

British Virgin Islands

Summary

Within the past two years, the MOE and the DOE of the British Virgin Islands have made much headway in resolving maintenance issues, greatly increasing access to and use of ICT in the public primary and secondary schools of the British Virgin Islands. Teachers typically gain ICT skills during college and university education. A government-wide WAN completed in late 2005 has greatly improved Internet access in schools and re-opened the possibility of effective EMIS.

Planned activities include increasing teachers' access to ICT for administrative and instructional activities, as well as plans reorganizing school-based computing to support greater integration of ICT across the curriculum. However, these plans require additional procurement, development of new curricula, and significant in-service TPD and are progressing slowly.



The economy of the British Virgin Islands is among the strongest in the Caribbean, although it shares the nearly region-wide dependence on tourism as its largest sector. Beginning in the 1980s, the

Basic Data

Category	Date	Value
Population	2006	23,098
Per capita GDP (PPP)	2004	\$38,500
Economy, composition	2006	Tourism, corporate financial services, livestock
Literacy, total population 15 and over	1991	97.8
Literacy rate (women)	—	NA
Gross enrollment ratio, primary	2002/3	106.6
Gross enrollment ratio, primary (girls)	2002/3	103.3
Gross enrollment ratio, secondary	2002/3	98.8
Gross enrollment ratio, secondary (girls)	2002/3	94.1
Number of primary schools	2006	16
Number of secondary schools	2006	4*
Language of instruction	—	English

* Of the four secondary schools, two are secondary-only, while two are all-age schools including secondary-school components.

Sources: World Factbook, UNESCO, MOE

Government of the British Virgin Islands has offered offshore corporate registration, thereby increasing revenues in ways that are less influenced by outside economic cycles.

The situation regarding ICT in schools reflects both the recent history of economic success and many of the challenges that have proven intransigent throughout the Caribbean region and the world. All schools have computers and Internet connectivity, and the teaching staff generally possesses ICT skills. Integration of ICT across the curriculum, on the other hand, has yet to take place. Systemwide implementations such as EMIS are in process, but are not aggressively progressive.

document current and to better prepare it for adoption. As of late 2006, however, the ministry has not completed the adoption process.

Objectives in the draft policy focus specifically on areas in which the education system can improve its performance in relation to the use of ICT. Notably, these areas include enhancing teaching and learning, continuous TPD, and increased efficiency system wide. Although the influence of policy on implementation is not always direct, timely adoption of the policy has the potential to focus additional financial and human resources on these areas.

Development of a national ICT policy may also be in process.

Policy and planning

In the critical—and frequently challenging—area of maintenance, the MOE has made significant progress within the last two years as a result of strong advocacy and collaboration between the ministries and departments.

The draft ICT policy document was originally a direct outcome of the 2002–2003 policy initiative by OERU. British Virgin Islands personnel worked closely with OERU personnel and consultants during the drafting process to elaborate on and adapt the policy OERU policy template. More recent iterations, including the last version completed in 2005, have been made to keep the

ICT in schools

Programs in ICT in education in the British Virgin Islands began in the later 1980s (with CXC ICT exam preparation) and were followed by computer-literacy initiatives for teachers in the early 1990s. Between 1997 and 1999, the DOE’s IT program was reorganized and expanded, chiefly by the establishment of school computer labs.

Despite its relatively long history of effort, recent improvements in services to both primary and secondary schools have led to significant increases in the value returned by the MOE’s investment in ICT.

Relevant Policies

Document	Status	Date	Key points and objectives
Draft policy document	Draft	2005 (Most recent version)	<ul style="list-style-type: none"> ■ Promote harmonization of activities, approaches, and standards in the use of ICT ■ Encourage meaningful use of ICT by administrators, teachers, and students to enhance teaching and learning ■ Ensure that school-leavers have required skills for employment and further study ■ Foster the concept of lifelong learning ■ Provide continuous professional development to teachers ■ Facilitate efficiency within the ministry and DOE ■ Support ICT use among special-needs populations

Source: MOE

ICT Resources in Schools

School type	Number	Median enrollment	ICT profile
Public primary schools	16	—	<ul style="list-style-type: none"> ■ 1 lab per school ■ 10 computers per lab ■ ADSL Internet connection
Public secondary schools	4	—	<ul style="list-style-type: none"> ■ Main HS has 6 labs of 30 computers, plus one lab for technical education ■ 2nd all-secondary HS has one lab of 30 computers, used for basic ICT plus technical/vocational learning ■ ADSL Internet connection

Source: MOE

Current ICT programs in primary and secondary schools are funded as recurring costs in the MOE annual budget. In some instances such as facilities improvement, initiatives are funded as a capital project. Schools have also benefited from at least a few significant donations from private sector companies.

Island-wide WAN connectivity

Since late 2005, all school computer installations are connected via DSL-based WAN to the government's central server and from that server to the Internet. Bandwidth is adequate at this time, although high-bandwidth uses such as videoconferencing are now being introduced.

Before the present WAN, the system that was in operation was based on dialup connections provided by C & W. This arrangement was free to schools but there were many issues preventing maximum operational performance.

