



The Conference Board
of Canada

CASE STUDY 37

*Building a Global
Community Through
the Use of Technology
in the Classroom*

Contact

Industry Canada's
GrassRoots Program
[http://
www.schoolnet.ca/
grassroots/](http://www.schoolnet.ca/grassroots/)

Name of Program

GrassRoots

Skills Developed

ICT
Employability

Effective practices in developing and supporting teachers' and students' information and communications technology skills

LA BOÎTE À JEUX

Building Connections Between High School and Elementary School Students Through Information and Communications Technology

A SHOWCASE GRASSROOTS PROJECT

BY ELAINE LACROIX, DOUGLAS WATT & KURTIS KITAGAWA

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La Boîte à Jeux encourages elementary and high school students and teachers to work together on a variety of student-centred learning projects. Older students work hand in hand with younger students, sharing knowledge and skills and collaborating on similar subject matter themes and ideas. Together the students are able to produce interactive, hands-on and user-friendly Internet-based learning resources that all students and teachers can access. La Boîte à Jeux's value lies in the engaging and dynamic manner in which it enriches the teaching and learning experience at all levels. The project is supported by Industry Canada's GrassRoots Program.

Overview

Since 1998, Grades 11 and 12 students and teachers from l'école secondaire Jean-Nicolet have partnered with local area elementary school students and teachers to produce Internet-based, interactive platforms for their stories, games and puzzles. La Boîte à Jeux encourages learning and

teaching "outside the box" by enabling secondary students to mentor elementary students, share their knowledge of information and communications technology (ICT) skills, and broadcast their expertise to the world through the Internet. La Boîte à Jeux also encourages teachers to design class projects and curriculum-based learning modules that transcend classrooms, schools and subject matter with a focus on the integration and implementation of ICT.

Program Details

- Grade levels: elementary 1–2, secondary 11–12
- Number of schools: two
- Number of classes: eight
- Number of participants: 300 students (approx.) and nine educators
- Project status: 1998–ongoing
- GrassRoots funding: block project
- Project scope: community
- Language: French
- ICT resources: e-mail accounts, Internet access, PC's, supporting software,
- Project Web site: <http://www.esjn.csriverraine.qc.ca/Boite/>

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NBEC Mission

We help business and education leaders work collaboratively to promote the development of a learning society that will prepare Canada's young people for a changing world.

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Groups Served

- ✓ Students (elementary 1–2, 5–6 and secondary 11–12)
- ✓ Teachers

Objectives

- ✓ To enrich the teaching and learning experience at all levels
- ✓ To engage students of all ages in a dynamic learning environment in which peer learning and mentoring are encouraged and recognized
- ✓ To develop a greater awareness among students and teachers of how ICT can transform their work into an interactive, hands-on, interesting and fun resource
- ✓ To integrate ICT into academic learning by using technology as a tool to mediate hands-on, active learning experiences
- ✓ To develop and enhance ICT and employability skills in students and teachers

Activities

Cross-grade and cross-school activities have included:

- ✓ Building connections between the secondary school and the elementary school
- ✓ Having elementary students prepare their own ideas, stories and activities based on French and mathematics curriculum outcomes
- ✓ Having secondary students enrol in the technology option course and mentor elementary students in developing, designing and implementing on-line educational games based on elementary students' work
- ✓ Building Web pages that showcase students' work—both the elementary students' stories, word games and puzzles and the secondary students' ICT applications and additional research
- ✓ Using MicroMondes Pro (French version of MicroWorlds) to create and post Internet-based educational games
- ✓ Using e-mail and the Internet to conduct research and perform on-line searches for additional pictures and

information related to the students' initial work in order to enhance the Web pages

- ✓ Having students work in teams—cross-school and cross-grade—to develop on-line, curriculum-based learning projects

