Education, science, and Cuba’s future

By Tom Whitney

A 2014 World Bank report indicated Cuba’s investment in education for 2009-2013 -- 12.9 percent of its GDP -- is the highest in the world. Also in 2014 UNESCO reported that “high parameters” of academic achievement and “strong academic talent” had enabled “the average Cuban student to have twice the knowledge and skills of the comparable Latin American student.”

The huge importance Cubans assign to education traces back to the beginning of their revolution. At that time, reports Jonathan Kozol, “education, along with land reform and health care, [was regarded] as one of the three most serious struggles the revolution had to undertake.” In his indispensable report on Cuba’s literacy campaign in 1961 (“Children of the Revolution”), Kozol praises the “total sense of ethical exhilaration” of participants. That spirit, likely as not, entered into the building of Cuba’s educational system.

The optimism of the era may be continuing, as evidenced by the boldness of the Ministry of Education’s International Pedagogical Congress 2015. This year’s version, held in Havana on January 26-30, attracted 3855 teachers from 43 countries.

Education Minister Ena Elsa Velázquez, also President of the Congress Organizing Committee, welcomed participants: “From Jose Marti, our national hero and the most universal of all Cubans,” she said, “we inherit a formidable body of ideas providing a model for us of the deeply human work of teaching and educating.”

It’s worth noting parenthetically that Jose Marti not only organized and led Cuba’s independence struggle in the late 19th century, but was also an educational theorist, a children’s writer, and an experienced teacher. Said Marti: “Every man when he arrives upon this earth has a right to be educated, and then, in payment, the duty to contribute to the education of others.”(1) Discussing education, Marti specified that, “the scientific element must serve as the backbone of the [nation’s] education system.”

Continuing, Education Minister Velázquez pointed out that, “Current scenarios characterized by accelerated development of science and technology and the paradoxical existence of growing inequalities and social imbalance demand root and branch educational transformations, ... We want this [Congress] to be seen as a gathering of ambassadors of light to the good men and women who are teachers all over the planet.”

The depth, breadth and multiplicity of its offerings testify to outsized scale and ambition. Its “Scientific Program” included 16 symposia on different topics, each one offering individualized teaching sessions, 2067 of them in all. Each of three forums included up to 48 meetings on varied subjects. There were also 36 team-taught “courses.” Plenary gatherings, panels, and “special activities,” took place throughout the week. The program description required 347 on-line pages. (http://pedagogiacuba.com/resources/docs/Programa_2015.pdf)

Meanwhile during Cuba’s current academic year (2014-15), 1.8 million Cubans are attending schools ranging from pre-schools to universities.
Over 50 percent of students finishing the ninth grade will be advancing to technical schooling lasting three years; many will enter Cuba’s growing private sector. Yet 606,863 students, 60 percent of all Cubans aged 18-24, were attending one of Cuba’s 67 universities. Their teachers number 77,000; 54,000 of them are full time. As of 2010, one million young people had graduated from Cuban universities since the beginning of the revolution; they include 31,528 graduates from 129 other countries. Presently 35,000 foreign students are studying in Cuban universities. In 1960 women represented three percent of university graduates, 37 percent in 1976, and 64 percent in 2010.

But there are problems. Even though enrollments are down slightly from previous years, due to demographic changes, a full complement of teachers is lacking, especially at the pre-school and primary school levels. It’s an “Achilles’ heel,” according to one observer who says that of the 183,100 teachers needed for the current academic year, only 93.1 percent were available. The Ministry of Education is working to enlarge and re-fashion teacher training schools, and recruit students to attend them.

At the close of the last century, Cuba sought to increase university enrollment, mainly to provide an assist to students who with their families had been marginalized during the period of economic distress following the collapse of the Soviet Union ten years earlier. University enrollment rose to 711,000 students in 2008-2009. In recent years, however, higher education reformers have sought to consolidate facilities, reduce administrative personnel, promote cross-disciplinary teaching, encourage inter-university collaboration, and reduce university enrollment. In the 2014-2015 academic year university enrollment fell by 100,000 students below the 2008-2009 level. Some of the reduction resulted from cut-backs in students studying humanities or social sciences, the idea being that large numbers of them did not fit Cuba’s future needs.