Hardware and network maintenance

MOE efforts in computer and network maintenance in both primary and secondary schools have radically improved performance in an area that was previously problematic. Maintenance is the responsibility of the IT Service Unit, which services all government-owned computers, a situation that had since the 1990s—when computers were first introduced to schools in the British Virgin Islands—led to very low levels of service and responsiveness. Problems backlogged because of staffing and other issues at the IT Service Unit and at the DOE. Through 2005, the percentage of functioning computers in schools was very low. This problem was much worse in primary schools, which lack accredited IT teachers on staff.

(The situation in primary schools was also affected by staff turnover, in which designated IT liaison persons were transferred to other schools and not replaced.)

In 2006, the MOE and the DOE launched a concerted and ongoing effort to increase communication with the IT Unit and enlist the Unit's support for maintenance in schools. As a result, the IT Unit allocated additional personnel to on-site routine maintenance and repairs in schools. Education personnel continue to meet with the IT Unit staff regularly.

Overcoming the challenge of technology maintenance—especially without an increase in costs—has transformed the ICT in education effort in the British Virgin Islands. Prior to outreach to the IT Unit, lack of functional computers formed a barrier to achievement in all areas; following the improvement in service, the government's investment in hardware, connectivity, and TPD has a new opportunity to return results.

Primary schools

All 16 public primary school have computer labs with approximately 10 computers, all connected to the Internet. The DOE has developed a primary syllabus specifying standards and learning outcomes in relation to ICT that focuses on computer literacy. This syllabus is being renewed in the course of the conduct of the National Curriculum Reform Project, now on the way.

In schools, the computers are used by students at all levels to build ICT skills and to review content in math, language arts, and science as part of prepara-

tion for exams. Upper-primary students also use the computers to prepare reports and other project-related outputs.

Teachers in some schools use computers in their classrooms to make presentations and for administrative purposes. Some of these computers are placed in the classrooms as a part of the development plan for the use of IT in schools, while some are borrowed from the labs.

Because dedicated lab facilities are not available in some schools, computers are installed in those schools in multi-use areas such as resource centers. This difference does not typically lead to different patterns of use.

The major contribution of the private sector to ICT in education was comprised by donation of laptop computers by a local hotelier to establish a computer lab in one primary school. That donation was followed by four years of support for an in-school IT specialist providing assistance and technical support to teachers and students. With additional hardware, access, and support, students in the school have been more involved in online collaborative projects, engaging in postage-stamp exchanges with students in other countries and in the UNESCO ASPnet beach-monitoring project, Sandwatch.

Other private sector contributions include donations of used and new computers to schools by private businesses, basic Internet training for teachers, provided by C & W in 2000, and a TPD workshop delivered by personnel of the Ontario College of Art and Design (OCAD).

Secondary schools

As mentioned, British Virgin Islands has two secondary-only schools complemented by two all-age schools that include secondary-level cohorts. More than two-thirds of British Virgin Islands secondary students are enrolled at the British Virgin Islands High School (BVI HS) on the island of Tortola. There are six labs of 30 computers each in the school, serving an enrollment of approximately 1360 students. The computers are primarily used by students in the senior section of the school who are preparing to leave school for the world of work or preparing for preparing for the CXC ICT exam and for further studies after high school use these.

The other secondary-only school, the Bregado Flax Educational Centre Secondary Division on the island of Virgin Gorda, with a population of some 230 students, has one lab of 30 computers. The lab is used similarly to the lab in BVI HS, except that the school's smaller enrollment allows even students in the lower section of the school to also benefit from computer classes.

In the all-age schools, there is one computer lab per school used by all students in the school.

Teacher professional development

There are no major initiatives in ICT-focused TPD at present though there is an interest in pursuing TPD as it relates to integrating ICT into the curriculum. School faculties are increasingly composed of degree-holders, and ICT has become ubiquitous at the local, regional, and international colleges and universities. As a result, almost all teachers now in service started in British Virgin Islands schools with a foundation of ICT skills.

Two earlier efforts at ICT-related TPD did not achieve success. During the 1990s, when the first computers were installed in primary schools to support teacher learning and use, an in-service TPD program was also implemented. However, limited access to technology (one computer) and out-of-sequence delivery of TPD (prior to the installation of the computers) resulted in little impact. Similarly, in-service TPD intended to support use of an EMIS package foundered in part because both TPD and EMIS were initiated prior to development of the country-wide WAN. As a result, participating teachers were unable to access the system at the time of their training. As a result, their skills and enthusiasm waned.

