. If a teacher wants to give the children courage for learning, s/he has to be filled with courage. Many teachers have become almost lifeless in the routine of school life.

A teacher has to be able to enthuse the students. The subject of mathematics shouldn't be the focus of the teacher's enthusiasm. S/he should rather be enthusiastic about the possibility of the students being enthusiastic about mathematics. It's a totally other talent to create enthusiasm. Very few teachers have it and they didn't learn it, I reckon, in teacher training at a university.

TS/ Perhaps it's not just the teachers that need to change and rethink, but the parents as well?

GH/ Even if everything could be shifted, none of it would succeed without a change of consciousness on the part of the parents. Many parents themselves had negative experiences at school and feel that now their children have to have the same bad experiences. Parents put the responsibility for the raising of their children on the school. School is not the place for what should take place in the home. It's essential for children to feel the experience of doing something together and be the shared focus of attention.

TS/ Why?

GH/ Experiences within community are a vital foundation for a child to grow into today's individualistic society. In families where this doesn't happen, children remain stuck in a primitive co-dependent relationship, which is always focused on "two". These children are not in a position to include a "third" or to switch gears and orient themselves to others. And a "family TV evening" isn't what we mean. Children who have this "split focus/partial concentration" are very difficult to educate. They don't have any experience of relationships which arise out of doing something together with others. Children like this are disruptive. They're either excluded from the group or withdraw. It's in everyone's interest to wake up and take note that with our own societal structures we are destroying the foundation on which our culture is built.

TS/ In what learning situations can a child with "split-focus/ partial concentration" gather experiences that help him/her develop?

GH/ The answer is simple, almost banal: choral singing, making music, drama, handwork of all types. These experiences are in the musical-aesthetic field, which is exactly the same field that schools don't pay attention to.

At the moment, the system of education is hopelessly individualized. Children are only concerned with their own affairs. We call that self-centeredness, but in reality the children are only showing us that we are depriving them of certain types of essential experiences; for example cooking together or looking at a picture book with each other. I am convinced that we as a society won't be able to advance if the schools don't offer more opportunities for social experiences. I wonder what a society of individuals built on these indications for renewal would look like.

Dr. Gerald Huether is the head of the Central Office for Neuro-biological Preventative Research at the University of Gottingen and Mannheim/ Heidelberg. He is the author of many books in the field of brain research.