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It has been a rough ride these past seven months. In the world of education there is ongoing unrest in British Columbia, Alberta and of course, Ontario where the legacy of disruptive policy will continue to take its toll for years to come. We would urge the governments of British Columbia and Alberta to learn from the errors compounded in Ontario. No one has been well-served most of all students. They seem to fall to the bottom of the well when ideology drives education policy. Every government should ask and thoroughly investigate how their policies hinder but hopefully advance the learning experiences of children rather than purport to save money in the short term. Investing in education is not only money well spent it is vital to the survival of the type of society we cherish in Canada. Why are politicians so blinded and foolish? We may never answer that question. If you do have an adequate response, please let us know.

This issue brings you our Eighth Annual Technology Supplement where you are treated to what is new and innovative in the world of technological goods and services. We always caution that the listings here are not meant to be endorsements but descriptions of things that might interest you. Take a look and if you wish to take action, then you have the contact information to follow up directly. Staying within the technology arena, we are pleased to present an article on using digital camera technology in science labs. One can quickly see how lessons can be enhanced by using these cameras. In addition, the teaching unit this issue, CURRICULA, explores the world of online publishing. It provides some hands-on activities for students to develop their writing skills.

Spring brings with it the hope of renewal. Let us focus on providing the best for students across the country.

Les derniers mois ont été durs. Dans le monde de l'éducation, il y a encore des problèmes en Colombie-Britannique, en Alberta et, bien sûr, en Ontario où on subira pendant des années les conséquences des politiques perturbatrices du gouvernement. Nous implorons les gouvernements de la Colombie-Britannique et de l'Alberta de tirer une leçon des nombreuses erreurs faites en Ontario.

Personne n'a gagné au change, surtout pas les élèves. Ils semblent devenir quantité négligeable quand l'idéologie dicte la politique d'éducation. Chaque gouvernement devrait se demander et examiner à fond comment leurs politiques empêchent ou favorisent – espérons que c'est le cas – les expériences d'apprentissage des enfants, et non pas comment elles épargneront de l'argent à court terme. Investir dans l'éducation, ce n'est pas seulement bon. C'est un investissement crucial dont dépend la survivance du genre de société qui nous tient à cœur au Canada. Comment les politiciens peuvent-ils être aveugles ou idiots à ce point? On ne pourra peut-être jamais répondre à cette question. Si vous connaissez la réponse, écrivez-nous pour nous en faire part.

Dans ce numéro vous trouverez notre huitième supplément annuel sur la technologie où vous aurez le plaisir de voir ce qu'il y a de nouveau et d'innovateur dans le monde des produits et services technologiques. Nous tenons à vous rappeler que nous n'appuyons pas nécessairement les choses que nous vous présentons. Il s'agit simplement de descriptions de produits qui pourraient vous intéresser. Jetez-y un coup d'œil, et si vous souhaitez en savoir davantage, vous pourrez faire le suivi grâce aux coordonnées fournies à la fin des articles. Toujours dans le domaine technologique, nous présentons un article sur l'utilisation de la photographie numérique dans les laboratoires de science. Vous verrez comment un appareil photo numérique pourrait rendre les cours de science beaucoup plus intéressants. La partie enseignement du numéro comprend la rubrique CURRICULA, où on explore le monde de l'édition en ligne et fournit des activités pratiques visant l'amélioration des compétences rédactionnelles des élèves.

Le printemps amène l'espoir d'un renouveau. Fournir ce qu'il y a de mieux aux élèves du pays tout entier, voilà sur quoi il faut nous concentrer. ☺

Wili Liberman

Next Issue

- *Crisis Intervention*
- *Web Reviews, Futures, CURRICULA and more*

TEACH

MAGAZINE

Publisher / Editor:

Wili Liberman

Associate Editor:

Jennifer Kavur

Contributing Writers:

John Cordukes, Nicole Selig,
Marjan Glavac, Richard Worzel.