Benefits for Education

- ✓ Provides an opportunity to apply technology and ICT to an existing curriculum-based learning outcome—providing a “bang” to the learning experience by engaging the power of Web-based materials
- ✓ Builds experience in technology beyond the curriculum and makes the connection between ICT and the curriculum
- ✓ Extends the curriculum beyond the walls of the schools involved
- ✓ Uses technology that might otherwise not be used in the classroom and leverages students' and teachers' strengths by transferring Web skills to other subjects and projects
- ✓ Enhances students' projects as they use technology as a tool to create engaging and exciting projects
- ✓ Develops collaborative, problem-based learning skills, which help students understand the choices they are making and “learn as they go” when solving problems they did not expect
- ✓ Gets teachers from different schools to talk to one another about what they are doing and how they are doing it
- ✓ Enables students to take pride in their work and go beyond what is expected—they embark on journeys of self-discovery, enhanced by the Internet and ICT
- ✓ Enables teachers and students to learn from one another and depend on one another for what they do—students cross-tutor and learn from their peers

Benefits for Teachers

- Learn to think outside the box—there are many ways to solve problems, teach curriculum and engage students
- Are better able to share knowledge with other teachers and schools

Students are more motivated to learn because the work is interesting and rewarding.



- Co-operate with other teachers across disciplinary lines and schools to connect their courses and enrich student learning
- Develop project-based strategies to assist in lesson development
- Elementary teachers benefit from the technical support provided by secondary students
- High school teachers benefit from having their students engaged in real world learning and from giving students an opportunity to apply their theoretical and technical knowledge

Benefits for Students

- Are more motivated to learn because the work is interesting and rewarding
- Experience using e-mail, MicroMondes Pro and other computer software
- Use computers and the Internet as a research tool
- Are empowered through more self-confidence and the ability to apply technology—they are willing to try new things
- Incorporate other students' ideas as well as their own into their projects and learning activities
- Gain the sense of accomplishment that goes with completing a Web page and posting a puzzle, game or story on the Internet
- Have a sense of ownership in the project that motivates them to go the "extra mile"—they become more demanding of themselves
- Learn to work in partnership with other students in other classrooms and schools, rather than independently
- High school students develop and apply their ICT skills as well as their "softer" skills, including communication, teamwork, innovation and problem-solving skills
- High school students develop a sense of responsibility by helping younger students get their work on the Internet
- Elementary students see their stories, word games and puzzles posted on

Students use computers and the Internet as a research tool.



Students learn to work in partnership with other students in other classrooms and schools, rather than independently.



the Internet and enjoy learning from their peers and older students

Keys to Success for Teachers

- Being interested in and committed to the project and using ICT as part of their learning platform
- Understanding the connection between curriculum expectations and the application of ICT—embedding the project into curriculum outcomes
- Making the project as simple as possible and easy to incorporate into existing classroom activities and learning modules
- Seeing beyond the curriculum to encompass new learning activities and approaches using ICT
- Being able to plan and work together with other teachers from both the elementary and secondary school systems
- Having a solid understanding of the curriculum and how best to integrate the ICT and employability skills of elementary and secondary students into the project

Keys to Success for the Project

- Using technology as a tool to deliver curriculum in a fun, interactive fashion
- Recognizing that the curriculum and learning outcomes of both the elementary and secondary schools are important
- Having support for the project from all of the schools and key teachers
- Having a project champion to inspire and encourage teachers
- Using GrassRoots money to "entice" schools to participate in the project
- Having students take ownership in developing and creating a Web page
- Taking a collaborative (teamwork) approach to learning experiences
- Having everyone (teachers and students in different schools and different classes) bring their own sense of identity and self-worth into

Challenges for the project include maintaining a focus on integrating ICT into the curriculum. ►

Challenges for the project include keeping the lines of communication between all the classes and between all the schools open. ►

La Boîte à Jeux's real value lies in the engaging and dynamic manner in which it enriches the teaching and learning experience at all levels. ►

the project—project ownership is communal not individual

Challenges for Teachers

- Having time to reflect, make connections and see the meaning of what they are doing
- Overcoming any preconceived notions of the difficulties of Web-based teaching and learning
- Being able to see the project's connection to the curriculum—seeing the curriculum in a broader context

