Mathematics in a cultural-historical perspective.

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The main purpose of the presentation is to provide a general conceptual and historical introduction to the idea of developmental teaching, followed by a more specific explanation of some of the principles of developmental teaching that Vasili Davydov developed in relation to primary school mathematics, and finally a brief orientation about a conceptual development that builds upon Davydov's approach.

In the 1930s, Vygotsky argued that school instruction should be leading in relation to development. In the 1950s, Daniil El'konin worked with this idea in relation to literacy for primary school children, while Davydov concentrated on mathematics. Subsequently Davydov and colleagues developed a curriculum (with textbooks) for the first five years of mathematics instruction, and recently materials have been completed through the 8$^{th}$ grade. A key idea in Davydov's approach is the need to identify germ-cells (initial primary relations) from which a subject-matter area is developed. A second key idea is the notion of theoretical thinking as a basis for working with subject-matter content. These core ideas (which are applicable to all subject-matter areas) have many concrete implications for the analysis of subject-matter and the ways in which teaching is organised to support the development of theoretical thinking. This presentation will illustrate these ideas with Davydov's analysis for the concept of number.

Davydov's developmental teaching does not conceptualize the local, historical conditions within which children live and its implications for the content of subject-matter teaching. Mariane Hedegaard and Seth Chaiklin developed an idea of *radical-local teaching and learning,* that builds upon Davydov, along with Vygotsky's distinction between everyday and academic concepts to provide a way to work with subject-matter content in relation to children's lifeworld.