Advertising Manager:

Michele Newton Benson

Art Direction:

Vinicio Scarci

Designer / Production:

Elskelijn Boks

Circulation:

Susan Holden

Editorial Advisory Board:

Arnold Edinborough

Chairman, University Scholarships Canada

Byron Grant

Principal, Brock Public School

Charles Ledger

Mathematics Instructor Umertis

Ralph Ingleton

Environmental Educational Consultant

Jack MacFadden

Teacher-Retired

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Education and Technology, Circa 2025

FUTURES



By Richard Worzel

Zine is deadheading, which is to say he's asleep. "Deadheading" is a slang term that means he's unplugged from the Net, and is not presently conducting multiple online interactions. Sometimes he stays plugged in – or "zup," which some think means "heads up" while others believe it derives from the greeting "what's up" – even while sleeping. When he stays zup while sleeping, his connection to the Net through his computer genie stays open, even though he doesn't participate. This can give him strange dreams, but he's used to that. Online interactions also filter into his memory, and add to his apperceptive mass – the collection of subconscious knowledge each human accumulates.

Zine (pronounced "Zeen") is a 15 year old boy in the year 2025, and is plugged in virtually all the time, except the rare times when he's deadheading. His computer genie – the software that animates his wearable computer and acts as his personal assistant – manages the hardware and software connections necessary for his perpetually online lifestyle, guards him from viruses and hackers, makes and reminds him of appointments, pays his bills, helps him run his business, and acts as a totally loyal sidekick, assistant, gofer, guardian, manager, talent agent, and anything else an intangible but powerful and dedicated computer can do for a human being.

Zine's genie, which he calls "Goody," is surprisingly complex, astonishingly intelligent, and was provided to Zine free of charge by American Express Software when he first started school. Since then, Zine has had Goody download a broad range of software plug-ins. Most of this is based on Handili – the Linux operating system that evolved for handheld computers in the 2000s, but which was ported to run on wearable computers.

When Zine reaches his 18th birthday, he plans to have surgical computer implants in his ears for hearing online, in his throat for speaking online, and upper arms for the main processor and memory storage units. Once he's done that, all he'll need to do is put in his contact lenses every morning to be a complete Nethead. At present, he bumps along with ear buds to hear with, a throat mike worn in a leather necklace, and contact lenses, all tied together wirelessly with the wearable computer he wears on his belt. All of the hardware or software has been provided for free by various corporations under agency agreements that work to the advantage of both sides.

The reason Zine is deadheading right now is that he's got an important exam tomorrow – important for more than one reason. He's taking a final exam in genetic and proteomic engineering at his high school in the morning, and figures he needs undisturbed rest – at least that's the test-taking advice Goody is giving him, and Zine usually listens to Goody's advice. This exam is of great interest to a large segment of society as well, and Zine will walk into the school building past a battery of reporters who will record and transmit Zine's progress. Zine, along with many other of his contemporaries, has been fighting a legal battle to be allowed to get assistance from their computer genies in schoolwork and exams, which the education establishment and adult society have opposed.

The adults contend that over-reliance on wearable computers and genie software will produce an inability to think, reason, or recall without a wearable computer, and they see this as a major threat. Zine, his contemporaries, and a small group of adult Netheads and renegade educators disagree, pointing out that workers of all ages today

are constantly supported by computers of all shapes and kinds, and that the people are more productive and produce better, more informed results than they would without computers. Zine's supporters also point out that scholars in the 15th century warned that the widespread rise of literacy brought about by the invention of moveable type and the greater availability of books would destroy humanity's ability to memorize long tracts of knowledge. More recently, in the 1980s schools allowed students to use electronic calculators, and in the 1990s and 2000s, computers with CD-ROM libraries and Internet connections to perform research, yet few people in the modern era would argue that educators should ban such technologies.

Furthermore, the Netizens argue, being zup is the way virtually all working

people will function in future, and so it is only natural and even desirable that students be allowed to be zup to complete their assignments and exams. This issue finally wound up in court, and will eventually be heard at the Supreme Court for final adjudication. Meanwhile, Zine is under a court injunction to take this exam without assistance from his wearable computer and genie. Goody is not to help Zine in any way with the exam. Zine's lawyers, paid for by his cyberspace support groups and fan club, plan to appeal the results, but are powerless to stop this exam from taking place. Zine, meanwhile, has privately told them not to worry – he plans to ace the exam on his own, and without the surreptitious help his fellow Netizens had offered to find a way to supply.

