Teacher Training and Entrepreneurship Education in Rwanda

Secondary school enrollment in Africa is expected to double by 2030, yet high youth unemployment rates suggest that the existing formal education system is not preparing students to improve their livelihoods through work. Partnering with the Rwandan Education Board and Educate!, researchers examined the impact of a program that trained teachers and supported them in implementing Rwanda’s revised secondary school entrepreneurship curriculum on student academic, economic, and labor market outcomes. Two years after the program began, researchers found positive impacts on teacher pedagogy, in a manner consistent with the reformed curriculum, and increased student engagement in business activities, with offsetting declines in employment. At that time, there were no impacts on student educational outcomes or skills. Six months after completing secondary school, these changes in economic activity persist, with treated students showing some improvements in a few soft skills and also more likely to be enrolled in university. Researchers plan to continue tracking participants to better understand how the impacts evolve over time and to measure the longer-term impacts, particularly on labor market outcomes.

Policy Issue

If current trends continue, secondary school enrollment in Africa will double by 2030. However, high youth unemployment rates in the region suggest that the existing formal education system does not prepare students for the labor market. To address this pressing policy issue, many countries in the region have launched efforts to update their curricula to explicitly focus on developing student skills. In 2016, Rwanda reformed their curriculum to emphasize entrepreneurial skill development by incorporating a focus on practical application and student-centered pedagogy. However, curriculum reforms can only improve student outcomes if teachers adopt the new pedagogical methods prescribed. Little evidence exists on how to effectively train teachers to implement a nationwide curriculum reform, particularly at the secondary level. This study examined the effect of a teacher training and support program on teacher pedagogy and student educational, skill, and labor market outcomes.

Evaluation Context

In Rwanda, 72 percent of employed youth work for family firms or are self-employed, often in the
informal sector. Equipping students with business skills is therefore essential to facilitate their transition from school to economic activity. Rwanda introduced entrepreneurship as a required subject in secondary schools in 2009. As part of its 2016 curriculum reform, all secondary school students in Rwanda were required to take a modified entrepreneurship course focused on providing students with skills to succeed in the labor market. The new curriculum included key pedagogical guidance designed to move classrooms away from rote learning and towards the practical application of skills.

The new components included:

1. An explicit focus on active pedagogies through Skills Labs, an 80-minute weekly class period during which teachers employed active pedagogy. The class was structured in a laboratory format and followed a “Build-Practice-Present” arc, enabling students to practice and apply entrepreneurship concepts and skills through hands-on in-class activities, then present their progress to their peers.
2. Student Business Clubs, where students worked in teams to start and run school-based businesses.

The curriculum reform represents a major shift in pedagogy, moving to more interactive, student-centered learning.

**Details of the Intervention**

Working with the Rwandan Education Board and Educate!, researchers examined the impact of a teacher training and support program on teacher pedagogy and student academic, skill, and labor market outcomes. The program was designed to support the roll-out of Rwanda’s revised secondary school entrepreneurship curriculum. Researchers sampled 207 geographically diverse (urban, peri-urban, and rural) schools across 11 districts to participate in the study.

Half of the schools were randomly selected to receive the Educate! Exchange program, an intensive teacher training and support program which included:

1. **Intensive teacher training:** Six multi-day trainings spread over the two years of the intervention. Each of the six sessions was held during holidays between terms. Sessions blended traditional training and practical application. The training emphasized lesson planning, engaging students in classroom discussions, encouraging students to create entrepreneurship portfolios of their work, and assisting student business clubs to form and grow.

2. **Exchange Visits:** beginning in term two of the first year, teachers visited each other’s schools three times per year to observe and provide feedback to their peers.

3. **Outreach and support:** teachers received ongoing support to implement the curriculum by youth leaders hired and trained by Educate!.

The other half of schools served as the comparison group, which received the new entrepreneurship curriculum and a general one-time training. Comparison schools did not receive Educate!’s training
Researchers measured the impact of the teacher training and support program on teacher and head teacher perceptions of effective teaching practices, and on teacher pedagogical practices. They also examined impact on student outcomes at the conclusion of the program and after students completed secondary school. Student outcomes include labor market and economic activity, entrepreneurship knowledge, and non-cognitive skills. Researchers also collected administrative data on teacher training attendance and student exam performance.

