

## INNOVATING TO PROMOTE ACCESS TO HIGHER EDUCATION IN RURAL AREAS



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In the 1990s the Gaspé Peninsula was hit hard by the recession; with crises in the fishing and forestry industries, compounded by the closing of the Murdochville mine and the Chandler paper mill. The unemployment rate, already the highest in Quebec, ran even higher (the loss of 5,000 jobs resulted in over 20% unemployment), causing a major exodus of the population. The repercussions of this economic downturn, combined with demographic decline, were soon felt in education: school closures, multiple-grade classrooms, and plummeting enrollment, first in high school, then in CEGEP. Programs were suspended, employees were laid off, and teachers had to prepare multiple classes (up to five in some cases). In short, a climate of insecurity began to erode the morale of teaching staff at the CEGEP de la Gaspésie et des Îles.

Over and above the impact felt by all of the teachers, the very mission of the CEGEP was compromised, with the region's student population dropping by 45% from 1997 to 2011. The college consists of four campuses: the Magdalen Islands campus (located almost 200 kilometers from the Gaspé coast, with no road access); the *École des pêches et de l'aquaculture du Québec*, in Grande-Rivière; the Carleton campus; and the Gaspé campus—including Francophone and Anglophone sectors—which, together, spread out over more than 20,000 square kilometers and serve a population of nearly 92,500 inhabitants. How could such a widespread college continue to play its role of providing *Madelinots* and Gaspésians with access to college education while offering programs interesting enough to retain young people in the region and meeting the demands of the job market?

### ► COMPLEX PROBLEMS CALL FOR MULTIPLE SOLUTIONS

Given this difficult situation, the CEGEP de la Gaspésie et des Îles intensified efforts to secure funding from the Ministère

de l'Éducation, du Loisir et du Sport that would be better suited to the realities of small cohorts (under 10 first-year admissions in some programs), while also stepping up efforts to address the challenges at hand. A preliminary analysis of the situation suggested that a variety of creative solutions would be needed for the CEGEP in order to be able to continue to fulfill its educational role. In 2006, the institution decided to draw up a strategic recruitment plan. I was tasked with developing the plan for the Gaspé campus.

### RETAINING YOUNG GASPESIANS AND BOOSTING RECRUITMENT FROM OUTSIDE THE REGION TO CONSOLIDATE PROGRAM OFFERINGS

In tackling this new task, I began by conducting an in-depth analysis of the student population under the region's school boards to be able to guide the college in its recruitment efforts. The results show that 150 high-school graduates left the area in 2007 to enroll in other institutions offering programs already available at the CEGEP de la Gaspésie et des Îles. These students, mainly from secondary schools located within a 100-kilometer radius of a campus, were attracted to urban centers and chose to leave their rather gloomy hometowns and move further away rather than move somewhere closer to home in the Gaspé Peninsula or Carleton to pursue their education. Before receiving recommendations from the strategic recruitment plan, the CEGEP proposed many solutions aimed at convincing young people to study closer to home which included a daily public transportation system as well as various financial incentives. The CEGEP was able to counter the downward population trend by putting in place unique programs such as Adventure Tourism (English- and French-language sections) or rare programs such as Delinquency Intervention Technology and Medical Archiving Technology, which attracted many students from outside the area. It also boosted its recruitment efforts. Today, it attracts several dozens of students from Reunion Island. Partnership agreements with technical universities in France should also encourage students from this country to enroll in our technical programs in the near future.

By improving the retention rate of young Gaspésians and by attracting students from outside the region, the CEGEP aims to achieve sufficient enrollment to continue to offer a variety of programs (5 preuniversity degrees, 3 vocational degrees,



and 15 technical degrees) and consequently to foster access to college education and meet the region's workforce needs.

#### INSTRUCTIONAL ACCOMMODATIONS AND PROGRAM-REVITALIZATION PROJECTS

An impressive number of projects have been undertaken in order to enhance the programs' appeal: the establishment of an in-house business in the Accounting and Management Technology program at Carleton (*Chez Frédéric Restaurant*); a new focus on wind energy in the Industrial Maintenance Technology program; a *Création et arts de la scène* profile that is specialized in the performing arts (song and theatre) and involves a partnership with the *Festival en chanson de Petite-Vallée* (song festival) for the Arts and Letters program at the Gaspé campus; artist mentoring for students in Arts and Letters in Carleton; a Circus-Study program; and more.