As Zine is famous as one of the most plugged in and multi-tasking Netizens of cyberspace, his case has attracted a great deal of attention around the world by people on both sides of the issue. The teachers' unions, education establishment, and groups of concerned parents believe that plugged-in students aren't really learning, merely repeating what their genies tell them. Netheads disagree, and Zine has become the poster boy for their cause, which is why he is deadheading in preparation for tomorrow's exam ☹

Richard Worzel is a Toronto-based futurist who volunteers his time to speak to high school students as his schedule permits. You can contact him care of this magazine, or by e-mail at <futurist@futuresearch.com>

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Par Richard Worzel

Zine est en état de « vide », ce qui veut dire qu'il dort. Le « vide » est le terme utilisé pour indiquer qu'une personne est débranchée de la Toile et n'effectue donc pas ses interactions multiples habituelles en ligne. Parfois, Zine est branché même lorsqu'il dort, c'est-à-dire qu'il reste connecté à la Toile par l'intermédiaire du génie de son ordinateur (le logiciel qui anime son ordinateur-vêtement et lui sert d'assistant personnel), même si sa participation personnelle cesse. De ce fait, ses rêves sont parfois bizarres, mais il s'y est habitué. Les interactions en ligne pénètrent ainsi dans sa mémoire et ajoutent aux aperceptions de son cerveau, à la masse de connaissances subconscientes qu'accumule chaque être humain.

Nous sommes en 2025. Zine 15 ans. C'est un garçon branché presque tout le temps, excepté les rares fois où il est « vide ». Le génie de son ordinateur gère le matériel informatique ainsi que les connexions aux logiciels nécessaires pour le garder perpétuellement en ligne, le protège des virus et des pirates, prend ses rendez-vous et les lui rappelle, paye ses comptes, l'aide à gérer son entreprise et fait office de fidèle acolyte, d'adjoint, de serviteur, de gardien, d'imprésario et de tout autre chose qu'un ordinateur puissant et dévoué, quoique intangible, puisse faire pour un être humain.

Le génie de l'ordinateur de Zine, qu'il appelle Copain et qui est étonnamment complexe et incroyablement intelligent, lui a été offert gratuitement par l'American Express Software lorsqu'il a commencé à aller à l'école. Depuis, Zine a fait télécharger toute une gamme de modules d'extension par Copain, certains fournis par Amex, mais plusieurs autres provenant d'autres fournisseurs et du marché fébrile des modules d'extension gratuits et contributifs (graticiels et partagiciels) à ajouter aux logiciels de génie. La majeure partie d'entre eux fonctionnent avec Handili, le système d'exploitation Linux qui a été développé pour les ordinateurs portatifs des années 2000, mais qu'on a finalement adapté pour les ordinateurs-vêtements.

Lorsque Zine aura 18 ans, il compte se faire implanter des appareils informatiques dans les oreilles pour entendre en ligne, dans la gorge pour parler en ligne, et dans les bras pour y entreposer le processeur principal et les unités de stockage de la mémoire. Ses parents ne lui permettent pas de le faire en ce moment, mais ne pourront pas l'en empêcher lorsqu'il sera majeur. Une fois ces interventions effectuées, tout ce qu'il aura besoin de faire tous les matins sera de mettre ses lentilles cornéennes (son écran d'ordinateur). Il sera ainsi le parfait internaute branché à la Toile et au monde cybernétique dans lequel il vit presque tout le temps. Pour le moment, il se contente d'écouteurs-boutons dans les oreilles, d'un micro enchâssé dans un collier de cuir et de lentilles cornéennes, le tout relié à un ordinateur qu'il porte à la ceinture, comme un baladeur, durant le jour et qu'il dépose dans son étui sur sa table de chevet la nuit. Tout ce matériel ainsi que les logiciels lui ont été donnés par diverses compagnies

dans le cadre d'ententes de représentation conclues à l'avantage des deux parties.

