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Eighth Annual Technology Supplement

Teachers Take On Technology

À la découvert de www.rescol.ca

The Future Products Project

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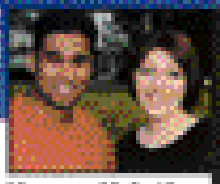

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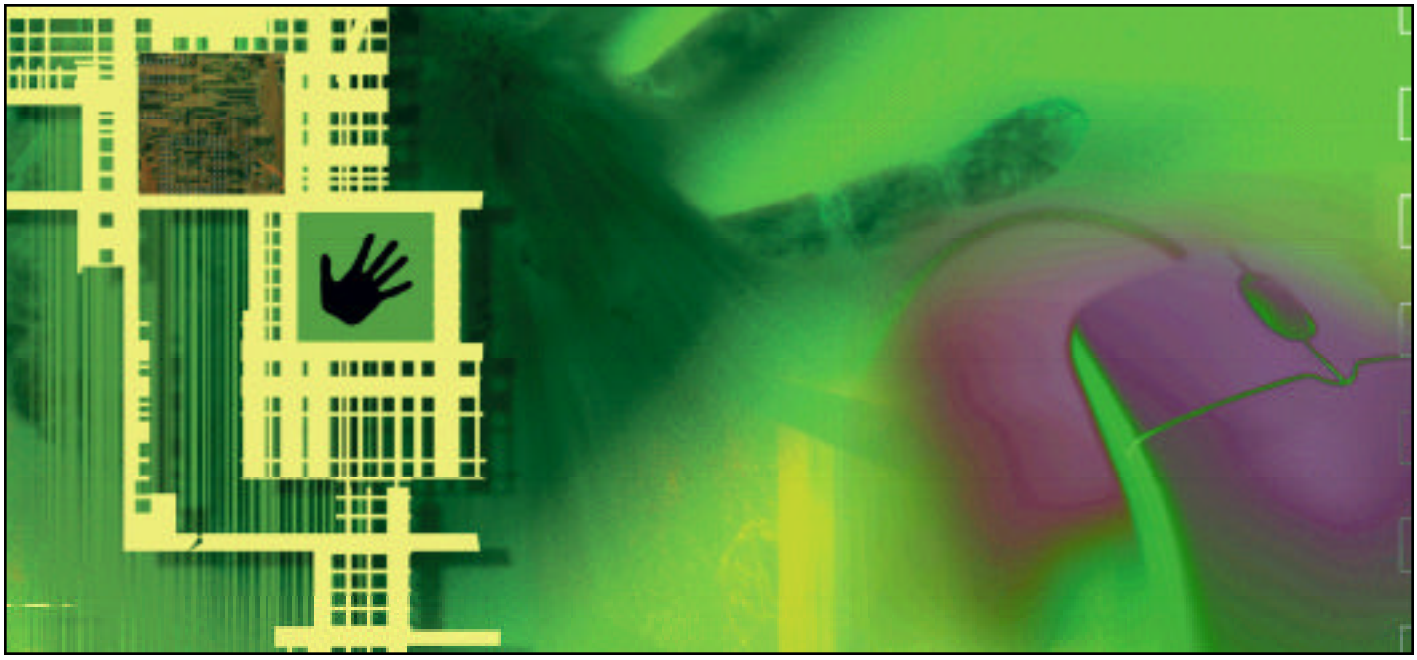
NEWSWORLD

CONTENTS



FEATURES

EIGHTH ANNUAL TECHNOLOGY SUPPLEMENT
Read about the latest technology products and services for educators.
Compiled By Jennifer Kavur **23**

TEACHERS TAKE ON TECHNOLOGY
Some teachers achieve greater efficiencies through the use of computers.
By David Cooper **30**

COLUMNS

FUTURES/LE FUTUR
Reach for the Top /Visons encore plus haut. By/Par Richard Worzel **13**

COMPUTER
Hands-on Experiments for Smarter Kids/Secrets of the Mind. By Alison Girling **9**

WEB STUFF
By Marjan Glavac **6**

À LA DÉCOUVERT DE WWW.RESCOL.CA
Par Lyse Ward **28**

DEPARTMENTS

NEWS FRONT **40**

CURRICULA
The Future Products Project **17**

AD INDEX **16**

Notes From the Margin

Once again we are pleased to present our focus on technology with a special emphasis on the Internet and how it is affecting education. Included with this issue is our Annual Technology Supplement which presents a compendium of products and services for you to peruse. This overview allows you to scan through relatively quickly and determine where your interests lie. Then you may go directly to the source for more information.

Once again, we are also very happy to report this is the second issue of TEACH Magazine that contains bilingual content. Please read Lyse Ward's assessment of Rescol, the Industry Canada educational web site.

You can also discover what some teachers think about the implementation of technology where mundane administrative tasks are conducted more efficiently. Read what the advocates have to say.

The teaching unit in this issue explores the imagination in The Products of the Future Project. Students will brainstorm and work in teams to design useful products for a society that exists only in their thoughts and ideas.

Notes en marge

Nous faisons de nouveau le point sur la technologie et, plus particulièrement, sur Internet et son impact sur l'éducation. Vous trouverez également notre supplément annuel sur la technologie qui présente toute une panoplie de produits et de services. Cette vue d'ensemble vous permettra de repérer plus facilement et plus rapidement ce qui vous intéresse. Ensuite, vous n'aurez qu'à vous rendre à la source pour plus d'information. Comme toujours, nous faisons bien attention d'indiquer qu'il s'agit là de descriptions narratives et non pas d'une critique ou adhésion de notre part.

Par ailleurs, nous sommes heureux de pouvoir dire que le présent numéro de TEACH Magazine est le second à contenir du matériel en français et en anglais. Nous souhaitons voir la section bilingue de notre magazine prendre beaucoup d'ampleur avec le temps. Veuillez lire l'évaluation que fait Lyse Ward du Rescol canadien, site Web éducationnel d'Industrie Canada.

Vous découvrirez également ce que certains enseignants pensent des technologies permettant l'exécution plus efficace de banales tâches administratives. Certains d'entre eux semblent pourtant avoir mille et une raisons de ne pas adopter la technologie pour gagner du temps et mieux effectuer leur travail. Lisez ce que les adeptes en pensent.

Notre futurologue attitré, Richard Worzel, nous décrit la situation d'élèves gérant leur propre apprentissage avec l'aide d'outils technologiques dans un scénario qui se passe dans un avenir assez rapproché. Est-ce plausible? À vous de décider!

Le cahier d'enseignement du présent numéro examine l'imaginaire dans le projet des Produits de l'avenir. Au moyen de remue-méninges et de travail en équipe, les élèves vont concevoir des produits utiles à la société qui existent seulement dans leurs pensées et leurs idées.

TEACH MAGAZINE

Publisher / Editor
WILI LIBERMAN

Editorial Assistant
JENNIFER KAVUR

Contributing Writers
David Cooper, Alison Girling, Marjan Glavac, Lyse Ward, Richard Worzel,

Advertising Manager
MICHELE NEWTON BENSON

Art Direction
VINICIO SCARCI

Production
JENNIFER ROBERTS

Circulation
SUSAN HOLDEN

EDITORIAL ADVISORY BOARD

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Web Stuff

by marjan glavac

Mission Nutrition
http://www.missionnutrition.ca/

Your mission is to teach positive self-esteem and body image, healthy eating and physical activity to students in grades 6-8. If you are a teacher who accepts this mission and needs information to teach this subject, then head over to the Mission Nutrition site, a Canadian site that contains resources for the successful completion of your mission.

The Mission Nutrition site has resources available for teachers, parents and students in both French and English. The teachers' section contains a teacher's guide for three curriculum-based units complete with learning outcomes, background information and easy-to-use lesson outlines, as well as resources and links for topics of Self-Esteem and Body Image Healthy Eating and Physical Activity. Each unit contains three lesson plans online for free download.

Teachers will definitely want to check out the student area of the Web site for the Mission Nutrition student challenge. This is an interactive activity designed to teach positive self-esteem, healthy eating and physical activity by taking students through a day in the life of a character of their choice. Here students need to make choices throughout the day. Each choice receives instant feedback. After completing the activity, students can print a recap of the day's events, the choices they made, and their score all of which can be submitted to the teacher.

To further assist you with your mission, educational kits for Grades 1-6 are also available free of charge in French or English by contacting Kellogg Canada Inc. at *emailca@kelloggs.com* or by phone at 1-888-453-6374

About.com
http://about.com/

About.com is a vast collection of topic specific sites divided into 28 categories. These categories house over 700 sites. Each site at About.com is consistent in design and function, and led by an About.com Guide. This guide is a dedicated individual who has been hand-picked to provide the best, well-rounded Internet experience in each area of interest.

The education category contains the following subtopics: Adult/Continuing Education, Arts, College/University, History, Languages, Literature,Philosophy/Religion, Primary/Secondary Education, Sciences — Life/Earth,Sciences —Physical/Computer and Social Sciences.

Currently, under the subtopic of Primary/Secondary Education, there are 11 guides offering the following educational sites: Crafts for Kids, Early Childhood Educators, Elementary School Educators, Elementary School Educators: Canada, Homeschooling, Homework Help, Kids, Pen Pals, Math for Kids, Private Schools, Secondary School Educators and Special Education.

The Elementary School Educators site provides educators with the following subjects: Free Lesson Plans, Arts and Crafts, Becoming a Teacher, Classroom Management, Computers/Technical, Departments of Education (US), Early Childhood Education, Finding Freebies, Help for Parents, Homework Helpers, How to Find a Job, How to Substitute, Language Arts, Literature, Mathematics,Multicultural Education, Music and Theater, New Teachers, Physical Education and Health, Science, Social Studies, Special Education, Assessment, Organizations, Books, Educational Games, Geography, Gifted/Talented, Languages and the Millennium.

There are also two other noteworthy sections on this site: The Spotlight section highlights an educational Internet site, a seasonal theme and a teacher tool of the week. The Essentials section contains a Teacher Message Board, Free Chalk Talk Newsletter, How To's for Teachers, Hot Education Headlines, Holiday Lesson Plans, Education Chat Room, and Free Lesson Plans. Teacher feedback is encouraged. Bookmark this site and check in once a week.

DiscoverySchool.com
http://www.discoveryschool.com/

As the web companion to the very popular television show Discovery Channel, this Web site lives up to its slogan, The Thrill of Discovery in Your Classroom! Resources for grades K-12 are easily available through a search engine which covers major subjects in the curriculum. The following three main categories: Teaching Tools, Lesson Plans and On TV offer links to resources to make classroom teaching easier and fun.

The link to the Puzzlemaker category is by far my favorite destination. This wonderful tool has saved me and many teachers hours of work. It is fun, easy-to-use and the puzzles are a hit with students. There are word searches, word searches with hidden messages, computer generated mazes, criss-cross puzzles, number blocks, math squares, cryptograms, letter tiles and more!

The On TV category features TV calendars for The Learning Channel Elementary School programs for grades K-6 and the Discovery Program Assignment Discovery programs for grades 7-12. There is additional information on the TV shows and links to lesson plans. Another link gives information to teachers on upcoming prime time shows on Discovery Networks.

The Lesson Plans category contains lesson plans for grades K-12 under three categories: Grades K-5, 6-8 and 9-12.

Another great resource found here is Kathy Schrock's Guide for Educators. This well organized site is useful for enhancing curriculum and professional growth. It is updated daily to include the best sites for teaching and learning. There are more than 2,000 web links here!

Marjan Glavac is the author of The Busy Educator's Guide to The World Wide Web, revised and updated 2nd Edition, London, Ontario and a busy educator himself. He may be contacted at marjan@glavac.com or mglavac@wwdc.com.

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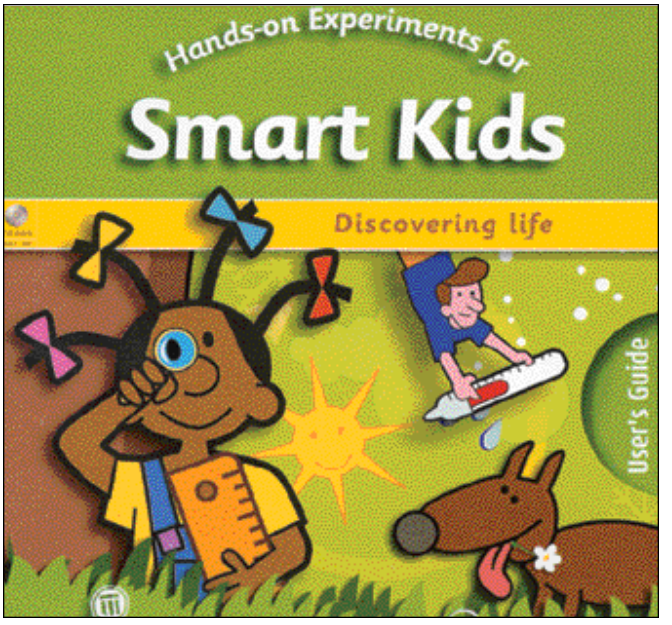
SECRETS OF THE Mind & SMART KIDS

Hands-on Experiments for : Discovering Life

by Alison Girling



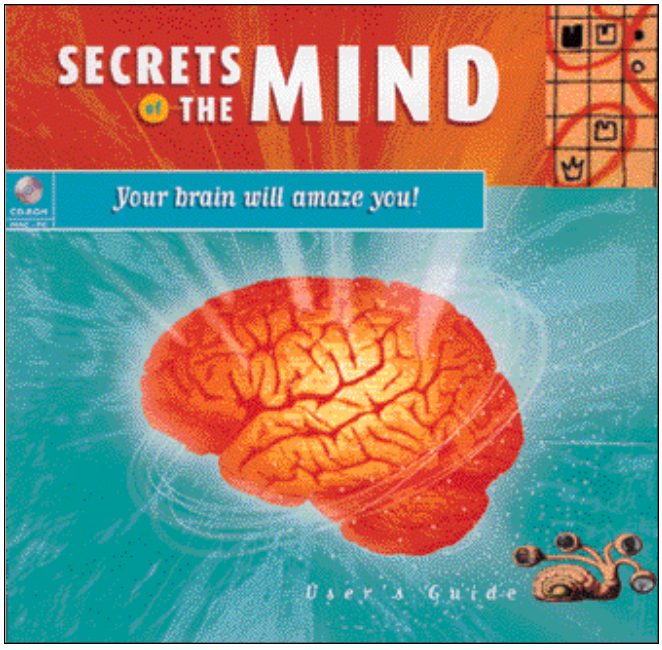
Secrets of the Mind and Hands-on Experiments for kids were produced in France for the home and educational markets there. The versions under review have been translated into English, but no doubt French language versions would be available for schools with French language instruction.

Hands-On Experiments for Smart Kids is a charming program. Sign in and a group of kids offer players the opportunity to try out a wide range of science experiments based on seemingly simple questions. Maria is the "Discovery" guide, follow her to try, "As time goes by," "Sleight of hand," "With giant steps or small steps," or "Making a soft landing." Sylvester is the lad whose experiments test properties of Water, and Louis is concerned with Air. This program covers a broad range of scientific areas including Physics, Biology, Chemistry, Ecology, Matter, Oceanography, Health, Optics, Geology, Mathematics, Electronics and Space. The diversity of disciplines makes it an especially useful classroom resource with the flexibility to add science experiments to any number of primary and junior science curriculum units.

The experiments are well conceived. Equipment is easy to find and inexpensive. No labs are needed. The skill sets on the part of the students are rudimentary, guaranteeing successful outcomes. What's more, the texts that accompany the experiments introduce the scientific principles that have just been demonstrated. In some instances the text provides a historic overview of a topic, looking at its evolution and discussing future developments.