In order to avoid suspending programs and to continue to offer students in the region an appealing choice of educational options, we have revamped certain programs. As a result, some first- and second-year cohorts, including in Office Automation and Computer Science, are now grouped together in order to increase course enrollments. The courses are offered once every two years in order to help struggling programs with low student enrolment. The flow chart of the programs had to be completely revised accordingly. Some courses had to be taught as intensive courses, completed in less than one semester and taught one after the other, to provide prerequisites. In other cases, we modified course schedules using a modular approach so that the skills associated with one area of study would be developed over the same term or the same year. The students were able to get to the final year of the program, regardless of the pathway they had taken during the two previous years. Finally, for other programs, some core courses were designed when certain targeted skills were closely related (Special Education and Childhood Education; Industrial Maintenance and Industrial Electronics).

An immersion program was set up in the English-language sector to allow French-speaking students to develop their second-language skills. In addition to giving these learners all the advantages associated with bilingualism, these skills also enabled them to go on to English-language universities. Moreover, certain technical programs offered in the French and English language sectors were grouped together as a result of the language-assistance measures. These different measures gave English-speaking students integrating into a French-language group the same advantages as an immersion approach. Each year, an inter-college mobility program also allows English-speaking students from the Montreal area

to study in the region for a semester, without affecting the course of their studies. These programs are an exciting opportunity for small cohorts of English-speaking students and provide a rich platform for connecting with others, as well as sharing views and experiences in humanities courses.

#### ► DISTANCE LEARNING: OVERCOMING DISTANCE TO PROMOTE ACCESS TO HIGHER EDUCATION

##### A VARIETY OF DISTANCE-LEARNING OPPORTUNITIES

A variety of distance-education options have been developed in order to better meet the needs of students in the job market, given budgetary constraints.

##### ■ Inter-institutional synchronous distance learning

In 2001, at the request of Collège de l'Acadie located in Petite-Grat, Nova Scotia, the *École des pêches et de l'aquaculture du Québec* (EPAQ), formerly known as the *École des pêches de Grande-Rivière*, piloted a distance-education option by offering a two-year program of personalized courses.

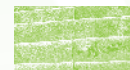
On various occasions, the CEGEP has worked hand in hand with other colleges to jointly offer educational activities, such as chemistry labs with John Abbott College, presentations or learning activities in sociology as part of the Sept-Îles-Vanier project or team assignments done by students in the Forestry Technology program at our college and at the CEGEP de Baie-Comeau in the context of the *CEGEPs en réseau* project.

These experiences have all paved the way for a new possibility, namely forming groups with students from different geographical locations, thereby improving the accessibility of college studies in the Gaspé Peninsula and the Magdalen Islands catchment areas.

##### ■ Inter-campus synchronous distance learning

Inter-campus synchronous distance learning makes it possible to offer programs not available at a different campus of the same institution or to group together a small number of students, when an identical program is offered at two different campuses. In both cases, the students still undergo their general education at the institution nearest to their homes.

Based on the same model, the EPAQ offered students at the Magdalen Islands campus the possibility of taking first-year courses in the Aquaculture Technology program via distance



learning with a videoconferencing system in 2004 and 2005. The CEGEP followed suit in 2006 and 2007. Using the same technology, it offered first-year courses based out of the Gaspé Peninsula to students enrolled in its Nursing program at the Magdalen Islands campus. The intent was to respond to a request from the region's health and social-services agency, to help alleviate their shortage of nurses.

In the case of the Accounting and Management Technology program, in order to avoid the risk of suspending the program in two different locations, the students were grouped together several times over the course of their training. Equal numbers of courses were based out of the Magdalen Islands and the Gaspé Peninsula.

*... we have revamped certain programs to be able to offer them on a flexible basis. As a result, some first- and second-year cohorts ... are now grouped together to increase course enrollments.*

### Synchronous distance learning in a different institution

After having suspended its Techniques de comptabilité et de gestion program for a few years owing to a lack of enrolments, the CEGEP de Matane is now offering distance courses in this program based out of the Carleton campus. As a result of this cooperation, the program continues to be accessible to students in the Matane region. In exchange, the CEGEP de Matane might one day offer courses in programs not offered by the CEGEP de la Gaspésie et des Îles for students in the other RMCs of these regions.

### Synchronous distance learning in an institution outside the school system

When a shortage of nursing staff became apparent across the RMCs of the Gaspé Peninsula, an educational project in Baie-des-Chaleurs and a nursing-assistant retraining project were launched in 2010. An agreement with the Maria and Chandler hospital centres freed up some of the employees of these centres three days a week in order to undergo training directly at their workplace. A well-adapted course schedule was devised to allow the staff to fit into student groups in the regular program. Two distance-learning classrooms were set up in these hospitals, first in Maria, then, one year later, in Chandler. The students in these classrooms completed all the program's specific training via videoconference, and their general-education courses with groups on the campuses located near their place of work. Rotations were supervised

by teachers who were hired on site. Thanks to this initiative, more students, both youths and adults, were able to get a college education in nursing.

