



Mathematics and Science for Schools in Sub-Saharan Africa (MS4SSA): A World Bank Initiative to Improve Student Learning in Africa

What is MS4SSA?

Launched by the World Bank in 2016, the MS4SSA initiative complements other efforts to improve mathematics and science education in Sub-Saharan Africa (SSA). It offers countries technical assistance to enhance learning outcomes in those subjects among primary and secondary school students. Its focus is on the integration of four aspects of teachers' work that are crucial for better learning outcomes: teachers' content knowledge, classroom pedagogical practices, teaching materials and tools, and continuing guidance, mentoring and support from school leaders, inspectors and others in the education system.

Why is there a need for MS4SSA?

Large numbers of African youth leave school every year with weak foundations in mathematics and science. They lack the skills and knowledge to qualify for jobs in modernizing economies and are ill-prepared for post-secondary courses in science, technology, engineering and mathematics that can equip them for well-paying jobs. This weak pipeline also undermines efforts to improve faculty quality in both tertiary institutions and schools, creating a vicious cycle and an intractable challenge. Many SSA governments have received support from the World Bank to address these problems, typically for teacher training programs, laboratories, science kits and teaching resources. Yet too little headway has been made in raising learning outcomes. Fresh approaches are urgently needed to break out of this vicious cycle. Building on and complementing other efforts, MS4SSA responds to this challenge. It targets secondary education initially before addressing primary education in a second stage. By strengthening students' foundation in mathematics and science, MS4SSA reinforces the World Bank's support for through the African Centers of Excellence and the Partnership for Skills in Applied Sciences, Engineering and Technology (PASET), initiatives which aim to increase the supply of qualified faculty in Africa's universities and foster development of a skilled workforce for Africa's economic and social transformation.

What is unique about MS4SSA?

Two core components make MS4SSA unique:

- **Partnership at the Global and Regional Levels.** At present, MS4SSA has established a partnership between Worcester Polytechnic Institute and the New Jersey Center for Teaching and Learning. Leading African partner institutions that can serve as regional sources of expertise are also expected join the partnership. The combination of international and regional partners helps to facilitate the assembling of promising ideas and innovations from global sources; and the systematic distillation and adaptation of these resources for potential application in SSA countries.

Ownership at the Country and Local Levels. Each country's institutions and circumstances are unique, so it is necessary to customize solutions to meet local needs and conditions while providing

support to teachers that encourage continuous improvement of resources and practices. For this reason, MS4SSA depends on the involvement of in-country institutions.