Every online, computer experiment is paired with a "hands-on experiment." "Sleight of Hand" examines the sense of touch. We are taken to Sylvester's bedroom; it is time for Sylvester to go to bed. Children are asked to look at the bedroom, then turn off the light and with their computer mouse, guide Sylvester past the various pieces of furniture to his bed. When a piece of furniture it bumped, it is briefly illuminated on the screen. The experiment makes one recall how difficult it is to find one's way in the dark. Bumping into objects gives us clues about our location. Once Sylvester is safely in bed, the program's narrator explains that hands are used for touching. The sense of touch calls on millions of sensors and preceptors on the skin to send information to the brain through the nerves. The brain makes an internal image of the object as it interprets what was felt and identifies that object. There is a follow-up discussion that looks at how the visually impaired have a heightened sense of touch. The subject of "virtual" simulated touching as a part of "virtual reality" is examined. "Sleight of Hand's" "Hands on experiment" is quite down to earth. Instructors are asked to collect twenty objects with a variety of shapes, textures and materials. With a blindfold on, each child is given a turn to correctly identify ten objects' shapes, materials and name. A point is scored for each correct answer.

In some instances students perform an experiment twice; once in a computer simulation, the next time in the classroom or home. The classic experiment "How do you blow up a balloon without blowing?" is bound to be a hit. Quantities of bicarbonate of soda are added to a bottle holding vinegar. A balloon is stretched across the neck of the bottle. This is a good introduction to the energy of gases; it's a lot of fun. Once again, the experiment is followed by a good explanation of what has occurred. Teachers can access these texts at any point in the program. The texts can be saved or printed. As a follow-up exercise for children there are rudimentary paint programs and word processing programs for children to draw pictures or write reports.



Navigation within the program is straightforward. The primary access to experiments involves selecting a pathway such as "Discovery, Water, Air " etc. Next click on a bubble to choose an experiment or click on a title from a list of experiments. There are also key word indexes and a search box to enable players to hunt for a specific process, theme or piece of equipment. The program is intuitive, which is just as well because the online help button seemed inactive. The other flaw to the program was the lack of bibliographic references to further resources.

It would appear from the second CD-ROM under review, Secrets of the Mind, that by the time French lycéens get to high school, life has become a lot more serious. This resource makes an excellent supplement to conventional psychology textbooks and encyclopedias. Secrets of the Mind presents users with sophisticated, cutting-edge research. Experts, drawn predominantly from United States universities, investigate all aspects of the brain. The team of scientists includes: Herbert Simon, Eric Kandel, Daniel Schacter, David Servan-Schreiber, Stephen Kosslyn, Rodolfo Llinas, John Anderson, Rodney Brooks, James McClelland, Michel Posner and Jean- Pierre Changeux. They were brought together by Bruno Levy, the project's Editor-in-Chief and Emile Servan-Schreiber, the project's Director. This is the first CD-ROM product that I have seen that enlists experts of this stature and has presented them so prominently. It is the centrality of these scientists that make the product stand out.

The program's interface is excellent. Players are introduced to a cartoon image of the brain that serves as a knowledge map. Twenty symbols representing different topics are arranged in thematic groups. The topics include how memory works, the role of emotions, how we learn, perception, and the limits of artificial intelligence. Disk 1's investigations are centred on "Human Intelligence" and "Learning and Memory." Disk 2 examines "Consciousness & Perception," and "Brain Building."

Move the mouse over an icon and a narrator will give a two-sentence synopsis of the issues discussed under that title. A specific scientist has prepared each unit. The units contain videoclips where scientists present information through a lecture. Next there are graphs, diagrams and interactive activities. In certain places there are videoclips of the scientists involved in the project, conducting round table discussions. It feels a bit like a virtual university course without the assignments and tests.The scientists do not talk down to their audience, instead they seem to take us to the central issues of their investigations giving clear explanations as they go.

Once again this CD-ROM is lacking in the area of bibliographic references. References are limited to works listed in each scientist's career profile. It would be useful to have suggestions for further reading. I would highly recommend this resource for students interested in the fields of psychology, education and medicine. The interface is excellent, the interactive exercises are challenging and the topic is fascinating.

Alison Girling is a freelance writer and a librarian.
She may be contacted at girling@library.utoronto.ca

Secrets of the Mind
Platform Win95/98 Mac 7.1+
Publisher Montparnasse Multimedia

Hands-on Experiments for Smart Kids: Discovering Life
Platform: Win95/98 MAC 7.55+
Publisher: Montparnasse Multimedia & France Telecom Multimedia

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Les outils de créativité adaptés au Web d'Office 2000 permettent à chaque étudiant de travailler selon son propre style, en puisant facilement des images et des données du Web, de même que des liens hypertexte. En comparant et en analysant l'information à l'aide de divers outils Office 2000, les étudiants peuvent développer leur esprit critique et se forger de solides opinions. De plus, le travail en collaboration leur permet de couper et de coller des données en vue de créer des rapports graphiques percutants et des présentations multimédias qui peuvent facilement être converties en pages Web dynamiques.

En tant que composant clé de la communauté d'apprentissage branchée — un environnement d'apprentissage dynamique, puissant et concerté alimenté par la technologie Microsoft — Office 2000 contribue de façon significative à l'éducation. Qu'il s'agisse de rapports, de pages Web, de brochures, de bulletins ou de présentations diffusées, Office 2000 est l'outil de créativité par excellence.

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L'intégration de nouveaux outils dans la classe peut présenter un réel défi pour les enseignants. Cet ensemble de deux CD-ROM a été conçu pour aider les professeurs, les étudiants et les administrateurs à intégrer les applications Microsoft à leurs activités quotidiennes de formation, d'apprentissage et de gestion scolaire.

Pour demander l'ensemble GRATUIT Office 2000 Teaching and Learning CD*, allez à
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La communauté d'apprentissage branchée
alimentée par Microsoft®

* Veuillez noter que l'ensemble de CD-ROM est offert en anglais seulement.

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Reach For the Top

by Richard Worzel

We are approaching the greatest technological revolution to hit the classroom since the invention of moveable type. IT is already making a place for itself in schools, but the way it is being used is comparable to using a book to drive nails - it'll work, but you won't get the best results possible. Here's how the future of students and IT might look in 20 years's time:

Jamal is a student in downtown Toronto. In an earlier age, he would have been a grade 11 student, but now he's in "Grade Jamal." Jamal follows a unique curriculum designed specifically for him. While there are dispersion credits required in subjects like English, French, mathematics, and Canadian studies, the bulk of Jamal's work lay in areas that he's studying on his own.

Jamal is not yet sure what he wants to be, but thinks he might want to become a writer. Accordingly, his advisor, who is based in Ottawa where she is working on her doctorate at Carleton University, has helped Jamal lay out a program of study that will enable him to learn both the academic and commercial aspects of writing. Accordingly, Jamal is ploughing through the works of Shakespeare, Shaw, Hemingway, and other major writers in the English language; as well, he is studying the application of language in advertising, marketing, and sales.

At this stage, most of Jamal's writing is at the university level. Indeed, he has taken two English literature courses from the University of British Columbia via the Internet, virtually sitting in on classes and submitting assignments to a teaching assistant assigned to work with gifted secondary school students. The Toronto District School Board pays a fee to UBC under the Trans-Canada Education Sharing Act, passed in 2012. The fee is supplemented by a payment from the federal government under a program for gifted students. Jamal is also doing a co-op placement, which also earns post-secondary credit, with an advertising copywriter in Montreal. These credits will count towards Jamal's undergraduate degree.

Much of the remaining English literature and writing work is managed at Northern Secondary Centre in Toronto, which is the focus for Jamal's education, and where he meets with other students for small group discussions and tutorials. However, Jamal spends most of his study time working on his own, or working with others by videophone. For example, Jamal's writing tutor, currently on an exchange program in Oxford, is a former teacher working on his doctoral thesis in medieval literature at the University of Calgary. The tutor, Kim, gets a small stipend for working with Jamal, as well as course credits. Kim's current year in Oxford is creating problems for Jamal, as Kim is five time zones ahead whose class at UBC is three hours behind. Jamal schedules most of his own time, so this has been a minor inconvenience, especially since he can juggle schedules with Kim which is convenient for both of them.

Most of the marking of his essays and papers is done by computers using what was once called "artificial intelligence," but is now called "MMM" or "Machine Mimicry Marking." In MMM, the Toronto Board's computers use human models of good and bad writing to assess each student's work. Results that are ambiguous, or that the student believes are incorrect or unfair, are forwarded to a human grader, who keeps a special eye out for signs of unusual creativity and ability. This is how Jamal qualified for post-secondary courses - his work was well beyond the levels normal for his age group.

For his required dispersion courses in science, math, and social science, Jamal uses online courseware. Since his gifts lie in literature and writing, Jamal is working more or less at his own age level in these other areas. Sometimes he shares homework assignments with his friends. Most of the time though, the courseware guides him through material that fits his unique interests. Hence, Jamal is currently studying trigonometry by working on problems in navigation, in part because his family owns a sailboat, and also because he finds navigation interesting. This makes it easier for him to comprehend

the math, and gives him greater motivation in a subject he would otherwise find tedious. None of his friends are studying trig through navigation; they don't share his interests. He rarely interacts with a human math tutor, and when he does, the tutor works one-on-one with Jamal, either in person at Northern, or by videophone.

Jamal's workstation is typical for a high school student. It consists of what turn-of-the-century educators would have considered a supercomputer, memory rod readers, a three-dimensional monitor, and a high-speed communications link. Jamal can also borrow telepresence equipment from the school when he needs to go on virtual field trips. In this way, Jamal has attended performances at the New Globe Theatre in London, sat in on lectures around the world, consulted books stored at the British Museum, visited the Louvre in Paris and Hemingway's home in Key West, and held discussions with people all over the world. The workstation would have cost less than $1,000 to buy, but it is actually leased by the school on a full-maintenance contract.

In addition to supplying information and resources, Jamal's workstation collects quite a bit of personal information about Jamal. His eye movements and body language are observed by the computer to gauge his interest and comprehension in any given material. His physical well-being is also gauged - there have been times when the school called Jamal to suggest he knock off work and call his family physician, because his workstation indicated that he seemed to be coming down with an illness. This two-way communication has allowed his computer to help Jamal find his interests, and explore them in much greater depth. In a way that earlier generations would not have imagined, this communication has also helped Jamal keep the learning experience interesting and enjoyable without degenerating into trivial game-playing.

To get to this point, there have been many major battles over the role of teachers, the allocation of budgets between personnel and technology, and the privacy of the student. Jamal is peripherally aware of all this, but as it doesn't affect him, he ignores it. All he knows is that he looks forward to his school work, and is eager to embark on his post-secondary education. His enthusiasm for learning is as high as it was when he was in kindergarten - which is probably the highest possible accolade for the fine blend of human teaching and IT support that emerged over the last 20 years.

Jamal will graduate when he finishes enough dispersion credits and the Toronto District's computers decide he has attained the academic and emotional maturity to move on to post-secondary education. But far more valuable than his diploma is the fact that Jamal will leave with a passion for learning which will stand him in good stead throughout his career.

Richard Worzel is a Toronto futurist who volunteers his time to speak to high school students as his schedule permits. Contact him care of this magazine, or at <futurist@futuresearch.com>

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Visons encore plus haut

par Richard Worzel

Nous approchons de la plus grande révolution technologique qu'ait connu la salle de classe depuis l'invention des caractères mobiles. Les technologies de l'information se sont déjà taillé une place dans les écoles, mais la façon dont on s'en sert correspond à utiliser un livre pour enfoncer un clou : cela fonctionne, mais on n'obtient pas les meilleurs résultats possibles. Voici un peu où en seront les élèves et les technologies de l'information d'ici quelque 20 ans.

Jamal est un élève qui habite le centre-ville de Toronto. À une autre époque, on aurait dit qu'il était en 11e année, mais maintenant il est en « année Jamal ». Jamal suit un programme d'étude unique conçu exprès pour lui. Quoiqu'il doive obtenir des unités (crédits) de dispersion dans les matières comme l'anglais, le français, les mathématiques et les études canadiennes, la majeure partie du travail de Jamal se fait dans les domaines qu'il étudie par lui-même.

Jamal n'est pas encore sûr de ce qu'il fera plus tard, mais il pense qu'il aimerait être écrivain. Par conséquent, sa conseillère qui vit à Ottawa où elle travaille à son doctorat à l'université Carleton, a aidé Jamal à établir un programme d'études qui lui permettra d'apprendre les aspects tant scolaires que commerciaux de l'écriture. Il étudie donc les œuvres de Shakespeare, de Shaw, de Hemingway et des autres grands auteurs de la littérature anglaise, ainsi que l'application du langage en publicité, en marketing et dans le domaine des ventes.

Déjà, la majeure partie de ce que Jamal écrit est de niveau universitaire. Il a même suivi deux cours de littérature anglaise de l'université de Colombie-Britannique (UBC) par Internet, assistant virtuellement aux cours et remettant ses devoirs à un assistant à l'enseignement chargé des élèves doués du secondaire. Le Conseil scolaire du district de Toronto rémunère la UBC en vertu de la *Loi de 2012 sur le partage transcanadien de l'éducation*. À ces honoraires s'ajoute la contribution du gouvernement fédéral dans le cadre d'un programme pour les élèves doués. Jamal effectue également un stage co-op auprès d'un rédacteur publicitaire montréalais, ce qui lui vaudra des crédits postsecondaires qui compteront dans l'obtention de son baccalauréat.

Le reste du travail de littérature et d'écriture de Jamal est géré par le Centre d'études secondaires Northern de Toronto. C'est là que se fait la coordination des études de Jamal et qu'il rencontre d'autres élèves pour des discussions en petits groupes et des séminaires. Cependant, Jamal passe la majeure partie de son temps d'étude à travailler par lui-même ou avec d'autres par vidéophone. Par exemple, le tuteur d'écriture de Jamal est un ancien enseignant, qui écrit présentement sa thèse de doctorat sur la littérature médiévale à l'université de Calgary et se trouve à Oxford en ce moment dans le cadre d'un programme d'échange. Kim, le tuteur, reçoit une petite rémunération et des crédits universitaires pour le travail qu'il effectue auprès de Jamal. Son éloignement cause toutefois de petits problèmes de décalage horaire à Jamal, car son tuteur est à cinq heures d'avance de Toronto tandis que l'université de Colombie-Britannique accuse un retard de trois heures. Cependant, cette situation ne lui a causé que de petits problèmes, car Jamal établit son propre calendrier et le fait en fonction de celui de Kim.

La majeure partie de ses dissertations et travaux sont notés par des ordinateurs qui utilisent ce qu'on appelait autrefois l'« intelligence artificielle » et qu'on appelle maintenant « Système automatique de notation mimétique ». Ainsi, les ordinateurs du Conseil scolaire de Toronto utilisent des exemples d'écriture bonne et mauvaise provenant de vraies personnes. Les résultats ambigus ou ceux que l'élève juge incorrects ou injustes sont transmis à une personne qui est à l'affût des signes de créativité ou d'habileté exceptionnelle chez les élèves. C'est ainsi que Jamal, dont le travail était bien au-dessus de son groupe d'âge, a pu suivre des cours postsecondaires.

Pour obtenir les unités (crédits) de dispersion requises en sciences, en mathématiques et en sciences sociales, Jamal suit des cours en ligne. Il travaille plus ou moins au niveau de son âge dans ces matières, car ses

talents se situent surtout en littérature et en écriture. Il fait parfois des devoirs avec des amis, mais la plupart de temps, les cours en ligne le guident vers du matériel adapté à ses intérêts particuliers. Ainsi, Jamal étudie présentement la trigonométrie en travaillant sur des problèmes de navigation, en partie parce que ses parents possèdent un voilier, et aussi parce que la navigation l'intéresse. Cela lui facilite la compréhension des mathématiques et le motive davantage à travailler une matière qu'il trouve habituellement ennuyeuse. Aucun de ses amis n'étudie la trigonométrie par le biais de la navigation : ils ne partagent pas son intérêt pour le sujet. Il a rarement affaire à un tuteur de mathématiques « humain » et lorsqu'il le fait, leurs rapports sont tout à fait personnels et ont lieu soit à l'école Northern, soit par vidéophone.