Today, students can take *Accounting and Management Technology* classes offered by the Magdalen Islands campus either from home or from a computer at work. This course, which was initially open to adult *Madelinots* in the winter of 2014, is now accessible to students all over Quebec and from any location. The distance-learning classroom was configured for videoconferencing.<sup>1</sup> In this case, unlike the Nursing cohorts that gather for a videoconference in a distance-learning classroom equipped with giant screens in a hospital centre, the students join the host class from their own personal computers using a Web-based videoconferencing platform (Vidyo).

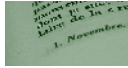
Last year, Collegia (the consortium of professional-development services for the CEGEPS of the Gaspé and Magdalen Islands, and Rivière-du-Loup) operated Via software based in the Magdalen Islands to enable students to earn a full attestation of college studies (AEC) in Customer Service. The students who enrolled included residents of the Magdalen Islands, the Gaspé Peninsula, Bas-Saint-Laurent, Abitibi, and the Outaouais region. Since the winter of 2013, EPAQ has been offering workplace-based PD courses in aquaculture to employees of private businesses across Quebec, using a hybrid (asynchronous and synchronous) arrangement. The facilities and cultivation tanks of these companies are used for hands-on training.

### PEDAGOGICAL CHALLENGES AND MULTIPLE LOGISTICS

In terms of teleteaching, the CEGEP has opted for a solution that comes as close to an ordinary classroom as possible, more specifically, a videoconference system installed in a classroom equipped with giant screens and an HD pan/tilt video camera. The administration has also committed to providing teachers with all the technical, logistical, and teaching support they will need in order to be able to adapt smoothly to this new situation with minimum changes to their teaching strategies. A resource person is available to provide assistance at the remote site. She facilitates the first classes of the term; takes care of photocopies, hands out documents, supervises evaluations, assists students as needed, provides feedback to teachers; etc.

The teachers visit the remote site in person twice each term to teach on site and supervise their students. Technicians in

<sup>1</sup> The difference between videoconferencing and teleconferencing is explained in the glossary provided at the end of this article.



the areas of nursing, biology, and chemistry are hired at the remote site as needed. An IT technician assists the teaching staff in their courses for several weeks to start them off using the technology autonomously and optimally. Team meetings are frequently held to follow up on the project and to discuss experiences. As a technopedagogical advisor, I work with teachers in examining learning activities or teaching methods that raise special challenges in this context, and I suggest solutions. The teaching staff has to be comfortable using the technology for communication with the remote site, to learn to handle the camera, to use a number of new tools (interactive whiteboards, document cameras, digitizers, etc.), to get used to a more digital way of handling the documentation that is provided to students, and so on. The strategies used by the teaching staff for classroom management, teamwork supervision, and individual guidance, in particular, are not suitable for distance learning. As a result, the support of the technopedagogical team is critical. These factors also explain why the CEGEP established a *Centre d'innovation en formation à distance* (CIFAD; Centre for Distance-learning Innovation).

The CIFAD of the CEGEP de la Gaspésie et des Îles gathers together teachers, a technopedagogical advisor (the author of this article!), and IT technicians working under the supervision of the Dean of Studies, all of whom address the challenges of teleteaching in order to suggest logistical, pedagogical and technological solutions to teachers. The following is an overview of the subjects the group is working on:

- Organizing distance support and guidance for students outside of classes
- Experimenting with teaching multiple sites simultaneously
- Facilitating a community of practice made up of teachers
- Creating a website for teachers
- Identifying classroom management strategies suited to the needs of teleteaching
- Putting together video clips for educational purposes and for teachers' professional development
- Publishing a monthly newsletter on the teleteaching offered by our institution
- Searching for and implementing solutions to technical problems as well as classroom management problems associated with computer use in a distance-learning context
- Searching for and implementing solutions aimed at facilitating private communications in distance-learning groups, with a view to providing supervision and guidance during classes

Concurrently, Daniel Labillois, one of the teachers in the CIFAD, has partnered with Martine St-Germain, pedagogical advisor at the CEGEP de l'Outaouais, to undertake a PAREA research project on assistance for teachers involved in distance learning. The project also benefits from the contribution of nursing teachers at the Gaspé campus. The study's goal is to improve the cost-effectiveness of measures aimed at training college teachers to use learning-centred practices in distance learning. The preliminary results were presented at a workshop during the AQPC symposium in June 2014.