**Results and Policy Lessons**

Two years after the program began, researchers found positive impacts on teacher pedagogy, in a manner consistent with the reformed curriculum, and increased student engagement in business activities. At the conclusion of the program, the researchers found no impacts on student learning outcomes or skills. However, preliminary results from a one-year follow up show impacts on a few soft skills (grit and patience) as well as increased university attendance among students from treatment schools. Additionally, the impacts on business ownership persist, though income declined relative to the comparison group.

**Teachers participating in the Educate! Exchange program devoted time to participate in trainings and exchange visits.** On average, schools that received the training and support program sent teachers to more than five out of the six scheduled trainings and four out of every five exchange visits. These are notable take-up rates for a program conducted during school holidays and without compensation.

**Teachers modified their pedagogical practices according to the reformed curriculum.** This high uptake translated into measurable changes in teacher pedagogy in line with the reformed curriculum. Treatment schools were 52 percentage points more likely to have scheduled Skills Labs, a more than six-fold increase over eight percent in the comparison group. The program increased active instructional time by 10 percentage points during the second half of the class period, in line with the “Skills Lab” Build-Practice-Present methodology. It also increased active instructional techniques such as group discussion, research, case studies, debates, and role playing by six percentage points, or 19 percent relative to the comparison group. Teachers in the treatment group also scored eight percentage points higher on a test of the content of the entrepreneurship curriculum.

**The Educate! Exchange program lead to an increase in student business ownership.** At the end of the conclusion of the program, students in schools participating in the Educate! Exchange program were five percentage points more likely to own businesses, a 19 percent increase over the control group mean of 30 percent. This increase was driven by participation in student business clubs, a central component of the reformed curriculum. However, student wage employment decreased by five percentage points, suggesting a substitution between entrepreneurship and wage employment. Income was also unchanged between the two groups.

However, teacher adherence to the reformed curriculum did not lead to improved student skills
or learning outcomes in the immediate term. Researchers found no effect on students’ learning outcomes, as measured by scores on the national entrepreneurship exam, or on their own test of financial literacy and entrepreneurship knowledge. They also found no effect on students’ non-cognitive skills, including educational and professional aspirations, grit, and locus of control.

Preliminary analysis of a follow-up conducted one year later, six months after youth completed secondary school, suggests that impact on business ownership persists, and new skill and education impacts emerge. Six months after students completed secondary school, students in the treatment group had improved grit (0.1 SD) as well as patience, though they also scored lower on one measure of creativity. Students in treatment schools were four percentage points more likely to attend university, doubling the university attendance rate of students in the comparison group.

Moreover, the one-year follow-up suggest that end-of-program results for business creation and employment persisted six months after secondary school. The program also increased the creation of non-agricultural businesses. On balance, income in the previous two months among treated students fell by US $3.40, or 13 percent relative to the comparison group. This short-term income difference appears driven by business owners in the treatment group, who are not earning as much as business owners from the comparison group. This may be because young, small businesses started from participating in the Educate! Program could be more volatile income sources than businesses started by youth in the absence of the program. However, these results may change in the long run as businesses mature and increased university attendance among treated students yields economic returns. Continued follow-up is needed to determine long-term impacts on skills, education, and economic outcomes.

Overall, the Educate! Exchange program succeeded in altering the pedagogy of entrepreneurship teachers in treated schools. This increased focus on entrepreneurship led to more business creation among students, with offsetting declines in employment. Six months after completing secondary school, these changes in economic activity persist, with treated students showing some improvements in a few soft skills and also more likely to be enrolled in university. Continued follow-up can shed light on the durability of these changes and how these changes influence longer-term life outcomes.

Cost-effectiveness: The intervention cost US $71 per student over the three years of the program, or an annual average of US $24 per student. The cost of generating one additional business was US $473 per year. Costs per student are expected to decline if the program scales up, and cost-effectiveness may change as students leave school and long-run outcomes emerge.

Sources