Le poste de travail de Jamal est l'appareil typique des élèves du secondaire. Il se compose de ce que les éducateurs du début de siècle considéraient comme un super ordinateur : lecteurs de ferrites de mémoire, écran tridimensionnel et lien de communication haute vitesse. Jamal peut également emprunter de l'équipement de téléprésence de l'école lorsqu'il a besoin de faire un voyage virtuel sur le terrain. C'est ainsi que Jamal a pu voir des pièces de théâtre du New Globe Theatre de Londres, consulter des livres conservés au British Museum, visiter le Louvre à Paris et la maison de Hemingway à Key West, assister à des conférences et participer à des discussions partout dans le monde. Le poste de travail coûterait moins de 1 000 $ à acheter, mais il est loué par l'école et le contrat de location couvre tous les frais d'entretien.

En plus de fournir de l'information et des ressources, le poste de travail de Jamal recueille une bonne quantité de renseignements à son sujet. Les mouvements de ses yeux et son langage corporel sont observés par l'ordinateur pour mesurer son intérêt envers quelque matériel ou sa compréhension de la matière. Son bien-être physique est également calculé; l'école a même appelé Jamal quelques fois pour lui suggérer de cesser de travailler et d'appeler son médecin de famille parce que son poste de travail indiquait qu'il manifestait des signes de maladie. Ce genre de communication bilatérale a permis à l'ordinateur d'aider Jamal à trouver ce qui l'intéressait et à en faire une exploration plus approfondie. D'une façon inimaginable pour les générations antérieures, cette communication a aussi permis à Jamal de conserver son goût d'apprendre et empêché son apprentissage de dégénérer en un jeu trivial.

Pour en arriver là, il y a eu bien des batailles sur le rôle des enseignants, sur la répartition des budgets entre le personnel et la technologie, et sur la vie privée des élèves. Jamal est marginalement au courant de tout cela, mais puisque cela ne l'affecte en rien, il n'y porte aucune attention. Il sait toutefois qu'il fait toujours son travail scolaire avec empressement et qu'il a hâte de commercer ses études postsecondaires. Son enthousiasme est tout aussi débordant que lorsqu'il était en maternelle : ce qui est probablement le plus beau compliment qu'on puisse faire envers l'apprentissage provenant de la prestation d'un enseignant et de l'appui des technologies de l'information qui se développe depuis vingt ans.

Jamal aura son diplôme d'études secondaires lorsqu'il aura obtenu assez d'unités (crédits) de dispersion et lorsque les ordinateurs du Conseil de district de Toronto jugeront qu'il a atteint la maturité scolaire et émotionnelle nécessaire à l'entreprise d'études postsecondaires. Mais ce qui a encore plus de valeur que son diplôme, c'est la passion d'apprendre qu'il possède encore au terme de ses études et qui lui servira tout au long de sa vie.

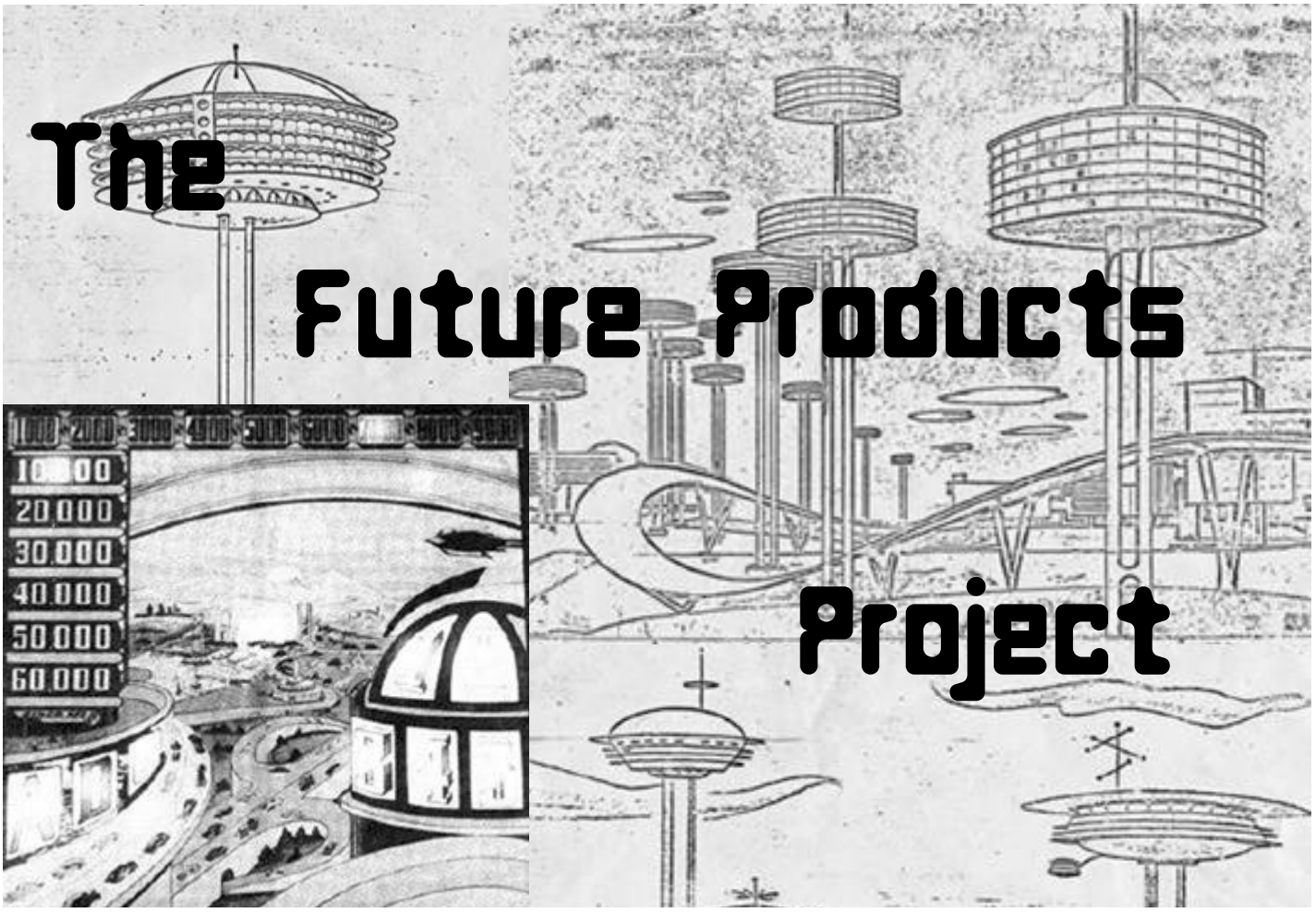
Richard Worzel est un futurologue torontois qui parle bénévolement aux jeunes du secondaire, selon sa disponibilité. Vous pouvez communiquer avec lui par le biais de Teach Magazine ou en écrivant à futurist@futuresearch.com.

ADVERTISERS INDEX

Reader Response #	Advertiser	page#
1	Apple Canada	IBC
2	CBC	IFC
3	Canadian Test Centre	27
4	Conference Board of Canada	34
5	Education Canada	27
6	Marjan Glavac	14
7	IBM Canada.	30
8	Insurance Bureau of Canada	34
9	John Deere	31
10	Microsoft Canada	7, 12
11	Department of National Defence	5
12	National Library of Canada	32, 33
13	NORDX CDT	11, 29
14	Renaissance Learning of Canada.	27
15	3M	8
16	World Education Market	OBC

CURRICULA

THIS IS A 6 PAGE REPRODUCIBLE INSERT TO BE USED AS A TEACHING TOOL



When thinking about the future and what sorts of goods and services will be required and then developed, it is important to have a clear vision (or as clear as possible) of the type of society that will exist. And the time frame is also a key factor. From our perspective, here and now in the present, how far ahead should one look? Ten, twenty, fifty or a hundred years? Designing for the future is always a dicey business because we won't really know, will we? There is a great deal of risk involved. After all, what if we are wrong? It's difficult to say, oops, then head in another direction. This is especially true given that a large number of corporations and governments are doing exactly that. Working ahead and planning for the years to come. It makes you wonder how capable they are and if they are making good decisions on our behalf. Think of the aerospace industry designing planes and rocketships or even the car companies who manufacture vehicles for personal transport. Will we need them at all if we can be transported in an instant like we've seen and imagined on Star Trek? We

are becoming more mobile than ever given that many of our information needs can be fed to us without wires virtually anywhere in the world. A recent Arctic expedition kept in touch with their supporters via email and posted their progress on the Internet through satellite access via notebook computers that employed batteries that were recharged using energy from solar panels. The panels, in conjunction with special batteries provided enough power for the computers throughout the expedition. All of this means that information is now accessible anywhere and anytime.

In a previous series of teaching units we developed, we broached the idea of a future society and how to develop one in The Past, Present and Future of Communications. Let us refer you to the unit on The Future of Communications (soon to be posted at this web address: *www.schoolnet.ca/teach*) where you can go through the exercise with your students of designing your future society in part, by examining existing societal models. Then, it is possible to think about the needs and requirements of the citizens of that society and what products and services they may want.

This lesson plan is intended as a bit of a departure from those we normally publish. It won't be as rigidly structured and most of it will contain some examples of products and projects that are actually in the process of being developed. For much of this, we must thank the Media Lab at the Massachusetts Institute of Technology (*www.media.mit.edu*) and some futurist organizations and Web sites where many of these ideas are being worked on feverishly by the practitioners there. The listing of these examples is intended to give you a stimulus for the development of your own product ideas in conjunction with your students. We hope it will get you thinking creatively.

The following curriculum areas are applicable: Technology/Computers, Media Studies, Language Arts, Visual Arts, History and Social Studies. This teaching unit is most appropriate for Grades 4-12. Research tools: Encyclopedias (hard copy and CD-ROM, Library Resources, Books and the Internet.

Learning Outcomes

Students will:

1. Have a basic understanding of how society is structured and how it functions.
2. Work toward solving challenges with practical solutions.
3. Understand somewhat the technical aspects of some manufacturing processes.
4. See the relationship between events in the past, present and future.
5. Create, invent and build products for a future society
6. Enhance socialization by working in teams.
7. Use critical thinking skills to solve future-world problems.

Brainstorm

We gather impressions through the information that is presented to us in the media. If one were to poll a group of young students who happened to be Star Trek fans (whichever generation), it wouldn't be a surprising result to discover they believed that individuals will have the ability to transport from one destination to another instantly through some sort of device. Or at least they would believe in the likelihood of something like that being invented in the not too distant future. That's is not to say, that only entertainment media is responsible for

George Jetson

Jane Jetson

Judy Jetson

that view but certainly it plays a significant role when considering younger and more impressionable students.

Have a discussion in class about the media and other impressions students have gained with regard to the future, whether it is the sort of society they envision, lifestyle or devices with which they will interact. For, if some are to be believed, we, as consumers will be interacting with fridges, stoves, microwaves and other personal household items. We shall talk to them and they shall respond.

Document your student responses and cite their sources. Talk about the role the media has in influencing their views. Is a television series like Star trek or Babylon 5 too influential? Do students think they are realistic opening up the possibility of living in similar worlds and environments? Or are they merely entertaining and nothing more? What do students think? Can they cite some examples of shows or reports they've seen in the media where some realistic possibilities concerning the future were written about or presented? What devices do they recall from any videos, films, television shows they've seen or books they've read that students think will actually exist one day? Make a list and have students explain their reasons.

Research

Researching the future almost seems like an absurdity as it's difficult to review information about things that haven't yet happened. Yet, there are plenty of pundits who make a living predicting trends which certainly provides some level of detail on the near future, say one to three years out. Have students go to the resource centre, the local library or surf the Web for data on future societies to see what comes up. Have them document their findings, then present them to the rest of the class. Are there similarities in what students have found? And it is up to you whether you wish to have students work individually or in teams on this.

Following then are a random sampling of some future devices and services that are currently in development. Use them as a stimulus for your students and their projects.

1. Museum of the Future-this is an M.I.T. collaboration with the Museum of Modern Art in San Francisco where the concept is to make the museum indistinguishable from watching a movie or a play. The story unfolds as visitors wander the museum space. This involves the transformation of architecture into cinema using a number of technologies. One is called Smart Rooms, which tracks people and objects using wireless computer vision techniques. The other involves wearable computers which become visual and auditory storytellers that guide visitors through the exhibit. Audiovisual devices such as projectors and speakers are placed in the space and their output is connected to the sensors of the Smart Room transforming the museum into a living theatre.

2. StoryBeads-are an interactive "wearable" used in constructing narratives through collecting, trading and sequencing images. Individual beads act as repositories or storage for collections of images and related text. Images are shared or travel between users and the beads enable a transaction which preserves the historical context attached to the images and text thus creating a digital memory.

3. Tabletop Circus-is an interactive museum exhibit configured in 1999 and features a home theatre interactive show that fits in a custom-made, table-sized stage. Participants use their hands to interact with circus performers whose images are projected on the table's surfat

Elroy Jetson

Astro

Rosie

face. They can "push" the tightrope walker, causing him to fall, make acrobats spin or have performers juggle imaginary objects. The technology involves real-time hand tracking, interactive movies and media-actors authoring. This work was created as a multimedia version of the Alexander Calder circus, a permanent exhibit at the Whitney Museum in New York City.

4. Digital Mirror-this is a device that explores ways to use images as qualitative data for health maintenance and improvement. Many patients use handheld devices to provide readings on things like blood sugar and heart rates etc. This device uses imaging tools to aid people to photograph daily behaviours and then the images are used to interpret quantitative data. The idea is to use images as a diagnostic tool for patients and doctors.

5. Speech Editor-word processors changed the way text is created and edited. Similarly, voice and speech technologies are being developed that will become more commonplace. Speech Editor is similar to developing a word processor but for speech. This means that common operations like cut and paste on a large document can be accomplished through verbal commands and form part of verbal document creation.

6. Every Sign of Life-this involves developing a family of wearable devices that measure, store, analyze and transmit physiological data (ECG, body temperature etc.). The device has enough memory to store a lifetime of data and will transmit the data to the Internet. Such data will include early warning signs of the potential for a severe heart attack; feedback to provide information to patients, advisors, family etc. regarding a patient's health status either before or after a heart attack; and critical actions, i.e., emergency response in the case of a heart attack.

7. smartCar-this project studies the interactions between a driver, the vehicle and the environment to attain a more complete knowledge of the driving experience. The idea is to augment rather than substitute the driver. The smartCar would recognize what the driver would do next and assist by making driving safer, easier, more efficient and enjoyable. A Volvo V70 is the prototype car.

8. Floating Train-the city of Shanghai is looking at a proposal to build the world's first magnetic levitation train using "maglev" technology. This concept employs powerful magnets to hold the train a few millimetres above the track and propel it with little noise or vibration. Speed tests have clocked prototypes at 343 miles per hour. In addition to Shanghai, jurisdictions in Germany, Japan and California are considering this new mass transit technology. One drawback is the cost, said to be in the hundreds of millions if not billions of dollars.

9. The Wearable Car?-speculation has been rife with an intriguing announcement made by inventor Dean Kamen. Kamen holds over 100 patents including one for the portable dialysis machine and something called the Independence 3000 IBot Transporter which is billed as an intelligent wheelchair for the disabled. The rumours surrounding this latest invention focus on a patent application that appeared on the Internet. It featured a drawing that looks like a pogo stick with a single wheel under it that can't be pushed over. It's been billed as the comic strip B.C. meets cartoon George Jetson, a 60 miles per hour witch's broom that supporters say could whisk people magically through cities at high speed while alleviating pollution and parking problems. The wearable car, code-named Ginger would fold up into a briefcase.