Besides, the school's administration is addressing numerous challenges in order to apply all of these solutions, including: managing admissions, handling various timetables, drawing up schedules that take into account multiple grids, incorporating general and specific education from different campuses in the same schedule, and reconciling different time zones (in the case of the Magdalen Islands, travel times between hospitals and campuses, and classroom availability constraints for courses taught in two campuses at the same time).

The administrators need to secure the funding required to purchase equipment, to supply technical and teaching support, to enable research-and-development activities, and so on.

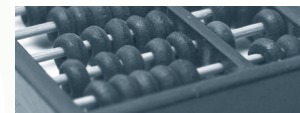
If almost anything is possible, nothing is easy!

## ► TANGIBLE AND EXCITING BENEFITS

Thanks to teleteaching, more programs are available for both youths and adults across the Gaspé region. An increase in enrollment has not only been noted in the programs in question (for example, nursing admissions tripled since 2006), but also in the campus's general education courses.

Over the 2013–2014 academic year, 30 teachers gave courses synchronously by videoconference, and 100 students were enrolled in distance learning. These enrollments are expected to continue to climb significantly. Entering into an agreement with Cégep à distance will allow us to recruit more students, particularly in Childhood-Education Technology and Accounting and Management Technology. According to our predictions, approximately 20% of those admitted to the CEGEP de la Gaspésie et des Îles will be distance-education students in 2017.

In spite of the many challenges we had to overcome, the synchronous distance-learning approach that the CEGEP de la Gaspésie et des Îles has opted for has proven viable and generated positive results, which, in our view, have met our expectations. Teleteaching/distance learning allows learners



to come close to a traditional educational situation while having access to all the services they need and being able to integrate into college life, both socially and culturally. For example, students located very far away must abide by same class attendance requirements as their counterparts in the host class, and must demonstrate diligence in order to benefit from interactions with the teacher and with their classmates. Moreover, rigorous follow-up with students has shown that those receiving remote instruction in a distance learning classroom achieve slightly higher rates of retention and academic success than students who attend class in person.

As for adult students, videoconferencing offers them the possibility to receive education from home or from work without needing to travel, and, in the case of personalized education, a hybrid (synchronous and asynchronous) approach can give them even greater flexibility.

For teachers, distance learning becomes a fantastic opportunity for professional development, thanks to the creation of a community of practice, combined with technopedagogical assistance and a host of professional development activities, both teaching and technology related.

*As the result of teleteaching, more programs are available across the Gaspé region for both youths and adults.*

Over and beyond the benefits for the above players, the education system in eastern Quebec is also benefitting from the expertise of the CEGEP de la Gaspésie et des Îles through its active contribution to the Formation à distance interordres project (FADIO<sup>2</sup>), which involves eight school boards, five CEGEPs, two institutes, and one university in Bas-Saint-Laurent and in Gaspésie–Magdalen Islands. These institutions, which face similar challenges, have agreed to form a community of practice that allows them to discuss their experiences and pool their expertise to support the development of distance learning throughout the region.

Distance learning is part of a range of solutions that today allows us to continue to offer college education in the Gaspé Peninsula. Not only does this alternative offer a way to boost regional enrollment in a context of decreasing high-school graduation rates, it also contributes to meeting the needs of the job market in the Gaspé Peninsula and the Magdalen Islands area

As a pedagogical advisor, I have no worries at all about the future of higher education in the Gaspé Peninsula and the Magdalen Islands due to the passion, pride, creativity, and

hope that drives the people working in this sector. These individuals are all pulling in the same direction. This teamwork, I think, is even more valuable and meaningful because, in addition to educating students, we are concretely contributing to regional development by devising solutions that, sooner or later, will be useful to the entire college system. ◀

#### GLOSSARY

**Document camera (also called a visual presenter or docucam)**

*A digital tool that allows the teacher to project and zoom in on a real-life object in order to be able to share it along with a wide variety of information.*

**Asynchronous distance learning**

*A method of instruction in which learners learn by performing activities individually at a time of their choosing.*

**Hybrid distance learning**

*A method of instruction that combines synchronous and asynchronous methods of instruction.*

**Synchronous distance learning**

*A method of instruction in which the instructor and learners meet in real time, either by videoconferencing or by teleconferencing.*

**Teleteaching**

*A general term that designates a specialized form of instruction using telecommunications tools.*

**Videoconferencing**

*A means of communication in which cameras and large screens are used to broadcast a class from a host site to one or more remote sites where people are generally gathered together (classroom or conference room).*

**Teleconferencing**

*Individual use of a microcomputer equipped with a camera, microphone, and speakers, and requiring access to the Internet.*

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<sup>2</sup> For more information on this subject, see [[www.fadio.net](http://www.fadio.net)].

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