

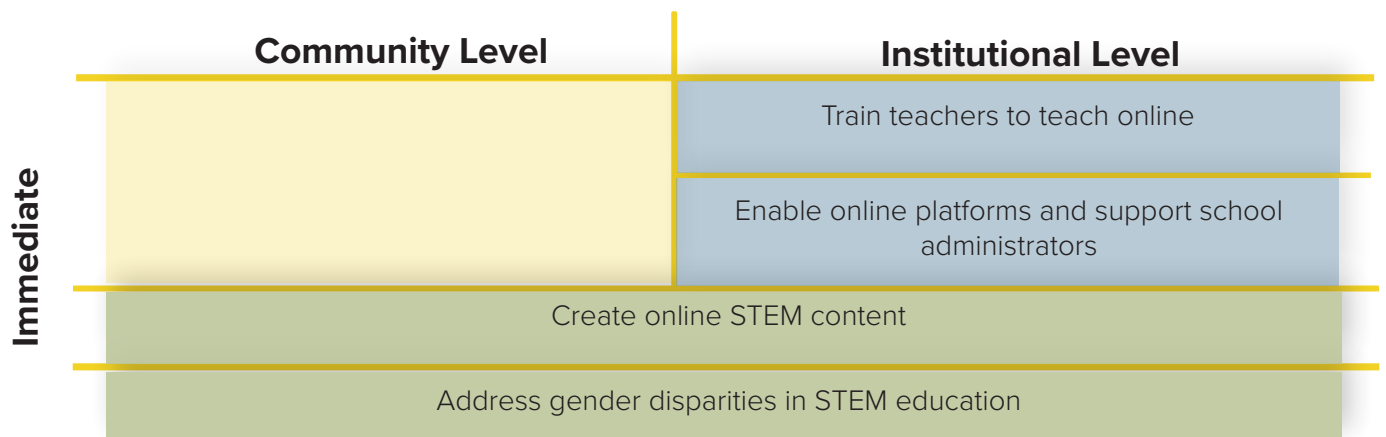
Pan American Development Foundation Response Capabilities for COVID-19 in Latin America and the Caribbean

Virtual STEM Education

The COVID-19 pandemic has forced schools and teachers across Latin America and the Caribbean to turn to virtual classrooms, rapidly create digital content, and connect with students online. While the pandemic has closed schools, it has also highlighted the need to teach STEM (Science, Technology, Engineering, and Math) skills to respond to today’s pressing problems. Multidisciplinary teams throughout the region are racing to design low-cost, locally produced ventilators, turn empty spaces into functioning intensive care units, and transform fashion and textile industries into producers of protective equipment. All this requires skills provided by STEM education.

With COVID-19 restrictions in place, the Pan American Development Foundation (PADF) is supporting schools, students, teachers, and parents to adjust to social distancing guidelines by providing resources and support to bring STEM education to virtual classrooms and homes. Since 2016, PADF’s STEM Americas program has partnered with governments, civil society, and the private sector in Argentina, Brazil, Mexico, Chile, Panama, Colombia, Bahamas, Ecuador, Bolivia, and Peru, reaching more than 1,600 teachers and 25,000 students in vulnerable communities.

With nearly 60 years of experience across the region and strong partnerships with educators, civil society, governments and the private sector, PADF is uniquely positioned to offer immediate assistance in four aspects of the educational dimension of the COVID-19 response, especially focused on STEM education for the 21st century.



Create online STEM content

PADF’s STEM Americas program and its partners have quickly responded by making their educational resources available online to support knowledge sharing and distance learning during the pandemic. PADF is helping its partners create STEM-related content for teachers, students, and caregivers in topics such as science, aerospace and aviation, math, and robotics.

Creative and Innovative Programs for Space Education, Launch & Aviation (CIPSELA Corporation) , our STEM Americas partner in Colombia, for example, is offering virtual classes that teaches kids to build their own aerospace prototypes with easy-to-find at-home supplies. The online content is accessible to the public and expected to reach hundreds of students.

Train teachers to teach online

Teachers are the heart of education and a critical factor for student success. When providing STEM education online, teachers themselves must change both the content and the methodologies they use for teaching. It is not enough for teachers to turn their traditional curriculum into power points or dry video lectures. Online training requires different methodologies and the full use of available technologies to ensure student interaction, engagement, as well as appropriate monitoring and evaluation of student learning.

PADF, through its STEM Americas program, has trained over 1,600 teachers to incorporate STEM methodologies, such as problem-based learning, gamification, and inverted classrooms. These methodologies can easily be translated to the virtual realm, making sure that online learning is interactive, engaging, and transformational. Fundación para la Integración y Desarrollo de América Latina (FIDAL), our partner in Ecuador, is currently providing a series of training for 80 teachers on STEM methodologies that will enable them to quickly incorporate new methodologies into their online classrooms. PADF is prepared to continue assisting teachers as they transition to online education.

Enable online platforms and support school administrators

While some countries had already made progress on enabling online platforms for distance learning, many have found themselves scrambling to provide a quick alternative. Through its STEM Americas program, PADF can support governments to quickly enable learning platforms.

For example, Fundación Nacional para el Desarrollo de las STEAM (Fundesteam), PADF's partner in Panama, has enabled three learning platforms through its website: one for learning coding and robotics, one with access to virtual science labs, and one with math, science, language and health content for K-12. The platform has been endorsed by the Ministry of Education and more than 430 schools have registered, reaching more than 25,000 students with quality content.

School administrators also need support and training, specially in STEM methodologies, so that they can continue to transition their school plans online and prepare for more extended school closures. In collaboration with the Ministry of Education, Fundesteam is training a first group of 90 school superintendents and administrators so that they can support online learning and work alongside their teachers.

Address gender disparities in STEM education

Pandemics can exacerbate existing gender disparities. It is no different when it comes to the disproportionate effects that school closures are having on girls. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), the potential for increased drop-out rates disproportionately affects adolescent girls, further entrenching gender gaps in education and leading to increased risk of sexual exploitation, early pregnancy, and early and forced marriage.

PADF will continue to promote strategies that are gender inclusive and that prioritize girls' and young women's access to education during the pandemic so they can safely return when schools reopen.

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