Shanghai – "Floating Train"

The 2 seat VTOL City Hawk

smartCar – Volvo V70

10. Toy Symphony-is an actual M.I.T. project that combines children, virtuoso soloists, composers and symphony orchestras around the world. A set of music toys are distributed to children in host cities (including New York, Boston, Manchester, London, Berlin and Tokyo) where children are mentored to create their own sounds and compositions for toys and musical instruments. A curriculum for using these musical toys is being developed. Concerts are to be presented in each host city and will include children's compositions and other works performed by children and soloists playing the music toys, hyperinstruments and musical instruments.

11. Programmable Bricks-another M.I.T. project that builds computing power directly into LEGO bricks. Kids use the programmable bricks to build things like robotic creatures and interactive kinetic sculptures while learning about engineering and design. A family of bricks is being designed, known as Crickets, that are going to be used for quick prototyping of computerized constructions.

12. Expressive Footwear-This project sees the development of a wireless sensor card that has been installed in a dance shoe or sneaker. The device measures the parameters of the foot, sole and toe continuously broadcasting them to a base-station and PC over a wireless link. This allows dancers and athletes to produce musical streams from their performances. Other applications beyond interactive performance include assessing gait characteristics for use in digital athletic coaching and podiatric therapy for injury prevention and rehabilitation.

13. Fabric Interfaces-To change the physical shape and feeling of technology, designers must change the materials from which technology is made. The idea is to turn materials like fabric and thread into electronic materials. A device called the musical ball-a continuous control, plush musical instrument-uses embroidered conductive thread as pressure sensors. The sensors allow the texture of the ball to be soft and plush as opposed to being covered with hard buttons or keys. This also allows designers to shape the sensors in different ways so they can be configured in different devices or in clothes.

14. ImpactTV-is touted as bringing the fun back into television. Instead of having a remote control to change channels, the viewer throws things at the TV. An entire wall displays the shows viewers want to watch and reacts to objects thrown at it at the point of impact. Throw a tennis ball and a tennis match appears. Shoot a basketball and the latest NBA game comes on.

15. HandSCAPE-this is a digital tape measure and input device that digitizes field measurements and visualizes the volume of the resulting vectors using computer graphics. Then this data is transmitted to a remote computer in real-time. On-site measurement applications include archeological surveys, interior design and storage space allocation.

16. InStink and Scents Sense-inStink is an exploration of the possibilities of manipulating smell via computer as easily as manipulating sound and video. This also involves the use of different smells to aid in learning as well as a communication device. Scents Sense looks at developments in the field of electronic smell particularly in the home and kitchen. This might involve preventing baked goods from burning to detecting and identifying spoiled produce. Part of the project is devoted to ongoing smell research with the creation of a .snf file as a univer

Mercedes SLR Roadster

Bugatti 18/3 Chiron

sal file format that will aid in the identification and classification of any smell sample tested.

17. Vision Television-is the TV set that watches you watching it. It locates the faces of the viewers and uses that information to modify the program content based on the number of viewers in the room, their locations and their degree of attentiveness. It can also transmit the faces and voices of viewers so that viewers in separate locations can participate together in a program.

After having reviewed the above, you should have a good idea of the range of possibilities available. Students should be encouraged to be creative but not to ignore the practical aspects of how a particular device will serve its market, i.e., users or consumers and how practical it might be to build.

The Project

Divide the class into teams and have the teams work together to explore the depths of ingenuity and creativity to design a device or devices that will serve a need for future consumers in a future society. The time frame for this society (5, 10, 20 or more years in the future) is entirely up to the team. They may wish to delve into the realm of science fiction and imagine what people will be using several centuries or more from now. That is up to them and you. You may wish to set some parameters depending on the capabilities of the class.

Think It

Student teams will brainstorm their ideas for devices of the future and narrow the possibilities down to one or two viable options.

Write It

Once the team has decided what it will design, a description needs to be written detailing what this device is and how it will function.

Design It

Now that the team has a firm grasp of the device, they must create the design. This may be done through simple drawings or sketches, or using a computer graphic design program on computer. The design should be as detailed as possible.

Build It

If feasible, have the teams actually build a scale model of their device using available materials. Depending on what a team has created, and how sophisticated it is, this needn't be a working model. Those who have the desire and skill to create a working model of their device (senior students, for example) should be encouraged to do so.

Share It

Once the devices have been designed and/or built, have the teams present their devices to the rest of the class. You may wish to have a display set up for other classes in the school or the community. If the class has its own Web site, then you may wish to post the finished designs on to the Web site or get involved in a collaborative project with other classes and schools online. See what others in your community or around the world can produce and share the knowledge and experience.

Above all, have fun and make this project a compelling learning experience for everyone.

LET US KNOW WHAT YOU THINK

Please forward your ideas, suggestions, and comments concerning CURRICULA.

Send information to

TEACH Magazine at:

258 Wallace Ave., Suite 206, Toronto, Ontario, M6P 3M9 or email us at: teachmag@istar.ca

TECHNOLOGY PRODUCTS/ SERVICES SUPPLEMENT

Welcome to TEACH Magazine's Eighth Annual Technology Supplement. Over the years we have presented new products and services for you. We are careful to indicate that the following constitute narrative descriptions only and do not qualify as a critical review or an endorsement. We give you enough information for you to make up your own mind about following up. Make sure you inquire about educational discounts and pricing. Some products come with teachers' guides.

SOFTWARE

GRAMMAR FITNESS

Merit Software has recently released Grammar Fitness, software to help students sharpen their grammar skills while letting teachers monitor their progress. The program is designed to supplement instruction for secondary school students, adult education programs, and ESL classes.

Where and How Much:

Pricing starts at $27 US, and the 2001 school year catalog may be printed off the web. Multiple computer licenses are also offered. For more information, contact Merit Software, 132 West 21 St., New York, NY 10011, Ph: 212-675-8567, 1-800-753-6488, or visit *www.meritsoftware.com*.

ORPHY-PORTABLE 2 DATA ACQUISITION INTERFACE

The French company MICRELEC is planning to expand the North American availability of its Orphy-Portable 2 data acquisition interface and Visual Orphy software. Both are designed to support the Computer-Assisted Experimentation (CAEx) programs becoming increasingly popular in high school biology, physics, chemistry, electronics, and technology classrooms. The Orphy-Portable 2 connects up to four sensors or probes to the computer, while Visuel Orphy displays their outputs. These can be either digital or analog. Probes can be used in any combination, from four identical to four different, with the interface automatically sensing the type of probe. The interface connects sensors to the computer through either an RS-232 serial cable or a USB port. This can be powered either by 220V/110V electric current or by a 9V battery for use in the field. The Orphy-Portable 2's internal memory allows teachers and students to store measurements taken in the field for later computer upload. MICRELEC is seeking to develop a network of agents and distributors for both Canada and the United States, thus making the advantages of Orphy-Portable 2 and Visuel Orphy more available to educational institutions in both countries.

Where and How Much:

For more information, contact Mr. Serge Lefevre, MICRELEC, 4, place Abel Le Blanc, 77120 Coulommiers, France, Ph: (011-33) 1-64-65-04-50, Fax: (011-33) 1-64-03-41-47, email *micrelec@wanadoo.fr*, visit *www.micrelec.fr*, or contact the French Technology Press Office at 1 East Wacker Drive, Suite 3740, Chicago, IL 60601, USA, Fax: 312-222-1237.

RENAISSANCE LEARNING

Renaissance Learning of Canada provides K-12 schools with software and related training designed to improve academic performance by increasing the quality, quantity, and timeliness of information in the classroom. The company's flagship product, Accelerated Reader®, is sited as a popular brand of reading software in schools. Accelerated Reader is designed to motivate students to read more and better books. The company claims to have research that shows that children who use this award-winning program achieve higher test scores in reading,

have better attendance. Over 54,000 schools across North America use Renaissance Learning reading, writing, and math software to help educators improve student performance and develop lifelong learners and critical thinkers.

Where and How Much:

Contact Renaissance Learning of Canada at 1-800-267-3189, ext. 4158.

TYPING PAL SCHOOL EDITION

Typing Pal School is an interactive program designed to teach typing in a school environment, to students aged nine and over, from beginner to advanced levels. Now combining the features of the CD-ROM version with the interactive communication possibilities offered by the Internet, Typing Pal School is the first-ever network-based typing course available on the Internet. The online and CD-ROM versions of Typing Pal School were designed to meet the specific needs of teachers, students, and school administrators. The program lets each teacher determine the objectives, the exercises to be completed, and the evaluation methods. Teachers can create their own exercises based on their own texts. The program also corrects students' mistakes and automatically creates comprehensive files on students' progress, keeping track of all the critical factors such as errors, weaknesses, and typing speed.

Where and How Much:

Available in PC and Mac format, the CD-ROM version costs between $200-$300. The online version varies in cost between $200-$1000 per year, depending on the number of users. To order, for further information, or for a free demonstration, visit *http://school.typingpal.com*, email *info@school.typingpal.com*, or call 1-888-458-9143.

WEB-BASED

ARCHAEOLOGICA

Archaeologica is a place for teachers, historians, archaeologists, and students to find archaeological and historical news. In addition to the daily news articles, there is an extensive Archaeological Resources page, a Discussion Forum, and the Archaeologica Golden Trowel Award system, which allows other web sites of archaeological or historical content to be recognized.

Where and How Much:

Visit the Web site at *www.archaeologica.org*. Use of this site is free of charge.

BERIT'S BEST SITES FOR CHILDREN

Berit's Best Sites for Children is a Web site that reviews children's Web sites. Presented by the creators of Theodore Tugboat (a children's online activity centre), Berit's Best is a place for teachers and parents who want to easily find safe, quality sites for their students' and childrens' use. Over 1000 Berit-reviewed sites are categorized under headings such as "Just for Fun" (e.g. activities, crafts, colouring), "Creatures Great and Small," "Serious Stuff" (e.g. arts, environment, health), and "Holidays and Seasons." There is also a page on Internet safety. The sites are reviewed by Berit Erickson, a librarian with a Master's degree in Library and Information Studies. Erickson has maintained a directory of children's Web sites since 1994, and the Berit's Best site includes a detailed description of Erickson's rating system, listing her criteria for content, organization, ease of use, appearance, simplicity, credibility, privacy, and charges. Erickson reviews sites that are intended for children's use, that are based on children's topics or the topic of children. All the recommended sites are non-violent, free of adult content, require no fees, and are intended for children under the age of 12.

Where and How Much:

Berit's Best Sites for Children is a free site. Visit *www.beritsbest.com*.

E-STAT: INTERACTIVE LEARNING TOOL FROM STATISTICS CANADA

E-STAT is Statistics Canada's comprehensive educational resource available exclusively to Canadian educational institutions. It is now available without charge on the Education Resources site. Redesigned to make it easier to use, E-STAT 2000 allows students to search for information by subject. E-STAT transforms columns of data into coloured graphs and maps that immediately reveal trends. It also includes a host of curriculum-relevant activities developed by educators specifically for Grade 6 and up. Subject areas include family studies, history, geography, economics, mathematics, and social studies. Through E-STAT, your classroom is directly connected to the socio-economic database called CANSIM, which contains 450,000 statistical time series on a wide range of topics such as industry, labor, prices, crime, and health.

Where and How Much:

To obtain free access to E-STAT 2000, schools must register by visiting *www.estat.statcan.ca*. Teachers can then access E-STAT from home with a user identification and password. For free training in using E-STAT, contact the education representative in your region by calling 1-800-263-1136, or visit the site's Regional Support page at *www.statcan.ca/english/edu/reps-tea.htm*.

EXPLONET

ExploNet's Family Fireworks Safety Module is a lesson plan, available in both English and French, on fireworks safety for grades 4-6. This series of cross-curricular lessons was designed by Canadian teachers and explosives experts. Students work online, in small and large groups, to learn everything from identifying illegal fireworks to the proper set-up of backyard displays. These interactive, web-based lessons are designed to fit into existing curricula, and the Web site provides you with all the information and materials you need. This Canada Day, help your students and their families have fun and stay safe.

Where and How Much:

Find ExploNet's free Family Fireworks Safety Module on the Natural Resources Canada web site at *www.nrcan.gc.ca/explonet/*.

MISSION NUTRITION™

Mission Nutrition is an educational web site that provides teachers, parents, and students in Grades 6-8 with practical resources to promote positive self-esteem, healthy body image,

Mission Nutrition™ teacher's guide, parents can find answers to commonly asked questions, and students can play an interactive game. The Mission Nutrition teacher's guide, which includes three curriculum-based units, provides learning outcomes to help you identify links with the curricula for your grade; background information for preparing to introduce the topic area to students; lesson outlines with student activities designed to achieve learning outcomes; resources and links for additional teacher and student research information. The learning outcomes are based on a national review of learning expectations and objectives in the health and physical education curricula for Grades 6-8 in Canada. Visit the Student area of the Web site with your class and try the interactive activity. Using an integrated approach, this activity takes students through a day in the life of a character of their choice. Students are asked to make choices throughout the "day" and receive instant feedback. After completing the activity, students can print a recap of the day's events, the choices they made, and their score. Mission Nutrition™ is a joint educational initiative of Dietitians of Canada and The team of Registered Dietitians at Kellogg Canada Inc. Its content is for users that reside in Canada only.

Where and How Much:

Mission Nutrition™ materials, including the teacher's guide, are available free of charge, and can be accessed from the Internet at *www.missionnutrition.ca*. Mission Nutrition™ educational kits for Grades 1-4 and Grades 4-6 are still available. Either download the material from the Web site or order the kits free of charge by contacting Kellogg Canada Inc at 1-888-453-6374, or email *emailca@kelloggs.com* (specify grade level and language, English or French).

NASAEXPLORES

NASAexplores is a new lesson plan express delivery service, which is based on an e-mail subscriber list. The lessons are published by the education department at NASA's Marshall Space Flight Center in Huntsville, Alabama. The program includes estimated preparation time for lessons and a list of materials required. Each week, two lessons are posted to the Web site, in versions adapted for three levels of learning: grades K-4, grades 5-8, grades 9-12. The materials incorporate and support US national educational standards in math, science, geography, and technology, and align with standard subject areas, such as chemistry, biology, and algebra.

Where and How Much:

Teachers sign up online and receive email notices that link them to the Web site where the lessons are posted. Teachers without email can use the lessons on the NASAexplores Web site at *www.nasaexplores.com*. For more information about NASA's commitment to education, visit *http://education.nasa.gov*. For more information about the Marshall Center's specific missions and roles in educational programs, visit *www.msfc.nasa.gov/education*. The NASAexplores program is available for teachers at no cost.

NATIONAL ARCHIVES OF CANADA: CANADIAN MEMORY

The National Archives of Canada, in collaboration with the National Library of Canada, has recently launched three new virtual products: Tracing the History of New France, Real Stories: A Past in Miniatures, and Canada and the First World War. Tracing the History presents a selection of documents that are grouped into eight themes and paint a picture of New France. It also offers access to the "Colonial Archives" database, which provides descriptions of thousands of documents representing this period in Canadian history. In addition, visitors can test their knowledge of New France by trying an educational game. Real Stories showcases the National Archives' miniature collection, one of the largest and most important in Canada. The small portraits document personalities important to Canadian history. Canada and the First World War pays tribute to Canadians, both civilian and military, involved in WWI. Several virtual products are already offered on the National Archives' Web site, and visitors should periodically check the site, as new products will be added on an ongoing basis. Watch out for upcoming projects on playwright and actor Gratien Gélinas, the Canadian Postal Archives, Living Memory, and the Canadian West. The National Archives' virtual exhibition products are part of Canadian Memory, the Archives' digitization project. The Canadian Memory on-line multimedia collection includes letters, diaries, pictures, illustrations, maps, stamps, official documents, educational games, and themes developed with the help of educators. With Canadian Memory, the National Archives hopes to provide all Canadians with access to key collections, make available on the Internet Canadian content which reflects the diversity of the Canadian experience, and increase the quantity and quality of Canadian cultural content in French on the Internet. The Canadian Memory project is the National Archives' contribution to the Department of Canadian Heritage's Canadian Digital Cultural Content Initiative (CDCCI). The CDCCI is a part of the Government of Canada's effort to put national heritage collections on-line. All of the virtual exhibitions are fully bilingual.

