

Language and Mathematics — The Swiss Experience

Report by Dr. Peter Gallin (51) from Zürich (Switzerland)

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Peter Gallin was born in St. Moritz, the famous ski station of Europe. Until the age of 20 he went to school in his native valley at 1800 meters above sea level. Then he went down to the biggest city of Switzerland, to Zürich, and studied Theoretical Physics at the ETH (Eidgenoessische Technische Hochschule). After two years working as an assistant at the institute of Theoretical Physics he changed the focal point of his interests to Mathematics and the Teaching of Mathematics. His thesis is about the n -dimensional Euclidean Geometry, which was performed when he was already teaching mathematics in the secondary school (Years 7 to 12).

As a full time teacher of mathematics he met in 1973 Urs Ruf, who teaches German (mother tongue) at the same high school "Kantonsschule Zürcher Oberland" near Zürich. The common interest of both is the growth of knowledge in the heads of students and how to avoid the damage of personalty by the mathematical instruction. In the interdisciplinary dialogue between the two teachers, which has lasted more than 20 years, they established a way of teaching which focussed on the learning child as the center of action. The only way to do this was to establish an intense and nearly privat dialogue with each of the learners. To keep trace of it they used a *diary* or *journal*, where the students recorded their own way of approaching the matter and which is the basis of further instruction. So their approach is very close to the method of *journal writing in mathematics* of Andrew Waywood of the MTLC.

Peter Gallin and Urs Ruf published some books and papers about their researches. Unfortunately only one article has been translated into English: *Furthering knowledge an linguistic competence — learning with core concepts and travelogues*. Recently they published their first (german) textbook ICH — DU — WIR (I — YOU — WE) for the first three years of schooling. By the means of many examples of tasks and individual solutions of the children it shows how the concept of *dialogical learning* in German and Mathematics can be initialised and managed in a public school with about 25 children in each class.

Although both, Peter Gallin and Urs Ruf, are associate lecturers in Mathematics and Language Education at the University of Zürich, they didn't cease to teach at the secondary level at the "Kantonsschule Zürcher Oberland", which provides them every day with the challenge of the one to one reality of teaching.