La raison pour laquelle Zine a décidé de faire le vide aujourd'hui est qu'il a un examen important demain. Important pour plusieurs raisons. Il a un examen final de génie génétique et protéomique à son école demain matin et croit avoir besoin de dormir sans interruption – du moins, c'est ce que lui a conseillé Copain, et Zine a l'habitude de suivre les conseils de Copain. Cet examen est non seulement important pour Zine, mais aussi pour une grande partie de la population. Quand Zine arrivera à l'école demain, il passera devant un barrage de journalistes venus voir ce qui se passe et rendre compte de ses progrès. Zine, et bien des jeunes de son âge, défendent en cour leur droit d'obtenir de l'aide de leur génie informatique pour faire leurs devoirs et leurs examens scolaires, ce à quoi s'opposent les éducateurs et la population adulte.

Les adultes estiment qu'une trop grande dépendance à l'égard des ordinateurs-vêtements et des logiciels de génie entraînera une incapacité à penser, à raisonner et à se souvenir sans l'aide d'un ordinateur-vêtement, et voient cela comme un grand danger. Ils croient donc que les ordinateurs-vêtements devraient être interdits dans le contexte scolaire. Zine, les jeunes de son âge et un petit groupe de mordus de la Toile et d'éducateurs renégats ne sont pas d'accord, et font remarquer que les travailleurs, quel que soit leur âge, font aujourd'hui appel à des ordinateurs de toutes formes et de toutes sortes et ont une meilleure productivité, qu'ils sont mieux informés et obtiennent de meilleurs résultats que s'ils n'avaient pas d'ordinateurs. Grâce à leur accès à l'histoire et à la littérature, Zine et ses alliés rappellent que les

savants, au XV^e siècle, avaient prévenu leurs contemporains que l'alphabétisation de la population. Qu'allaient entraîner l'invention des caractères mobiles et la propagation du livre. Détruirait la capacité des gens de mémoriser les connaissances. Sur ce point, ils ont vu juste. Pourtant, même en perdant les mémoires prodigieuses de l'époque, l'humanité y a gagné. Dans les années 1980, on a permis aux élèves d'utiliser des calculatrices électroniques, puis durant les années 1990 et 2000, de faire de la recherche au moyen d'ordinateurs équipés de bibliothèques sur cédérom et connectés à Internet. Pourtant, peu de gens pensent aujourd'hui que les éducateurs doivent proscrire ce genre de technologie.

Les citoyens du Web apportent un autre argument. Ils avancent qu'étant donné que tous les travailleurs seront bientôt presque tous branchés, même durant leur sommeil, il est donc naturel et même préférable que les élèves aient le droit d'utiliser leur ordinateur pour

faire leurs devoirs et leurs examens. Après des années de discussion, la cause s'est rendue à la cour et aboutira à la Cour suprême, les partisans de l'ordinateur citant la Déclaration canadienne des droits et ses détracteurs considérant son utilisation comme tricher aux examens. En attendant, Zine, dont le cas particulier a créé le précédent qui préoccupe actuellement la cour, a fait l'objet d'une injonction l'obligeant à faire son examen sans son ordinateur-vêtement ni son génie. Copain n'a pas le droit d'aider Zine à faire son examen, et ce, de quelque façon que ce soit. Les avocats de Zine, qui sont rémunérés par ses groupes d'appui cybernétiques et son fan club, entendent porter les résultats en appel, mais ne peuvent rien faire pour empêcher la tenue de l'examen. Entre-temps, Zine leur a dit en privé de ne pas s'inquiéter, qu'il entend réussir l'examen haut la main par lui-même, sans l'aide clandestine que ses concitoyens de la Toile ont offert d'essayer de lui trouver.

La renommée de Zine s'est étendue. On le considère comme étant l'internaute le plus branché et le plus multitâche du cyberspace. Son cas attire l'attention partout dans le monde, que l'on soit pour ou contre. Les syndicats d'enseignants, le milieu de l'éducation et des groupes de parents croient que les élèves branchés n'apprennent pas vraiment, qu'ils ne font que répéter ce que leurs génies leur disent. Les Webnautes ne sont pas d'accord et Zine est devenu le représentant de leur cause. Et c'est pour cela que Zine se prépare à l'examen de demain en faisant le « vide » ☺

Richard Worzel est spécialiste en prospective. Il habite Toronto et va, bénévolement et selon ses disponibilités, faire des communications dans des établissements secondaires. Vous pouvez le rejoindre par le biais de cette revue ou par courriel à l'adresse suivante <futurist@futuresearch.com>.