Where and How Much:

Access Canadian Memory, free of charge, via the National Archives of Canada Web site at *www.archives.ca*.

NATIONAL LIBRARY OF CANADA

The National Library of Canada makes its unique collections available online through the Digital Library of Canada. The Digital Library has a wealth of teaching and learning resources on its site, including content created to complement Canadian Social Studies and Language Arts curricula. The Web site includes exhibitions on Canadian exploration, Confederation, prime ministers, women's achievements, Canadian poetry archives, and a huge collection of original texts written by two of Canada's notable pioneers, Susanna Moodie and Catherine Parr Traill. Lesson plans have been developed by qualified teachers, tailored to the exhibitions, and designed to develop and improve student research skills. They come complete with outcomes, instructions, handouts, rubrics, and extension activities, and are available in an easy-to-print PDF format. Other library resources, such as Virtual Gramophone, Sheet Music from Canada's Past, and Canadiana Quick Reference are invaluable research tools for secondary students. AMICUS gives teachers and researchers access to catalogues at the National Library of Canada and libraries across the country. Digitized primary texts give educators the opportunity to introduce

ondary students to primary sources. More resources are planned for the future, so check the site regularly.

Where and How Much:

Visit the Digital Library of Canada at *www.nlc-bnc.ca*. For more information, contact Ian Bron at 613-995-6758, or email *ianbron@nlc-bnc.ca*. All the resources on the Digital Library site are available in both English and French, free of charge.

PBS MATHLINE®

The Public Broadcasting Service (PBS) recently announced the availability of PBS Mathline's searchable online video library. The video library consists of 72 programs showing actual teachers in classrooms around the US implementing standards-based instruction for grades K-12. Search results list relevant video clips from 1-10 minutes in length that can be viewed on a computer screen via videostreaming technology. Teachers also have the option of viewing online the entire video from which a selected clip is drawn. In addition, educators who want to try out the same activity that they see modeled in a video can print out the video's comprehensive lesson plan from the Mathline Web site, as well as discuss the lessons and other relevant math education topics with educators in an online discussion community.

Where and How Much:

PBS Mathline, available at *www.pbs.org/mathline*, is a free service.

TEEN CLINIC ONLINE

Teen Clinic Online is the latest addition to CyberIsle, a virtual adult-free island developed by the TeenNet project. Developed after University of Toronto research found that youth were dissatisfied with existing health information sources, Teen Clinic Online is a virtual teen health centre. Teens can visit several rooms in the virtual clinic (games room, pharmacy, hangout, etc.) to find information, ask questions, or chat with peers on topics such as sexuality, drugs, body art, mental health, and eating disorders. The rooms also contain pointers on where to go for further advice and suggest questions to ask health practitioners or counsellors.

Where and How Much:

To enter Teen Clinic Online, visit *www.cyberisle.org*. For background information on the TeenNet project, visit *www.teennetproject.org*. Funded by the Health Infostructure Support Program of Health Canada, the Ontario Ministry of Health, and Toronto's Hospital for Sick Children Foundation, the Teen Clinic Online is a free service.

THINKRONIZE

A legion of nearly 350 teachers from across the U.S. spent the past summer vacation reviewing more than 1.8 million Web sites to develop student-friendly and academic-appropriate content for Thinkronize, a new Internet venture creating products for middle through high school students. In addition to identifying the academic sites that are content and age appropriate, teachers are helping to sift through Web sites that are not appropriate or helpful for students. The content is available to students via Thinkronize's netTrekker and digitalbackpack products. Digitalbackpack is a comprehensive life organizer that includes online school applications, combined with communication tools, calendar, current events content, entertainment, and shopping resources. One of the applications in digitalbackpack is netTrekker, an Internet research enging designed to give students a way to do academic research. These Internet products are focused on providing content, community, academics, entertainment, and research tools for teens and their parents, teachers, and school administrators.

Where and How Much:

Use of Thinkronize's netTrekker and digitalbackpack is free. Visit Thinkronize at *www.thinkronize.com*, netTrekker at *www.nettrekker.com*, or digitalbackpack at *www.digitalbackpack.com*.

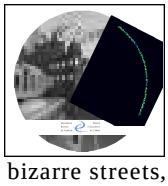
MISC.

CANADIAN TEST CENTRE

The Canadian Test Centre (CTC) is an educational assessment centre owned and operated by educators. Find out more about the new and innovative Canadian Achievement Tests, 3rd Edition, (CAT-3) for literacy and numeracy criterion and non-referenced information, and the CTC aptitude test, Canadian Test of Cognitive Skills (CTCS), on the Web site.

Where and How Much:

CTC is located at 85 Citizen Court, Suites 7&8, Markham, ON L6G 1A8, Tel: 1-800-668-1006 / 905-513-6636, Fax: 905-513-6639. Visit the CTC Web site at *www.canadiantestcentre.com*



INSURANCE BUREAU OF CANADA

What's the buzz in classrooms this fall? A trip to Capital City. It's Insurance Central, where Buzzer, your virtual guide, leads insurance rookies through alleyways, game shows, bizarre streets, and fun scenarios to test insurance knowledge and teach the facts. This interactive and educational CD ROM is brought to you by the Insurance Bureau of Canada. It is aimed at younger students to heighten their awareness of safe driving practices in preparation for their eventual driver training.

Where and How Much:

For your FREE copy of Buzzer: The Rookie's Guide to Insurance, please contact IBC's head office at:
151 Yonge Street, 18th Floor,Toronto, Ontario, M5C 2W7
416-362-2031, *www.ibc.ca*.

TEACHING AND TECHNOLOGY NEWSLETTER

Teaching and Technology, originally entitled Making IT Work, focuses on grades 1-8 Ontario Curriculum & Ministry-licensed software. Teaching and Technology is published quarterly and the PDF edition is now available to all educators, parents, and interested parties free of charge.

Where and How Much:

To view the site and for a free subscription, visit *www.egroups.com/group/Teaching_and_Technology*.

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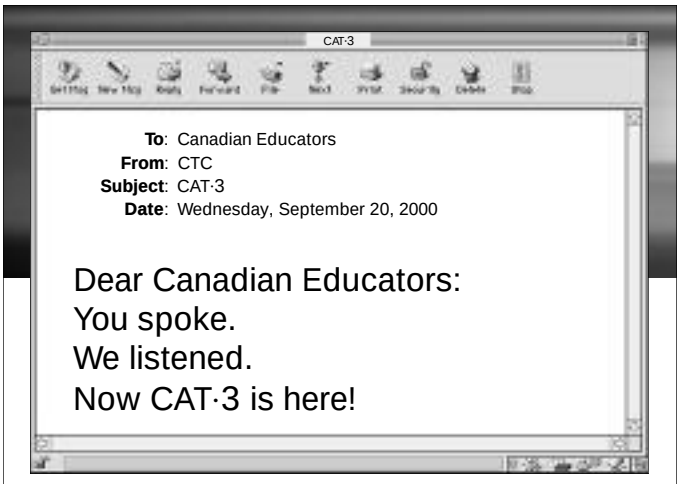

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À la découverte de www.rescol.ca

par lyse ward

Rescol (réseau scolaire) canadien est un site du gouvernement fédéral dont le mandat est de brancher les salles de classe et les bibliothèques canadiennes, ainsi que les communautés des Premières Nations à Internet. Rescol s'est également fixé comme objectif de donner aux jeunes Canadiens l'occasion de participer à des activités pédagogiques en ligne et de développer leurs compétences dans les technologies de l'information, et de créer un contenu canadien en ligne de haute qualité.

Rescol vient de refaire son site. S'est-il « amélioré »? Je ne saurais vous dire. C'était ma première visite. J'ai néanmoins été impressionnée par la quantité et la qualité du contenu. Le site constitue une riche mine de ressources pour les enseignants et les jeunes.

Voyons d'abord la page d'accueil. La présentation est propre et fonctionnelle : bande supérieure horizontale comprenant les onglets de consultation, et colonnes de texte au bas encourageant le visiteur à descendre pour continuer sa lecture.

Les quatre onglets rouges (en haut, à droite) mènent aux renseignements sur Rescol, à la *Carte du site* avec liens aux diverses sections, à un moteur de recherche ponctuelle, et à la page des *Commentaires*. Les quatre onglets violets (au bas de la bande, à gauche) portent les titres suivants : *Ressources pédagogiques*, *Aujourd'hui @ Rescol, Services* et *Partenaires*.

Des trois colonnes de texte, celle de gauche donne quelques-unes des nouvelles auxquelles on accède par l'onglet *Aujourd'hui @ Rescol*. Elles font l'objet d'une mise à jour quotidienne. La colonne du centre sert à mettre des services ou sites particuliers en vedette, tandis que la troisième colonne propose un sondage auprès des visiteurs et les invite à voir les résultats.

Enfin, dans un autre rectangle, on propose une visite virtuelle du site qui explique la destination des onglets en haut de page. Un hyperlien permet de télécharger le logiciel Flash nécessaire à la visite. Simple comme bonjour.

Le premier onglet violet amène le visiteur aux *Ressources pédagogiques*. D'un clic, on se retrouve à la table des matières où l'on peut soit faire une recherche grâce au moteur de recherche Metadata, soit cliquer sur une rubrique de la table des matières. Les ressources ou documents sont répertoriés en trois grandes catégories : *Programmes d'études, Ressources d'intérêt général* et *Institutions fédérales et associées*.

Dans les *Institutions fédérales et associées*, j'ai cliqué sur *Élections Canada*, ce qui m'a menée directement au site de l'institution. Très intéressant, mais... J'ai ensuite cliqué sur Statistique Canada. Belle surprise! Cela ne m'a pas menée au site. Rescol m'a plutôt donné une liste de ressources d'intérêt particulier pour les enseignants : *Un coup d'œil sur l'agriculture canadienne - Guide de l'enseignant, Trousses de l'enseignant du Recensement: activités portant sur la population canadienne, Site Web des Ressources éducatives*, etc. Rescol avait donc repéré et classé les ressources pertinentes au préalable, puis créé des liens qui mènent directement à ces ressources.

En outre, sous les paragraphes de description des ressources, un lien *Afficher l'information sur les métadonnées* donne davantage de renseignements : nom de l'auteur, groupe scolaire ciblé, adresse Internet, prix (le cas échéant), etc. Histoire de savoir si la visite au site vaut le dérangement. Un *must* pour les enseignants!

J'ai donc choisi le *Site Web des Ressources éducatives* de Statistique Canada. On m'a offert les *Ressources de l'élève*, les *Ressources de l'enseignant* et les *Ressources de l'étudiant du postsecondaire*. Je me suis retrouvée dans un endroit où l'élève peut obtenir de l'information sur la cueillette et l'analyse des données statistiques, sur des statistiques particulières, etc. J'ai ensuite fait marche arrière pour voir ce qu'étaient les *Ressources de l'enseignant*. La page ressemblait à celle de l'élève, mais les ressources étaient différentes et s'adressaient bel et bien aux enseignants.

Dans les *Ressources d'intérêt général*, j'ai cliqué sur *La Galerie des Arts*, site magnifique où j'ai pu voir des expositions françaises. Ailleurs, au site de l'Office national du film, j'ai trouvé des renseignements sur les films de l'ONF, le catalogue des films, et divers renseignements. Mais pas de trousse pour les enseignants ou les élèves. Je devenais exigeante! À l'Agence spatiale canadienne, j'ai découvert la Station Jeunesse pour les Cosmofans, où j'aurais pu construire une Station spatiale avec le nouveau bras canadien.

À la section *Programmes d'études*, j'ai choisi la rubrique *Langue*, puis la sous-rubrique *Français langue maternelle*, ce qui m'a donné toute une panoplie de ressources : *Stratégies de lecture, Banque d'exercices*, des lexiques et dictionnaires de toutes sortes, *Écrivains en herbe des écoles maternelles et élémentaires francophones*, bibliothèque virtuelle composée de productions écrites d'élèves, etc.

Éblouie, j'ai continué. Des autres disciplines, j'ai choisi les Sciences sociales. Plusieurs titres de sites sont apparus : Bibliothèque des sciences humaines de l'Université de Sherbrooke, Centre de documentation Criminologie - Service social, etc. J'ai aussi trouvé un *cours gratuit sur la Psychologie de l'enfant* donné par un professeur de l'Université de Moncton, et bien d'autres choses encore.

Quand je vous disais qu'il s'agit d'une mine d'or! Et je ne vous ai pas encore parlé des services! Je le ferai dans le prochain numéro.

Lyse Ward, traductrice agréée, est pigiste en affectation spéciale au TEACH.

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CABLE DESIGN TECHNOLOGIES

Teachers Take On Technology

by David Cooper

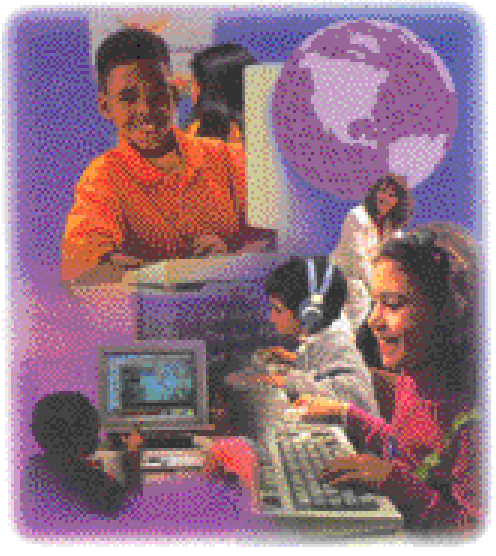
To work more efficiently, most businesses now have a computer on every employee's desk. So why don't teachers have computers on their desks? Wouldn't the business of education benefit as much from computers as the business world does?

Karen Gillian's school board in Riverside, California provides every teacher with a laptop computer. "The teachers at my school are encouraged to keep their grades, develop classroom presentations in Power Point or Hyper Studio, and generate lesson plans and student tests on the computer. This year we are adding a CD component to the yearbook and [are] working with digital cameras," explains Karen. When asked if her computer allows her to be more efficient in her work, Karen replies, "I don't know what I did before I began using a computer for everything....I was able to throw out three four-drawer file cabinets that were falling apart and replace them with small, disk storage systems....Each year I can pull up the program I want, make revisions, and print out copies for my students or [print] one copy to be duplicated. I can create wall charts by taking my 8 1/2 by 11 sheet to Kinko's [to enlarge]."

Another interesting example can be found in the city of Hurricane, Utah, where Tony Pellegrini, Ed. D, is the principal of Three Falls Elementary School. Five years ago, a statewide initiative put a computer in every classroom. But unlike most schools, as Three Falls upgraded their computers, they put the new models on the teachers' desks. "It has been a real spark for teachers...their own creativity has been ignited,"

Ian on his iBook computer.

K-12 Education Solutions



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says Tony. The web page of Three Falls Elementary (*http://tfe.wash.k12.ut.us/*) features a wealth of information, color photos, streaming videos, and also gives parents on-line access to their child's progress.

