

Plenary session IV

Needs to change science instruction - Consequences drawn from international monitoring studies like TIMSS

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The focus of this conference is 'Research in Science Education - Past, Present, Future'. Research on teaching and learning science so far has revealed major learning difficulties and has also substantially contributed to programs that aim at improving the situation. However, there appears to be still a deep gulf between expectations, as, for instance, voiced in recent conceptions of scientific literacy, and the outcomes as documented in numerous empirical studies on science learning and instruction. Recently, the results of TIMSS, for instance, have clearly shown that science instruction is rather inefficient in preparing students for the needs of the future - at least in a number of countries, among them Germany. But also countries who did sufficiently well in TIMSS need to rethink their science instruction if significant contributions for meeting the challenges of the future is expected.