In justification of the changes, spokespersons point to society-wide efforts to re-formulate Cuba’s economy, to the goal of “quality education,” and to new educational emphasis on science and technology. At the recent Pedagogical Congress, Higher Education Minister Rodolfo Alarcón Ortiz spoke of motivating students toward teaching careers and building education that is “scientific, technological, and humanistic.” He called for scientific knowledge and teaching being incorporated into teacher preparation, which would be “a revolutionary change in the way of learning.”

In 2011 at a “Special Pedagogical Conference,” then Higher Education Minister Miguel Díaz-Canel traced the development of university education over 50 plus years. He indicated that the “advance of science in the universities all along has been tied to the development of post graduate education, basically to the academic content of teacher-training and doctorate programs.” Diaz-Canel quoted Fidel Castro’s observation in 1960 that “the future of our country necessarily has to be a future of men of science and men of thought.” Diaz-Canel now serves as First Vice-President of Cuba’s Council of State, a post widely regarded as the stepping stone to Cuba’s presidency.
In a recent article, biochemist Agustín Lage Dávila, director of Cuba’s Center for Molecular Immunology and leader in the development of Cuba’s biomedical industry, called upon science to take on a commanding role in shaping Cuba’s future and, implicitly, Cuban education. (2) His own words convey his message more convincingly than any summary.

“Now is when we need science the most,” he begins. “Many people associate science with laboratories, white coats and complicated equipment. That picture is mistaken…Science is essentially a way of thinking. It’s the human practice of intentionally setting off to produce new knowledge.” One “starts with a problem, takes it apart, and builds a hypothesis as to possible explanations. We look at facts directly.”

“All Cubans can and must take on the scientific method and apply it socially,” he suggests, “just like we appropriated the capability of reading and writing in 1961 -- and converted it into a right.”

“Present challenges” stem largely from changes since the 1980’s “making little countries unable to base their sovereignty on economic self-sufficiency, which is impossible.”

Cuba lacks “internal demand that would attract industrialization, also mineral and energy resources” and also large tracts of land needed for agricultural exports. This is the “economic challenge.” “Our lever for economic growth will have to be value-added goods and services based on science and technology.”

He points out that, “Today our population is not growing, and is getting older ... This is the demographic challenge ... For that we need science and a lot of it.” Contributing factors include economic problems, increased life expectancy, and women’s high educational level, which relates to a reduced birth rate.

Then there is the “social challenge.” “The defense of our culture and of our values must occur now in a globally-connected world where information and cultural influence move rapidly. The question of whether globalization leads to a uniform cultural impoverishment ... or opens up the road for us to an enriched cultural diversity is not yet settled.” We need “scientific foci, particularly in the social sciences, for developing theory and practice for socialist state enterprises, their internal relations with the micro-economy and connections with the macro-economy.”

He concludes: “There were discussions on these themes in the plenum of the Academy of Sciences last week ... We don’t have all the time in the world to successfully confront such challenges. We are going to need a society ... capable of arming itself with a scientific culture , and utilizing it in daily decision-making, studying the world, reasoning out data, designing alternatives with verifiable hypotheses, evaluating the impact of decisions, rejecting improvisation, ... uncritical imitation, and superficiality.”

It was not his primary intent, but Lage did argue effectively that emphasis on science, with its methodology and benefits to Cuban society, must figure prominently in efforts to re-shape Cuban education. That process will build on the strengths of Cuban teachers themselves. Mexican academician and journalist Tatiana
Coll, reporting in 2014, cites “solid, demanding, and rigorous teacher development [in Cuba] based on constant practice teaching and a strong culture of collective evaluation and constant supervision.” The La Jornada writer also indicates that, “Teachers are highly valued with social recognition as professionals. In reality Cuba has achieved all this following its own visions and not the recommendations and requirements that the World Bank has imposed on other governments in Latin America.”

Ultimately Cuba’s own revolutionary experience contributes the main rationale for sweeping educational change. Paulo Freire, author of “Pedagogy of the Oppressed,” a book on teaching literacy to marginalized peoples, was an intellectual author of Cuba’s 1961 literacy campaign. Freire in 1978 said “reinvention of Cuban society” is occurring through “a revolution which from the beginning and without a fatuous idealism became the ultimate teacher in itself, giving first place to the indisputable role of education in the process of forming the New Woman and New Man.” (3)

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