Why isn't this happening in more places? So often "cost" is cited as the central problem for many school boards. Karen points out, "If cost is the reason, perhaps there is a major company in the area that would be willing to donate their computers as they are replaced with newer models. It is easier to acquire 20-40 computers this way and the company gets a tax write off."

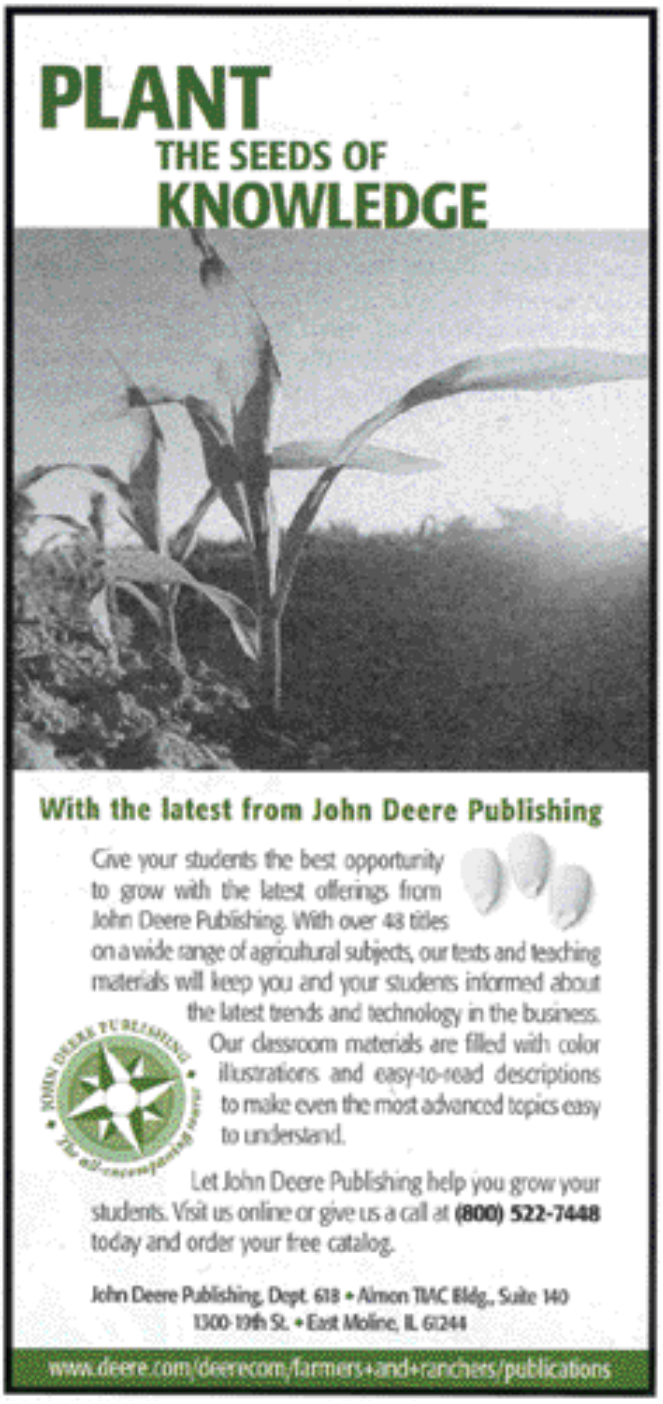
In the Peel district in southern Ontario, money allotted for computers in elementary schools is targeted for student use, not for teachers. Teacher/librarian Don Jones of Fallingbrook Public School in Mississauga would like to see a computer on every teacher's desk. Don states, "Fallingbrook requested a computer for every teacher. If students see the instrument being used by the teacher and the increased productivity, it is more likely they will model that behavior and their interest in computers as a tool will increase."

Ian Nemecek, a grade 7/8 math teacher at Tomken Road Public School in Mississauga, uses his personal Apple iBook to make his teaching job easier. "In addition to replacing my gradebook with an electronic version (Grade Machine), I use the program to send home individual student reports about every 6 weeks. Every assignment that a student has (or has not) done is indicated along with the grade. In addition, I use the program to keep track of comments about a student's work. I think that this informal report carries a much clearer picture to parents than does the Ontario Report Card. I know that parents greatly appreciate it and there are no surprises come report time." Ian also has the added responsibility of organizing an annual ski trip for 300 students. With the aid of his iBook, says Ian, "the process is made much simpler by using FileMaker Pro to keep track of students, medical forms, rentals, choice of programme, money paid, bus number, etc.."

Bringing one's personal computer into a school notes a financial investment on the part of the teacher. A new iBook, like Ian Nemecek's, can cost upwards of $3500. Is support given to teachers who bring in their own machines? Ron Martin, a secondary school teacher in Brampton Ontario, says, "I consider myself a leader in the field and get very little support from the board. At times I find myself being a pioneer in the field - boards don't have the resources to keep up with training what they have, let alone the latest resources."

What professions other than teaching require you to supply your own equipment? If you worked in an office, the business would pay for your computer. If you were a contractor supplying your own equipment, you would at least get a tax break. Perhaps a tax break for teachers who supply their own equipment would help.

Teacher and students working together on the computer.



Don Jones on the computer in his homeroom.

Does having a computer on the desk allow teachers to spend more time with their students? "I would have the same amount of class time with or without the computer," notes Rhonda Cooper of Riverside, California. However, Rhonda also says, "Using the computer allows me to use my non-class time more efficiently. I am able to prepare lessons of a higher quality because I can create lessons rapidly, which allows me to spend more time researching my background material for the lesson." This is especially important for Rhonda, who is the teacher of a 4/5 Enhanced Learning class and has to research significant amounts of information. "Having my own computer on my desk allows me to gather and research information quickly. Plus, I can store information right into my own databases that I leave open while I work. I don't have to log in and start up all the programs - I just leave them all running. That way, even if I have 30 seconds, I can put it to good use." For security, Rhonda's machine locks up and asks for a password if it is idle for more than three minutes.

What are some of the problems teachers have with using computers? Teacher complaints include the learning curve and rapidly changing technology. Since technology is managed from board to board, teachers in one district may use Windows, while a neighboring district will use Apple. This sets some constraints on what may be shared between the schools. The expertise level amongst teachers also ranges from expert to computer illiterate. Many teachers are using computers today as a result of the Ontario report card, which has to be done on a Filemaker-based program. For many teachers, this was the first time they had ever used computers.

In an effort to raise computer literacy, Don Jones has set a few goals for the teachers at Fallingbrook. This year, he wants

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First Among Equals: Canadian Prime Ministers
www.nlc-bnc.ca/primeministers/
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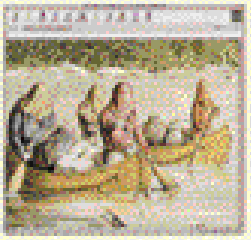
Lesson plans



Pathfinders and Passageways: Canada's Age of Exploration
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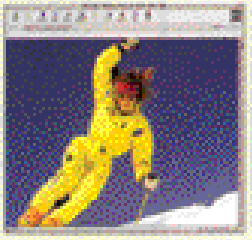

Celebrating Women's Achievements 2000
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Release: October 2000
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Canadian Confederation
www.nlc-bnc.ca/confed/
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Release: November 2000
Lesson plans

Guardians of the North: Canadian Superheroes
www.nlc-bnc.ca/superheroes
Release: March 2001

all the teachers to be familiar with the use of email and the teacher's resource drive. He not only wants them to be familiar with these items, but to make practical use of them as well.

Indeed, little emphasis is placed on the use of computers in teacher-training programs, to demonstrate how a computer might make a teacher's job easier. I asked a few currently-enrolled students in the faculty of education at York University if they were encouraged to use computers in any way, and they mentioned that the only emphasis is still put on the use of computers by students. Don Jones believes the obstacle to the adoption of technology is that many teachers can't type very fast. Don explains that it doesn't make much sense to type out something that you could write faster. In Don's opinion, if the current speech-to-text technology was refined, computer usage in teachers would "take off big time."

Another goal that Don Jones has set for teachers this year is to become familiar with the "teacher drive" on their system. This is something created to hold and share numerous common resources. Things like board policies, computers in education, commonly used forms, meeting minutes, available CD list, staff handbook, professional growth plans, timetables, and education are available online to the staff via the teacher drive. Don is currently working with five other schools in the development of this teacher drive to allow good ideas to come in from other schools, and for their good ideas to be shared elsewhere. Don adds, "One of the reasons we need a computer on every teacher's desk is because we spend so much time reinventing the wheel." He notes that especially with the new Ontario curriculum, lessons are becoming more complex. Teachers who are experts in any particular area should "share good lessons they've developed" and have other teachers adapt the lessons to fit their particular needs.

Does age make a difference? Criticism is often pointed towards older teachers who are not willing to take on the newer technology. Karen Gillian, who has been teaching for 23 years, disagrees: "I do not think the love of the computer is generational. I think it is explorational. [People who are] willing to try new things and just jump in and go for it...are the ones who make the computer work for them."

Like them or not, computers aren't going away. The quill gave way to the ball point pen. The horse gave way to the car. It's inevitable - times change. The trend in workplaces is moving towards a computer on every desk. How long will it take for the world of education to catch up?

David Cooper is a freelance writer and supply teacher based in Mississauga, Ontario. He can be reached by email at david@trafalgargroup.net.

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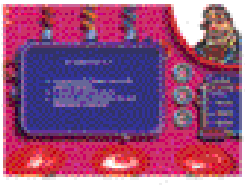

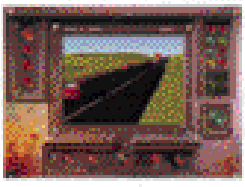

WHAT'S THE BUZZ IN CLASSROOMS THIS FALL?

A trip to Capital City. It's Insurance Central, where Buzzer, your virtual guide, leads insurance rookies through alleyways, game shows, bizarre streets, and fun scenarios to test insurance knowledge and teach the facts.

Capital City is a destination brought to you by the Insurance Bureau of Canada. www.ibc.ca
For copies of Buzzer:
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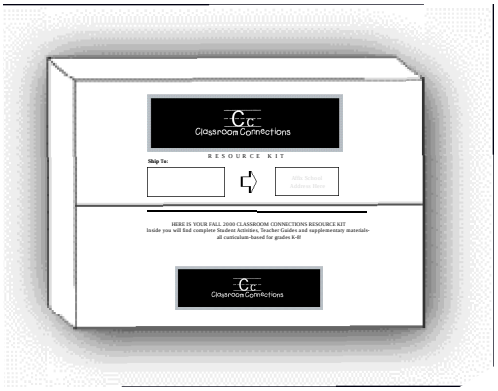
FREE ELEMENTARY TEACHING RESOURCES AVAILABLE

IN YOUR FALL 2000



CLASSROOM CONNECTIONS RESOURCE KIT

Discover Elementary School resources in your Classroom Connections Resource Kit. Make sure you go find the box sent to your school and take a look:

Gift of Life

- A thoughtfully designed program linked to the curriculum study of the human body. This program emphasizes increasing students' awareness of the nature and purpose of organ and tissue donation and transplantation.

Strangers Becoming Us

- This is a curriculum-based program designed to guide students to a greater understanding of multiculturalism, citizenship, and what it means to be a new Canadian.

Money and Banking

- This program encourages students to study and learn about the world of finances and how it fits into their lives. This is an intergrated curriculum.

Celebrating Diversity

- This program encourages students to understand, value and celebrate the full spectrum of human diversity. Students examine media influences, stereotypes and individual accomplishments.

Classroom Connections

Ask your principal or librarian for more information or contact Classroom Connections at (416) 462-1242 or at 1-888-882-8865 or visit the web site at ***www.classroom-connections.com***.

Elementary School Programs

brought to you by Classroom Connections

Literacy is the foundation of education. Following are elementary and secondary school programs that focus on developing literacy skills in young children. These programs can be implemented in school or at home. Classroom Connections is a non-profit organization whose mandate is to support publicly funded education.

Dog Bite Prevention

Dog Bite Prevention is a program designed to support literacy skills and encourage responsible and safe behavior around dogs. Suited for Language curriculum, Dog Bite Prevention teaches children how to listen to stories for information, make connections between their own experiences and those of storybook characters, predict outcomes, and develop oral communication skills. The program also enhances Personal and Social Development curriculum by teaching children how to identify safe and unsafe situations, understand the need for safety rules, seek assistance, identify the rights and responsibilities of themselves and others, recognize the consequences of events and actions, and identify how people in the community are responsible for ensuring safety.

Sponsored by Ralston Purina, Dog Bite Prevention includes three resources: a pull-out story, a teacher's guide, and an online resource list (*www.petlookup.com*). The program begins by either reading, or have students read, the pull-out story, Scratch the Dog Lends a Paw. Then a discussion of the story is initiated, which is followed by exercises supplied in the Dog Bite Prevention booklet. The program ends with activities chosen from the booklet's list of suggestions.

Dog Bite Prevention develops student literacy skills through the various exercises and activities supplied in the program booklet.

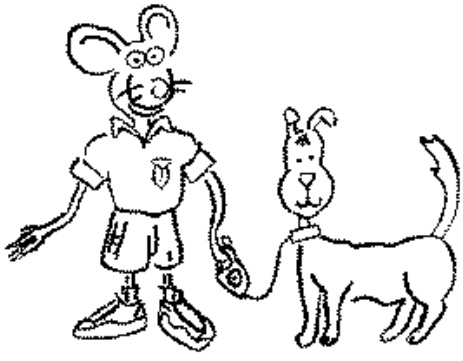
Scratch the Dog Lends a Paw teaches students in grades K-3 how to act safely around dogs. The story's main character, a dog named "Scratch," goes for a walk in the park with his owner, "Mo," and together they encounter other children and pets. Each encounter shows children what they should and should not do, why, and what the consequences of their actions would be. The story shows that dogs do not purposefully intend to harm children, but when scared, uncertain, seemingly threatened, or startled by children, dogs may growl, bite, or attack them. Children are encouraged to stay away from dogs they don't know, dogs that are sick or injured, and dogs that have puppies with them. At the end of the story, a list of tips on dog bite prevention is given. Dog Bite Prevention stresses honest communication and understanding between animals and children, to promote safety for both.

Literacy Connections

Literacy Connections is a workshop that schools run for parents to teach them how to read effectively with their children at home. Presented by the United Parcel Service of Canada, Literacy Connections aims to improve literacy skills in grades K-4 children by teaching their mentors how to properly nurture a love of reading. The workshop runs on the hypothesis that if children experience a positive reading environment, they will desire to remain within that environment, develop a love of reading books, and then build solid literacy skills through continuous reading practice. The Literacy Connections workshop is ideal for parents who want to improve their children's literacy, but are not certain of how to do it. The workshop suggests specific actions to take and steps to follow, as well as tips on how to achieve the best possible interaction between you and your child or student. The Literacy Connections Workshop Kit consists of a manual, instructions for the workshop leader, blackline masters for handouts, a sample flyer promoting the workshop, and a video.

Literacy Connections helps families develop skills for reading at home and provides training for volunteers who read to children in school. It also gives families a chance to ask questions about literacy. The workshop provides models for teaching children how to read, clarifies the role of home and school in helping children become literate, kindles enthusiasm in teachers and families, motivates them to implement reading strategies, and creates an overall excitement and interest in reading.

Look for these programs in your elementary school Classroom Connections kit. Ask your principal or librarian for further information, contact Classroom Connections at (416) 462-1242, or 1-888-882-8865, or visit *www.classroom-connections.com*.



Secondary School Programs

brought to you by Classroom Connections

Reading Buddies

Reading aloud is one of the most successful methods through which children learn how to read. It helps them acquire language skills and develop their ability to think and reason. When children have a love of reading and books, they are motivated to practice reading. Only through practicing reading, do children become fluent readers.

