Online Learning Platforms Can Reverse the Digital Divide in Rural Communities

The tools exist to stem the digital divide in rural communities – now, the government, educators and tech companies must collaborate to drive quality programs.

By Razvan Bologa / *Bucharest University of Economic Studies*

Science, technology, engineering and math (STEM) are the subjects kids must learn to improve their chances for financial success in the digital age. According to the U.S. Bureau of Labor Statistics, occupations in STEM fields are expected to increase by 8 percent by 2029 – double the growth rate for nonscientific professions. Beyond that, the future is yet to be shaped. Sixty-five percent of children entering primary school today will work in jobs that have yet to be created. People may not know just yet what those jobs will be but can anticipate they, too, will require STEM skills.

Not all educators or parents comprehend the mind-boggling statistics about the digital future nor are they acting fast enough to enable the required changes. Worrying about a shortage of tech and science workers to fuel tomorrow's economy causes anxiety, as does the coming paradigm shift, which is likely to leave otherwise capable individuals underemployed or unemployed. Lack of STEM education can be the Achilles heel for the next generation, whether they live in New York City, Arkansas, or a distant location far from the U.S., such as my country, Romania.

CALL TO ACTION

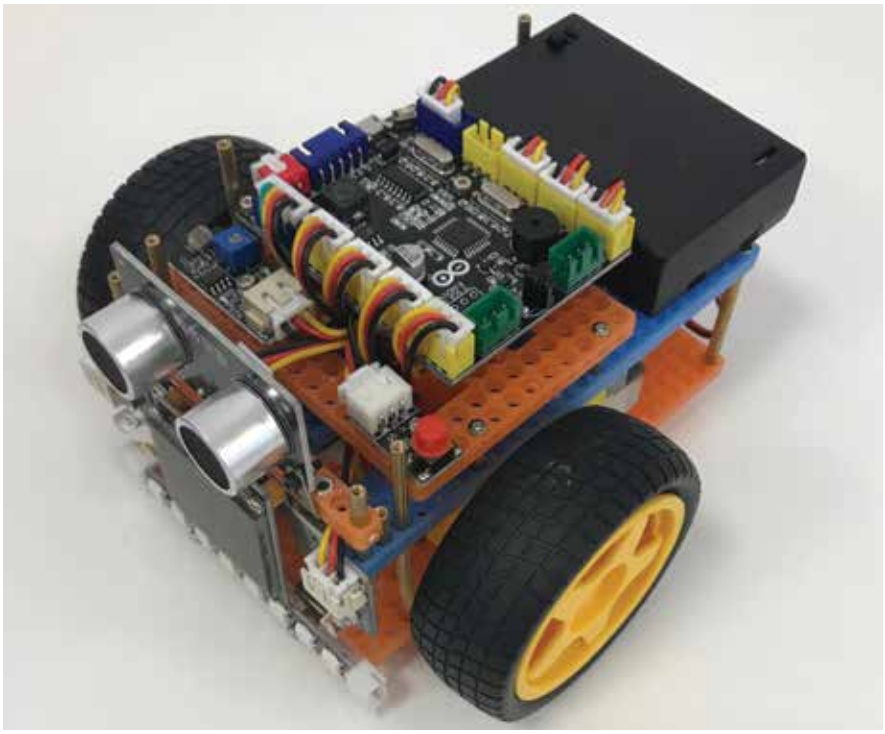
U.S. government agencies, educators and technology companies need to unite faster and more robustly to build the programs necessary for all young people to gain the skills to thrive in an exciting but uncertain future. Though there is a sense of urgency to expand STEM courses for students in urban and suburban communities, there is an even greater necessity to grow STEM programs in the often-overlooked corners of the rural U.S.

Internet access is improving across rural areas of the country. However, computer and internet availability is only part of rural communities' problem. Students in sparsely populated hamlets still need quality instruction – and broadband alone can't deliver that. Schools unprepared to drive a STEM-oriented curriculum must embrace math and the sciences. They will need to find creative solutions.

In Romania, people had to get innovative to find a solution to bring quality STEM training to students who live far from the bustling cities and towns. In the U.S., 14 percent of people live in rural areas; 46 percent of Romanians call the country their home. The government and the private sector are doing what they can to prepare for a digitally driven tomorrow. Some programs are starting to take root.

BRIDGING THE DIGITAL DIVIDE

Consider the story of Andrei, a young man growing up in an agricultural community with only 2,500 residents. He has the aptitude to take demanding STEM courses, but the curriculum



In Romania, an online platform teaching STEM skills enabled an 11-year-old budding tech enthusiast to build a robot in Romania's largest children's educational robotics competition.

was lacking in his Romanian hometown of Boteni. An online platform available to students in his school allowed the introverted yet ambitious 11-year-old to acquire the requisite knowledge to work with programmable boards, sensors and mechatronics. After a year of hard work with the AI-driven platform, the budding tech enthusiast built a robot in Romania's largest children's educational robotics competition.

In 2020, investors poured a record-breaking $2.2 billion into education technology in the U.S. But although money is flowing for some projects, there is still concern that exciting new tools are going to urban or suburban kids, many of whom may already be ahead of the technology learning curve. This leaves kids from rural families at risk of being marginalized – unprepared to navigate their way in an information-rich economy.

Andrei continues to advance his computer and robot-building skills. The Bucharest hack-a-thon he participated in was a transformative experience – after a year of virtual work, he connected with other students from rural communities with similar interests. His teachers noticed a change in his enthusiasm when he returned to Boteni. He recently participated in other information technology competitions and looks forward to an exciting career he could have only dreamed possible.

Stories such as these – kids in rural communities making significant technological advancements – are now a reality for some young people. Andrei's achievement may be only one young man's story. Still, it offers an optimistic view of what is possible for families who choose to live outside significant metropolises. It can open a new world to someone traditionally cut off geographically from opportunity. ❖

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