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**Professional development of science teachers as a reflection of large-scale assessment.**

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Summary: Professional development (PD) of teachers comprises a major challenge in many countries. The empirical relations between teaching-learning processes and student achievements occupy educators who construct teachers' in-service training programs. Student achievements serve as a measure for testing improvements in learning. Many investigators view teachers' content-didactic knowledge as influencing the quality of teaching and student achievements. Large-scale assessments (national and international evaluation frameworks) in the Israeli educational system offer teachers opportunities for improving their teaching-learning processes and student achievements. We developed a program for the PD of science teachers based on the curriculum and large-scale assessments. The model is long term and integrates theoretical and practical knowledge. The activities should be effective and cooperative and should use diverse teaching methods and integrate advanced technologies. This article presents considerations for the construction of the program, its goals, its performance, teachers' reports on the components, and the contribution of the program's components to their PD.

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