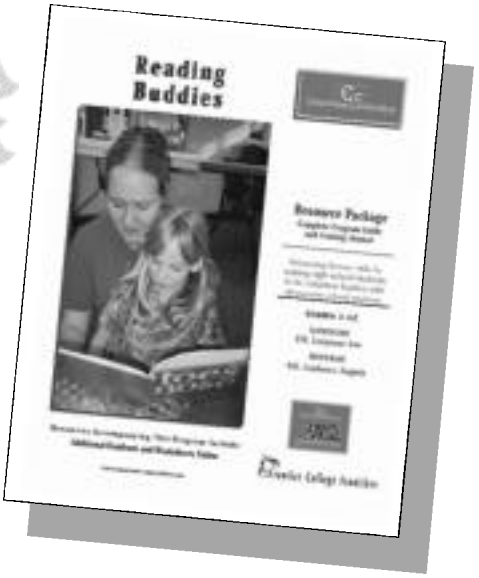
Reading Buddies is a program based on this method of learning how to read by being read to. Designed to enhance student literacy through volunteer high school tutoring of elementary school children, Reading Buddies strives foremost for creating a positive reading environment. Through storytelling, high school students provide a positive reading experience for children, rather than "teach" them how to read. One of the keys to this program is that the students must volunteer their services, and the children must willingly be read to.

While the program is flexible, it is suggested that about 15 high school students and 15 grade 1-4 children participate for an initial 10-week session. On the same day each week, the students and children meet as a group in the elementary school's library, and then separate into designated one-on-one pairs for approximately 30 minutes. The half-hour session is centred on reading aloud, but is not limited to reading alone. The students are encouraged to include various language exercises such as writing exercises, conversation, and word games to stimulate the children's interest, accustom them to a wider vocabulary, and foster their comprehension.

Elementary school children are not the only ones who benefit from the Reading Buddies program. The additional reading, writing, and speaking experience enhances the high school students' literacy levels as well. High school participants need not be over-achievers or straight-A students. The Reading Buddies program guide and training manual suggests that students come from varying levels of educational achievement. As a result of being a "Reading Buddy," which combines mentoring responsibilities and active participation within a learning environment, many below-average students improve their grades. The skills and experience students achieve through Reading Buddies can be applied to ESL, Guidance, and English class, and can also qualify for community service credit. The Reading Buddies program guide and training manual specifically explains how to recruit and select the children, recruit and screen the students, match the children and students together into congenial pairs, and evaluate the program's success. The booklet also provides details on how to launch the project and provides forms for parental permission and volunteer character reference. Reading Buddies offers its additional resources online, including: introductory letter to parents, tutor sign-in sheet, list of recommended children's books, portfolio form, program evaluation questionnaire, certificate of award, tutor reference letter, bibliography, and feedback form. Complete instructions on how to train student tutors, select books, prepare an agenda for the introductory review, understand how children learn to read, and react to difficult situations (such as dealing with critical parents or abused children) can also be found online.

Look for this program in your secondary school Classroom Connections kit. Ask your principal or librarian for further information, contact Classroom Connections at (416) 462-1242, or 1-888-882-8865, or visit *www.classroom-connections.com*.

Developed in conjunction with Frontier College, see the Web site at *www.frontiercollege.ca*



FREE SECONDARY TEACHING RESOURCES AVAILABLE

IN YOUR FALL 2000

CLASSROOM CONNECTIONS RESOURCE KIT

Discover Secondary School resources in your Classroom Connections Resource Kit. Make sure you go find the box sent to your school and take a look:

Business Studies Teaching Resource

- A detailed curriculum and study guide covering all it takes to succeed in business today
- Based on the financial section of a national newspaper

Reading Buddies

- Designed in conjunction with Frontier College, this detailed and rewarding program encourages high school students to mentor those in earlier grade levels

Volunteering Works

- Produced by Volunteerism Canada, the program includes resources for students, teachers and parents
- Teaches students how to gain valuable work skills and experience through volunteerism

Careers in a Package Teaching Guide

- Students explore the many career opportunities available in the Packaging Industry
- Provides a full and comprehensive curriculum

Classroom Connections

Ask your principal or librarian for more information or contact Classroom Connections at (416) 462-1242 or at 1-888-882-8865 or visit the web site at ***www.classroom-connections.com***.

Ermineskin Reserve Schools Use Technology to Honour and Celebrate the Cree Culture

By Jeremy Simon

Editorial Sponsorship

For students at the Ermineskin Reserve, remembering the legacy of Traditional Chief Bobtail (Kis-Ka-Yo) and his desire to preserve the culture and spirit of the Cree Nation with the signing of a treaty in 1877 is not just a homework assignment - it is a proud celebration of their heritage. Located 90 kilometers south of Edmonton on the Hobbema Four Nations Reserve, the Miyo Wahkohtowin Community Education Authority operates the Ermineskin schools: Kindergarten, Primary, Junior-Senior High, and Alternative. These schools serve the members of the Ermineskin Cree Nation on the reserve.

To recapture the students' history and teach them the Cree language and culture, educators recognize that technology can play an important role. "Our strategy is to be among the leaders in both technology and Cree language and culture," says Brian Wildcat, Director of Education for the Miyo Wahkohtowin Community Education Authority. "An ongoing challenge is to integrate both technology and the language and culture with the regular curriculum." The Authority's Board of Directors reviewed a number of technologies before they decided to standardize on the Macintosh computer platform.

"The schools' Board of Directors made a decision to directly invest in Apple technology not only because of Apple's long standing commitment to education, but also because its computers are very intuitive and easy to use," says Ahmad Jawad, IT Manager for the Miyo Wahkohtowin Community Education Authority.

In the past five years, the Miyo Wahkohtowin Community Education Authority's schools have undergone a dramatic transformation with the introduction and integration of technology into the classroom. The Ermineskin schools now have over 350 Macintosh computers, supported by four PowerMac G4 Servers running on an AppleShare network. Every teacher in each of Ermineskin's four schools has a computer for classroom instruction and most classes have at least three Macintosh computers that students can use for their lessons or to access the Internet.

In 2000, the Education Authority celebrated the opening of a new junior-senior high school. The high school has a circular architectural design that reflects the Plains Cree culture. Supported by the latest technology networking infrastructure, the school uses a high speed T1 connection to the Internet and has a wireless network connection to the other three schools. This investment in technology ensures that every computer has a fast connection to the Internet, enabling students to quickly access any information they need for assignments.

The high school operates two computer labs that all Ermineskin school students can use. The Multimedia Lab has 22 iMacs for Grades 5 to 9 students to use and it relies on a range of software including AppleWorks and Microsoft Office. The Design Lab, for students in Grades 10 to 12, uses Apple technology as a digital hub running 10 PowerMac G4s and Studio Displays connected to scanners, digital cameras, digital cameras, and storage devices. In addition to a host of software, the Lab recently began using Apple's iMovie and Interactive Solutions' animation program MovieWorks to further challenge the students' creativity while they learn to use the technology.

"Instead of focusing on the technology in the computer labs, I try to make learning to use the technology invisible and concentrate the students' attention on the projects they are learning in their other classes," says Earl Shortt, Computer/ICT Teacher at the Ermineskin Junior-Senior High School. "By using the AppleWorks Paint or Draw function to complete a lesson about geography, math or science, the students soon realize that they've picked up computer skills which they can apply for their other projects."

In addition to teaching the standard curriculum, computer lab projects are also used to explore the Cree Nation history and culture. One recent computer lab assignment involved Grade 10 to 12 students using the digital camcorder to re-create Native Myth Stories in a puppet show format. The iMovie stories were then converted to QuickTime movies so that students in the primary grades could play them on the iMacs in their classroom. "Our plans are to extend these projects to our web site, which is currently being updated and enhanced to become a richer resource to students, teachers, and the community" says Shortt. "We're planning on using iMovie to record video greetings from all of our teachers, so they can introduce themselves to the community and welcome new students to their class." To learn more about Chief Bobtail and the Ermineskin Native Community, visit the Miyo Wahkohtowin Community Education Authority's school Web site at *www.ermineskineschool.ab.ca*

Apple technology helps enhance the curriculum at the Ermineskin Reserve.

Jeremy Simon is a freelance writer based in Toronto.

1st North American International Conference on School Milk

School Milk Matters, the first North American International Conference on school milk, is scheduled to take place at the Sheraton Centre from June 4-7, 2001, in Toronto, ON. Hosted by the Canadian Dairy Industry, this conference is the seventh in a worldwide series, organized with the assistance of the Food and Agriculture Organization of the United Nations. School Milk Matters will address the importance of milk in children's diets. Focusing on the successes and challenges of school milk and school feeding programs around the world, the conference program will also review strategies for marketing healthy eating to children, children's attitudes and behaviors towards milk and school milk programs, and the role of dairies and foodservice operators. International speakers will address the growing crises in child nutrition and the link between nutrition and learning. The conference registration fee is CA $400 (before March 30) / $450 (after March 30). The day rate is $220. For a complete conference brochure, or to register for School Milk Matters, visit Dairy Farmers of Ontario's web site at *www.milk.org*. For further information, call 905-821-8970 ext. 275, or email *canada2001@milk.org*. Contact the Sheraton Centre Toronto directly to book hotel accommodations, 123 Queen Street W., Toronto, ON M5H 2M9, Tel: 1-800-325-3535 or 416-361-1000, Fax: 416-947-4854, Email: *reservations@sheratoncentretoronto.com*, Web: *www.sheratoncentretoronto.com*. The conference room rate is $199 per night.

A&E Biography Contest Winners

The A&E Television Network announced the winners of the 1st Annual Canadian Biography of the Year Essay Contest for Canadian elementary and high school students. The contest asked grade 5-12 students to write a 250 word essay on who they believe had made the biggest impact on Canadian society in 2000. Chosen from almost 3000 submissions, Natalie Tamosiunas of St. Andrew's High School in Victoria, BC was named winner of the grade 9-12 category for her essay about the Unknown Soldier. Hamreen K. Singh of Fletcher's Creek School in Brampton, Ontario, wrote her essay on Daniel Igali and was the winner of the grade 5-8 category. The grand prize for each category was a $5000 Canadian savings bond to the winning student, $1000 to the student's school department, and a television, VCR, and collection of classic A&E videos to the student's school. The A&E website is located at *www.AandE.com*, and the Biography website is located at *www.biography.com*.

Alliance Between Hewlett-Packard and ePALS Classroom Exchange

Hewlett-Packard Company and ePALS Classroom Exchange now have an alliance that will enable students around the world to share photos online. The agreement makes HP Cartogra Internet imaging solutions, the infrastructure that powers the HP photo-sharing web site, the exclusive provider of digital imaging services and photo-sharing on the ePALS web site. ePALS will introduce a new service called Photo-ePALS that will allow ePALS classrooms worldwide to exchange photographs and to create online photo albums using HP's digital imaging technologies and HP Cartogra photo-sharing solutions. The alliance will support ePALS' goal of providing teachers and students with the much-needed capability to send and share photos for enriched learning. Students and teachers will be able to manipulate, share, print, and store digital images using the new Photo-ePALS service. Participants will retain their privacy, as HP Cartogra has the ability to make online photo albums password-protected. With monitored email, instant language translation, lesson plans, and other interactive educational content and resources, ePALS offers a unique service for teachers around the world. The site is currently available in English, French, Spanish and German and offers the internet's first instant translation feature embedded within an email browser. For more information, visit ePALS Classroom Exchange at *www.epals.com*. More information about HP Cartogra Internet imaging solutions is available by emailing Ramon Garrido at *ramon_garrido@hp.com*. For information about HP and its products, visit *www.hp.com*.

Art for Peace

Students' Art for Peace, founded by Riley Conarroe, is a new, global art program. Students ranging from grade 3 to the post-secondary level exchange their artwork with other students of the same age across the world. Conarroe believes his program gives students "the knowledge that they are doing something personally and individually to promote global understanding and peace in the world." Although basically an art program, Art for Peace also teaches geography, civics, social studies, and history. Each class taking part in the program receives an official gold-sealed certificate identifying the students as International Art Ambassadors of Peace. A Peace Picture contest is held annually. Schools, teachers, and students winning blue or red ribbons receive both local and global recognition. Privately funded, there is no charge for participating in this program. For more information, visit *www.art-for-peace.org*. Teachers that wish to participate in the program and receive a teacher's kit should email their name, school name and address, and grade level of students to participate to *artpeaceman@aol.com*.

CANADA: A PEOPLE'S HISTORY

In conjunction with the documentary series CANADA: A PEOPLE'S HISTORY, CBC is releasing in-depth educational tools to help teachers and students appreciate Canadian history. The tools are designed to meet specific curriculum requirements in all provinces. The series is available on 30 one-hour tapes, in either English or French, that are specially licensed for long-term educational use. Schools and school boards may choose to purchase either specific episodes, or the entire series at special discounted prices. Also offered are comprehensive Teacher Resource Packages

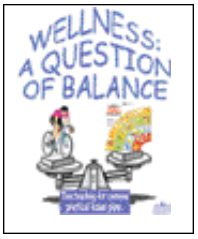
(TRPs), available in English or French, which help educators fully mine the series' visual content in a curriculum and expectation-specific context. The custom, three-ring binders contain approximately 130 pages of introductions, lesson plans, project plans, video cues, discussion ideas, and implementation/integration strategies. Two separate packages are being developed: one specifically for grades 5-9 (to be released in February 2001) and the other for grades 10-12 (to be released in 2 sections - the 1st in May 2001 and the 2nd in October 2001). Educators who purchase the TRPs will be encouraged to customize the content of their binders by incorporating additional support material from the series' Web site, as well as their own information. The Web site will contain additional material for the classroom, free of charge, including provincial curriculum correlations and assessment rubrics, background historical information, and blackline masters that tie in to the lesson plans in the TRPs. The Web site also contains a special forum for educators, where teachers will be encouraged to connect with each other to share their ideas. For more information about Educational Resources, contact Karen Bower, Manager, Non-Broadcast Sales, CBC Television, at 416-205-3506. Visit the series' Web site at *www.cbc.ca/history*.

Canada's Sport Crises Correlated to Insufficient Physical Education in Schools

Sportscaster Brian Wilson hosted a CBC panel discussion on the weaknesses plaguing the Canadian sport system. The discussion highlighted the importance of daily physical education to enable children to develop skills and positive attitudes towards sport and physical activity. The Canadian Association for Health, Physical Education, Recreation and Dance (CAHPERD) estimates that schools average only 60 minutes of physical education per week. When compared to the Canadian Medical Association's recommended guideline of at least 150 minutes of physical education per week, the majority of schools fall short. According to Farida Gabbani, president of CAHPERD, two major consequences of inadequate physical education in the early years are health problems and low athletic ability. Terry McKinty, director of Quality Daily Physical Education (QDPE), suggests that school administrators and parents advocate for change when they see that children are receiving less than 30 minutes of physical education per day. For more information, contact Terry McKinty, Canadian Association for Health, Physical Education, Recreation and Dance, Ph: 1-800-663-8708.

Childnet Awards

Childnet International is a non-profit organization that works around the world to help the Internet benefit children. One of Childnet's current projects is the Childnet International Awards Program, sponsored by Cable and Wireless. The program looks for those who develop outstanding Internet sites and activities that directly benefit other children. Judges take into account the available financial and technical resources, and projects can be at an early stage of development, but all submissions must be innovative, international, focused on children ages under 18, and use communications technology. The program has four categories of awards: education, non-profit, individual, government. Winners will receive up to $6000 and the 2001 Awards Ceremony will be held in Washington, D.C. For more information, visit *www.childnet-int.org*. To apply, use the email form on the Awards Web site at *www.childnet-int.org/awards*.