Challenges for Students

- Being active participants in their own learning and skills development—seeing themselves as being responsible for the success of the project
- Making the connection for themselves between the courses they are taking and the skills they are developing

Challenges for the Project

- Sparking initial interest in the project and getting teachers on board
- Maintaining a focus on integrating ICT into the curriculum
- Keeping the lines of communication between all the classes and between all the schools open

Innovative Approaches to Grassroots' Projects

- ✓ Building a high degree of collaboration between two levels of education—the elementary and secondary school systems
- ✓ Using technology as a vehicle for, and as a driver of, learning
- ✓ Bridging learning activities between schools, classes and grade levels
- ✓ Opening up cross-class, cross-grade, cross-school, cross-curriculum and cross-country learning opportunities
- ✓ Providing an educational reason to use technology
- ✓ Having students demonstrate their learnings and application of ICT skills through use of the Internet

- ✓ Opening up possibilities for new teaching methods and new ways of sharing information

Achievements

- Elementary students are exposed to technology and its application in the school and other environments
- Grades 11 and 12 technology students use their ICT skills in real-world projects by enhancing and posting the elementary students' materials on the Internet—creating interactive applications
- In its third year, the project now includes collaborative initiatives in which high school classes (visual arts and music) work together to help produce animated stories and soundtracks for the elementary students' initial work
- A Grade 5/6 class of special needs students teamed with a high school class to create an interactive project on energy and electricity
- All students developed a wider sense of audience—instead of writing only for their teachers and classmates, they now create projects for the world to see and use through the Internet
- Students appreciate the power of hearing and working with other people's ideas—opening themselves up to new ideas and ways of doing things
- Teachers and students learn more from and share more with one another
- M. Massicotte (the lead teacher on La Boîte à Jeux) was invited by other school boards and universities to speak about the project and to conduct workshops and symposiums on its benefits

Conclusion

La Boîte à Jeux's real value lies in the engaging and dynamic manner in which it enriches the teaching and learning experience at all levels. Students get the experience of producing work not just for their teachers but for the world. Elementary students are mentored by secondary students and feel stimulated. They take pride in seeing their work transformed through technology and are pleased to try

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Thanks are due to our interviewee, Yvon Massicotte.

out the interactive products that are built using their own work as a platform. Secondary students, for their part, acquire a sense of purpose and see the relevance of what they are doing. They gain motivation, learn how to be resourceful and find technical solutions to problems they did not anticipate as they drive the process of adding value to elementary students' work. In these ways, integrating ICT into the curriculum provides avenues for students to realize and demonstrate their potential, both socially and technically.

Moreover, teachers benefit from the feedback and technical support of their students. Their teaching is also enriched when they collaborate across grades and

between schools. They see value of expanding the project to operate between classes of secondary students at different schools and include student mentoring of special needs students.

Finally, La Boîte à Jeux has sparked the interest of the outside community. M. Massicotte's passion and ideas have made an impact at the school board, and he has been invited to give seminars and lectures to teachers in training at the Université du Québec à Trois Rivières. ICT integration through GrassRoots has thus become a vehicle for teacher professional development as well as community building and skills development generally.

SchoolNet's GrassRoots Program

GrassRoots projects are initiated, designed and implemented by teachers and students and are curriculum-relevant. The GrassRoots Program, in collaboration with provincial, territorial and corporate partners, offers funding to schools for the creation of innovative, Internet-based interactive learning projects that:

- foster the acquisition of academic, employability and computer skills in Canadian youth;
- integrate information and communications technology into learning;
- build unique and relevant Canadian content on the Internet; and
- facilitate increased connectivity and training opportunities.

For more information on GrassRoots, visit <http://www.schoolnet.ca/grassroots>

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