Tertiary education

The local community college, the HLSCC, has campuses on Tortola and Virgin Gorda. These serve as delivery points for programs from a number of universities in England, the United States, and the Caribbean. HLSCC has an advanced technology infrastructure. Current and even some cutting-edge hardware and software outfit an ample number of computer labs. Many of the classrooms are equipped

Teacher Professional Development Programs

TPD program type	Target population	Objectives	Scale	Barriers
Local, regional, and international higher-education institutions	Pre-service teaching candidates	<ul style="list-style-type: none"> ■ No specific objectives: Students gain ICT skills in the course of studying for Certificate in Education, B.Ed., B.A., and B.S. degrees 	<ul style="list-style-type: none"> ■ Majority of teachers have university degrees 	—
Periodic in-service TPD by the DOE	In-service primary and secondary teachers	<ul style="list-style-type: none"> ■ Familiarize teachers with specific software titles ■ Train teachers to integrate technology into their regular curricula 	<ul style="list-style-type: none"> ■ May be open to all teachers on a volunteer basis or may be targeted to certain group(s) 	<ul style="list-style-type: none"> ■ Need for teacher release time or to schedule during breaks
EMIS training	In-service teachers at primary and secondary levels	<ul style="list-style-type: none"> ■ Train school personnel ■ School personnel use Lotus Notes as a means of communication between schools and the DOE 	<ul style="list-style-type: none"> ■ School personnel in both primary and secondary schools 	<ul style="list-style-type: none"> ■ EMIS tool has not been functional due to lack of access to centralized components ■ Lack of routine access to ICT for teachers in primary schools
Computer literacy training no longer emphasized	In-service primary teachers	<ul style="list-style-type: none"> ■ Build familiarity with use of ICT to enhance teaching and teacher productivity 	<ul style="list-style-type: none"> ■ All primary teachers 	<ul style="list-style-type: none"> ■ Usually one computer in each school at the time of training

Source: MOE

with digital whiteboards. There is a videoconferencing center that is also used by the local extension division of the UWI. They are also now in the process of piloting a video conferencing link between the two campuses. There is a predominance of use of technology in instructional purposes at the college. Most information pertinent to the college can be accessed on the college's network, or via the Internet including course information, student's grades, etc.

EMIS and use of technology within the MOE

British Virgin Islands has struggled with EMIS for years. There was some experimentation with the OERU regional EMIS prototype in 2000, even though the procurement of the EMIS package School Administrative Student Information (SASI) had already been made. A Pearson Education product, SASI supports data collection and reporting of student demographics, attendance, grades, schedules, health, and other information. As discussed in the previous section, launch of SASI before implementation of the government WAN was largely ineffective because teachers could not access the system's centrally served components. As a result of this effort, however, the BVI HS can now

use the SASI system for administrative tasks such as printing report cards.

The DOE maintains its commitment to SASI, and is preparing to re-launch an EMIS-focused TPD program to re-introduce the use of the software in primary schools. However, chief among the required preparations is providing teachers with access to computers in their classrooms and resource centers or other convenient locations.⁴

Administratively, both the MOE and the DOE conform to the government-wide mandate to use Lotus Notes as an information-sharing environment. Most of the personnel in both institutions have ICT skills and use computers routinely.

Nonformal, distance, and open education

Some primary schools offer computer-lab access after school hours. However, these programs—supported by the Department of Youth Affairs and Sports—mainly serve regular students.

⁴ As implemented by state and large district school systems in the United States, SASI requires significant teacher support in the form of coding guides, manuals, and TPD. It is possible that the limited number of schools, teachers, and students in the British Virgin Islands school system will enable phased introduction of some features and the use of the product without any need for customized curriculum and other codes.

A computer lab is located in one community center and computer training is conducted there. This training is available for use by adults, youth, and children.

A 2003 proposal for reorganization of school computing targets modernization of hardware and installation of computers in classrooms (as opposed to labs). This initiative, however, is moving slowly.

Barriers and challenges

- **Lack of hardware for teachers' use of ICT:** ICT programs have focused on providing computers for use by students at both the primary and secondary levels. Although teachers at both levels typically have basic ICT skills and are enthusiastic about the use of computers, they do not have sufficient access to computers for lesson preparation, classroom teaching and learning, or administration (including EMIS).
- **Lack of curriculum, software, TPD, and institutional capacity for technology integration:** Again, although teachers are both willing and skilled in relation to ICT use, the DOE itself does not currently have the resources necessary to support use of ICT to enhance teaching and learning across the curriculum. In addition to the need for hardware access—most labs are fully timetabled—teachers require formal curricula (including learning objectives or outcomes, standards, assessments) and professional development. Initial steps in this direction may need to rely on collaboration facilitators such as iEARN, Think.com, and others—with the attendant lack of linkage to the curriculum.

Lessons learned

- **TPD must be synchronized with access to tools to be effective:** In two instances—the first introduction of computers in primary schools in the 1990s and the launch of the EMIS program—TPD was provided to teachers in advance of their access to functioning versions of the tools that they were trained to use. As a result, adoption of the tools lagged seriously. In the case of the EMIS program, TPD will be repeated when all necessary systems are in place.
- **Intra-governmental partnerships and collaboration require ongoing outreach:** The DOE was able to turn the liability of its dependence on the government's IT Unit for computer maintenance into an asset by assiduously supporting that relationship. Meetings and communication, including the effort to convince the IT Unit of the importance of school computing and functional computers in schools, were required to ensure that technology issues in schools were addressed in a timely and effective manner. At present over 70 percent of computers in primary schools are kept functioning on a regular basis.