Comprehensive School Health Program

In 1979, Morven Morrison, M. Ed., wellness instructor and school counselor, began teaching wellness to secondary school students. Wellness: A Question of Balance is a formal teaching kit created by Morven. The kit contains eight practical lesson plans, a resource book of student handout materials, and a game, all of which teach how to create and maintain a sense of well-being. Morven's Wellness Wheel Model (a self-assessment tool that demonstrates how personal responsibility is at the centre of the change process) is the basis of the Wellness Priorities Survey, which is a two-step community wellness initiative. Wellness: A Question of Balance is available in English and French and costs $49.95. It is endorsed by the Canadian Association for Health, Physical Education, Recreation and Dance (CAHPERD) and compatible with Health Canada's Comprehensive School Health Model. To order, print out the order form at *www.smceducational.com/english9.html* and mail with your check to SMC Educational Products and Services, 1-1218 Langely Street, Victoria, BC V8W 1W2, Ph: 250-744-3200, Fax: 250-744-3222. For more information on Morven, the Wellness Priorities Survey Project, and Wellness: A Question of Balance, visit *www.smceducational.com* or email *info@smceducational.com*.

Female Cyber-Tutors Wanted

Color Math Pink is looking for girls and women to become Cyber-Tutors and tutor other girls over the Internet using AOL Instant Messenger. Color Math Pink offers tutoring to girls and arranges for girls needing help in math to "meet" volunteer tutors online. It also offers homework help, peer tutoring, diagnostic testing, problem solver bulletin boards, math anxiety testing, study strategies, and fear-reducing techniques. The tutoring service is provided free of charge. For more information, visit *www.colormathpink.com* or email Dr. Lynette Long, founder and CEO of *ColorMathPink.com*, at *DrLong@ColorMathPink.com*.

Intel Teach to the Future

In November 2000, the Intel corporation's Teach to the Future program was launched in Canada. Part of a worldwide initiative to address the barriers teachers face in effectively applying computer technology to student learning, the program aims to improve science and math education in K-12, broaden access to technology, and encourage women and minorities to enter technical careers. Nova Scotia, Ontario, and

Alberta are the first provinces to participate in the program, which will be rolled out over a three year period. In the first year, Knowledge House, an education services company, will train up to 100 "master teachers" from schools in Nova Scotia, Ontario, and Alberta. The master teachers will each train at least 20 participant teachers per year in their districts for the next 3 years. Intel estimates a minimum of 10,000 teachers trained in total across Canada by the end of the third year. Microsoft is donating the software and licenses for each of the training labs. Each master teacher will be provided with a laptop computer and CD burner; every classroom and master teacher will receive a free copy of Microsoft Office 2000 Professional and Microsoft Encarta Encyclopedia 2000. The curriculum, which consists of 10 4-hour modules, includes the use of the Internet, web page design, and multimedia software. Teachers learn how, when, and where to incorporate technology tools and resources into their current lesson plans, create assessment tools, and align lessons with provincial standards. Teachers in Nova Scotia should contact Christine Smith, Corporate Communications Manager, Knowledge House, at 902-490-2941 for more information on the Intel Teach to the Future program, or visit the Web site at *www.knowledgehouse.net*. All other teachers should contact Judy Schmidt at Intel of Canada by calling 613-829-6116 or email *judy.b.schmidt@intel.com*. For general information on Intel education programs in Canada, visit *www.intel.ca/ca/educate*.

Interactive Aquarium

Uncle Milton Industries, Inc. now offers an interactive aquarium called The Undersea Encounter. The aquarium features an underwater viewing scope to provide the viewer with a highly detailed, underwater, 3-D scene for a face-to-fish view. A reverse periscope lens is stationed on an underwater submersible. Food can be dispersed in front of the lens to attract the fish to the optimal viewing area. The viewer can position the lens as from the fish's perspective and look outwards from within the tank. The Undersea Encounter can be found in major retail stores and specialty shops across Canada, and the average cost is $34.99. If ordered online at the company Web site, *www..unclemilton.com*, the list price is $29.99 U.S.. For teacher incentive, licensing, and product information, contact Frank Adler at Uncle Milton Industries, Ph: 1-800-869-7555.

IWALK 2000

The year 2000 marked the kickoff of International Walk to School Day, when schools in countries all over the world joined forces and feet to make International Walk to School Day a truly global event. For several years, schools in Canada and the UK had been gearing up for the premiere of IWALK by putting on their own national walk-to-school events. Recently, Ireland and New Zealand launched successful walk-to-school programs as well. Australia recently decided to join IWALK 2000 as well. For more information, visit *www.iwalktoschool.org*.

Microbiology Education Web site

Developed by the American Society for Microbiology, *Microbe.org* won a Gold Circle award from the American Society of Association Executives in November, 2000. *Microbe.org* provides microbial information specifically tailored to children in the sixth grade and up. Visitors to the site can find microbiological information, read up on science news, try do-at-home microbiology activities, test their hand-washing know-how, and get career information. The text is casual and the explanations are simple. Visit the site at *www.microbe.org*.

Our Kids Can Vote - Canada

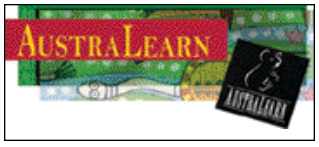
Nearly 5000 students under the age of 18 showed up at advance municipal polling stations last fall in Burlington, Markham, Newmarket, Pickering, and Toronto. Students were asked to vote on issues ranging from the importance of voting to recycling to safety in their schools. This opportunity was provided by the Our Kids Can Vote - Canada program, developed by The Learning Partnership. This program is designed to teach students in grades 4-10 about the electoral process. Our Kids Can Vote - Canada aims to educate students, through the public school system, about the importance of an informed electorate and of the act of voting to sustain democracy. It also hopes to help create lifetime voters of today's youth, to remind parents of their civic responsibility, and to increase the adult voter turnout in elections. In order to vote, the students had to be accompanied by a parent or family member. For more information about Our Kids Can Vote, visit *www.tlp.on.ca*, or contact The Learning Partnership, Tel: 416-204-4478, Fax: 416-204-4378, Email: *info@tlp.on.ca*.

Stage Kids

Stage Kids' next season production is "The Last Dance." For young adults aged 11-17, "The Last Dance" explores peer pressure within the context of violence in our school system. In response to the demand by educators and parents for innovative resource materials for school productions and after school programming, Stage Kids has packaged their educational musicals into Musical Theatre Performance Packages complete with scripts, study guides, production notes, and a double-sided audio cassette with both an instrumental and vocal track. These study guides are written to follow the Ontario Curriculum Guidelines and meet the needs of educators and community leaders worldwide. Each package costs $189.00 and can be ordered by mail, fax, or email (print out order form off the website). Ticket pricing varies according to venue. Performance dates and locations are: April 24-May 2, 2001, at Minkler Auditorium in North York; May 7-9 at Ryerson Theatre in Toronto; May 15-18 at the Living Arts Centre in Mississauga. For more information, and to order tickets, contact Stage Kids The Edu-Tainment Co., 1179A King Street West, Suite 111, Toronto, ON M6K 3C5, 1-888-537-8243, Ph: 416-538-0299, Fax: 416-538-3609, email *info@stagekids.com*, or visit *www.stagekids.com*.

Student Poetry Contest

The Students Own Poetry Forum invites students in grades 1-12 from public schools, private schools, home schools, and individual programs, to submit their poetry and compete against others within their own grade level. There are no entry fees, reading fees, or purchases required to enter or win. Winners receive cash awards, have their poetry published in a poetry anthology of which they receive two free copies, and receive a Certificate of Recognition. Each grade level will be awarded three cash prizes of $25, $15, and $10 each. For complete information, send a SASE with your request to Comm-Link Media School Package, P. O. Box 189, St-Eugene, ON K0B 1P0.

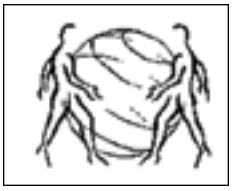


Teacher Training in Australia and New Zealand

AustraLearn: North American Center for Australian Universities has developed the "Overseas Student Teaching Practicum." This new program allows college students who are pursuing their teaching certification in the US or Canada to fulfill part of their training requirements in Australia or New Zealand. The 8-10 week practicum offers students the opportunity to learn about the education system while teaching under the supervision of primary and secondary school teachers and university education faculty. The practicums are located at Queensland University of Technology in Brisbane, Australia, University of Newcastle in Newcastle, Australia, and the University of Waikato in Hamilton, New Zealand. The cost of the program ranges from US $1200 to US $2630 for an 8-10 week term. Cost includes placement, orientation, briefing sessions, on-going student supervision, final evaluation, transfer of credits to home university, and assistance with passports and airline tickets. Several sessions are available during the 12-month school term. For application information, students should contact AustraLearn at Colorado State University, Denver Center, 110 16th Street, 2nd Floor, Denver, CO, 80202, Tel: 1-800-980-0033 / 303-446-2214, Fax: 303-446-5955, Email: *studyabroad@australearn.org*. For further information, or to order an enrollment guide, visit *www.australearn.org*.

ThinkQuest Internet Challenge 2001

ThinkQuest, a non-profit, Internet-based educational initiative, holds an annual, international contest open to students aged 12-19. The purpose of the contest is to promote the Internet style of learning. ThinkQuest encourages students to work in teams of two or three to build web sites used as learning tools for other students. Participating teams worldwide are eligible for awards and scholarships that total over $1 million in US funds. Teams may form and submit proposals via the ThinkQuest Web site up to 12 noon US Eastern Time, May 31, 2001. Entries must be submitted by 12 noon, August 31, 2001. Finalists will be announced October 15, 2001. For more information, visit *www.thinkquest.org*, or contact John Sek at the Canadian office of ThinkQuest, Canadian Junior Chamber of Commerce, Jacees Training Centre, 3 Municiple Centre Dr., Fort Erie, ON L2A 2W5, Ph: 905-871-7000, Fax: 905-871-4891, or email *jsek@iaw.com*.

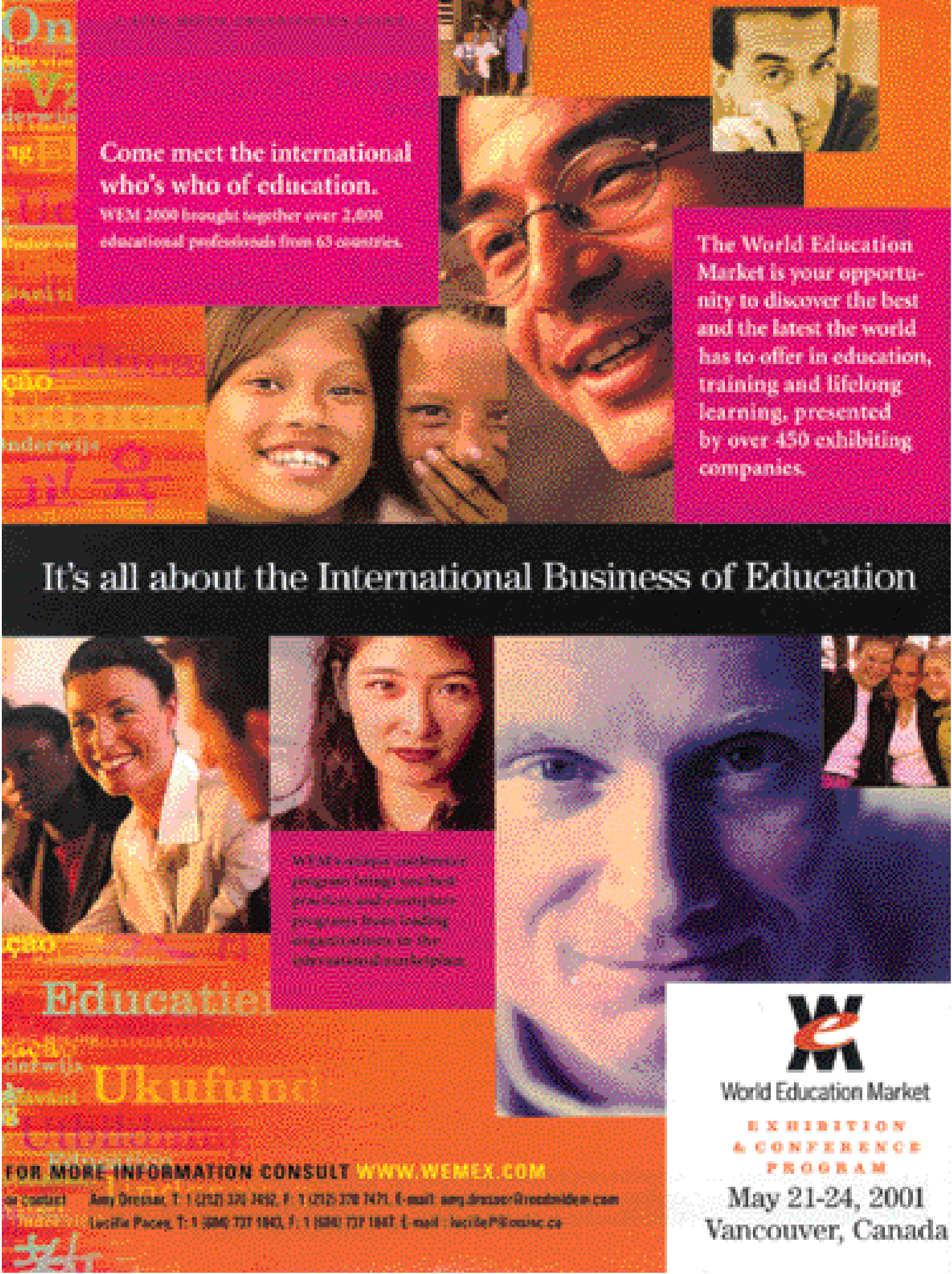


Volunteer Youth Projects

Youth Challenge International invites youth aged 18-25 to apply for volunteer projects this year in Costa Rica and Guyana, South America. Youth Challenge promotes youth development through powerful community, health, and conservation projects. Young people from across Canada and around the world will work on a variety of projects, such as rainforest studies, school construction, or health education, under the guidance of experienced youth leaders and project managers. All the applicants need is energy, enthusiasm, and a willingness to learn. To receive an application, and for more information about YCI, visit *www.yci.org*, call 416-504-3370, or email *info@yci.org*.

Harbourfront centre HARBOURFRONT CENTRE PROGRAMS

The Harbourfront Centre's School by the Water program offers K-12 students active experiences in urban studies and visual arts. Students benefit from small, group workshops that provide them with interactive and interpretive experiences. There are 29 courses to choose from, including Mount Pleasant Cemetery, Kensington Market, Government Study, Historic Toronto, Mapping and Orienteering, Mask Making, Sock Puppets, Handbound Books, and Art in the City. Programs are tailor-made for individual class needs. Courses have strong curriculum links and appeal to students of all ages and learning disabilities. The Milk International Children's Festival of the Arts is one of North America's largest performing arts festivals dedicated to young people, and presents theatre, dance, and music performances, speakers, workshops, and crafts. The School by the Water program runs from September 2000 to June 2001. Full-day programs cost $6.90 per student, and run from 10a.m. to 2 p.m. The half-day programs cost $5.90 per student, and run from 10 to 11:30 a.m., or 12:30 to 2 p.m. To register, or for information, teachers should call 416-973-4091. The Milk International Children's Festival of the Arts runs from May 20-27, 2001. School week performances run from May 23-26. The cost is $7.50 per student for 1 show/workshop, which includes access to a full day of on-site activities. A 2nd show/workshop on the same day is an additional $4.50 per student. Free on-site bus parking is provided. Call 416-952-6204 for school bookings. A 10% non-refundable deposit is required, and the balance is payable within 30 days. To request a free brochure and list of curriculum, email *micfa@harbourfront.on.ca*. Both programs take place at the Harbourfront Centre, York Quay Centre, 235 Queens Quay West, Toronto, M5J 2G8, *www.harbourfront.on.ca*.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