

Science Education for Sustainable Development, Part 2

June M. George

In examining the potential contribution of science education to sustainable development, Part 1 of this article discussed science education for citizenship. This second segment examines science education for future career scientists and seeks to point the way forward.

In addition to producing citizens who will manage natural resources appropriately, science education initiatives must also result in the production of specialist scientists whose task it would be to spearhead the development thrust at the national level. In this regard, there is the need for the strengthening of links between scientists in the workplace and students in secondary schools and the universities. Much has been written about the importance of context in learning and this has led to the generation of the theory of situated cognition. An important premise of this theory is that the social, cultural, and physical circumstances in which actions are situated are important aspects of the process of learning and knowledge generation.

Links with scientists in action would allow students to have the vicarious experiences that might trigger a lifelong interest in the discipline. In addition, students would have some experience of how canonical scientific content, encountered through formal schooling, is transformed into knowledge-in-use by practitioners. Furthermore, such an exposure is likely to highlight the role of information and communication technologies (ICT) and other technologies in the scientific enterprise. To achieve these outcomes, the system of internships for students in science-based places of work must be strongly encouraged. While some internship programmes currently exist for our university students, the system needs to be expanded to cater for more university students as well as high school students who are interested in pursuing science further.

Secondly, the preparation of our future scientists must include not only courses in science, but also courses that emphasise the implications of the science/society interface, especially with respect to the issue of an appropriate balance between benefits and risks to the society. Those who are specializing in science should also be exposed to courses in Caribbean history, culture, and development. This is becoming more and more critical as the process of globalisation spreads, making it more tempting for Caribbean people to think that we are just like everybody else. If Caribbean scientists are to represent the Caribbean well in the international dialogue on scientific and technological matters, including matters pertaining to issues of sustainability, they must be well acquainted with the characteristics and nuances of the place from which they come. Furthermore, the onus is on us as Caribbean people to determine what form of development would be in our best interest. An exposure to some aspects of the humanities is necessary for the full development of this capability in our scientists.

The way forward

The implementation of some of these ideas might require a paradigm shift from what currently obtains. A focus on development needs would require us to move away from the traditional method of constructing school science curricula by working backwards from what is considered to be a desirable body of knowledge for the award of a

bachelor's degree in science, right down through the various levels of the education system. Instead, the focus might be on an issues-based approach to science education, at least at the lower secondary level. There will be significant policy issues involved here and the decision makers, universities, ministries of education, and regional examinations body will have to buy into the idea.

In this the UN Decade of Education for Sustainable Development, the time is right for serious discussion among all stakeholders on how we should shape our science education, as we work along with other subject disciplines to promote sustainable development goals.

School of Education, UWI, St. Augustine