

Working Group 8: Classroom Focussed Research, How do Kids Learn?

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First of all, the final version of the synthesis shared last year by all the participants in this working group:

“Our sense of relationship is our perspective. The constructivist principles about mathematical knowledge put the child in the centre of the teaching learning process. The child and the teacher are involved in a genuine search for meaning and in this search the quality of the relationship between the people involved determines the learning outcomes.

The mathematical concept should have a continuation in their development in class. This should be realized through carefully structured children’s investigations with the aim of integrating new knowledge into previous knowledge taking into account student’s global cognitive structures.

Language structures the way the world is viewed. The development of the linguistic skills has to be mediated by teachers and in connection with all areas and in content interdisciplinary manner.

Great attention should be paid to the student’s level of development and various cognitive learning styles. In this sense it’s very important to use a lot of medium of learning such as verbal, symbolic, iconic, sensory-motor, etc. Every person can learn at every developmental stage given the appropriate conditions which include diagnosis of cognitive, affective and social difficulties.

Mathematics education is a domain of human activities such as reasoning communicating and the pursuit of scientific principles and procedures. New technology can be considered a possible mediator facilitator in the construction of knowledge, communication and social interaction.”

On the basis of these general ideas, the intention now is to focus better on more specific forms of communication in class. Our discussion will deal with verbal and non verbal languages we use with pupils, languages which give messages on mathematics as a discipline but also on our beliefs, attitudes and emotions. The construction of knowledge is based on interpersonal relationships between people, which cannot reduce themselves to a disciplinary level but always involve more profound personal perceptions.

The connection between cognition and emotion, which recent contributions from neurosciences recognize as necessary, makes urgent, for those involved in educational projects, to take care of the general “scenario” of a mathematics lesson. In this direction our discussion aims to collect and compare ideas and experiences which take into account these new dimensions, for a more adequate approach to mathematics teaching and learning.