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Services Supplement

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Hardware



SMART Technologies

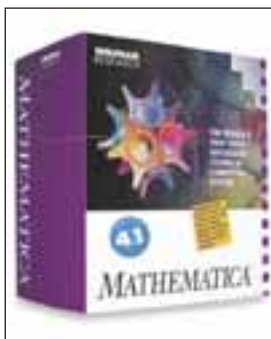
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Software

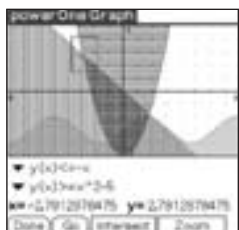


Mathematica Teacher's Edition

Over 500 universities and high schools use Mathematica software as part of their math and science coursework. Developed by Wolfram Research, Mathematica gives you a single, integrated environment for word processing, calculation, and demonstration. It also has enough power to perform extended computation with

numerical accuracy so you can solve very large, complex problems. The program works similarly to Microsoft Word in that it gives you a blank page to work on and tools to help. Just as Word doesn't supply the sentences for you, Mathematica doesn't give you the calculations to perform - and just like Word - won't teach you how to write poetry, Mathematica won't teach you how to do math. Mathematica Teacher's Edition is a special version of Mathematica specifically designed for elementary and secondary teachers. It contains the same power and function of the professional version, but is offered at a subsidized price. It features an easy-to-use interface and performs two-dimensional output in typeset, textbook-quality form (so "fractions" look like "fractions" and "radicals" look like "radicals"). You can create handouts, notes, quizzes, tests, and tutorials in traditional mathematical notation, as well as full-colour 2D and 3D graphics to demonstrate concepts. The program also allows you to save your notes in HTML so you can post them on the Web, or as text files so you can email them to others. The Teacher's Edition runs on Macintosh, Linux, and Windows platforms, and costs US \$195. Discounts for site licenses are also available. To order, contact Wolfram Research directly at 1-800-WOLFRAM (965-3726). For further information, visit the Mathematica Teacher's Edition page on Wolfram Research's Web site www.wolfram.com/products/teacher or send an email to info@wolfram.com. A new edition of Mathematica Teacher's Edition with added features will be released soon. Check Wolfram's site in the near future for the product announcement and further details.

For more information please circle reader service #21



powerOne Graph

powerOne Graph version 3.0 is the latest version of Infinity Softworks' scientific graphing calculator software. The application offers comparable functionality to Texas Instruments' TI-83 graphing calculator, and turns any Palm Powered

handheld into an advanced graphing calculator for solving complex math and science problems. powerOne Graph features a touch screen user interface and infinite expandability through its built-in equation solver. It has 18 built-in advanced worksheets, and over 100 free worksheet templates are available for download from Infinity Softworks' Web site. The software runs on all devices running on the Palm OS platform, and is available as an electronic download, Springboard module, or CD from Infinity Softworks' Web site. The base price for powerOne Graph v3.0 is US \$49.99 for the electronic version and \$59.99 for Springboard modules. Educational discounts and volume pricing are available. For more information, visit www.infinitysw.com, or call 503-690-3134.

For more information please circle reader service #22



REALbasic

REALbasic allows you to build software applications that run on Macintosh and Windows operating systems. You can create multimedia/graphics applications and games, build SQL database applications, port visual basic projects, build business applications, and create Internet-enabled applications. All applications built with

REALbasic use the user interface elements of the operating system they run on. REALbasic also has automatic support for double-byte languages and a code editor. The latest version, REALbasic 4, was released in early January, and is available from REAL Software for US \$149.95 (Standard) / \$349.95 (Professional). Academic and volume discounts, as well as license-only options, are available. Through the "Curriculum Project," REAL Software offers 30 lesson plans to educators interested in teaching students the fundamentals of programming. The lessons use REALbasic as their primary tool, and are available free of charge at www.realsoftware.com/realbasic/education/curriculum.html. For further information on REALbasic, visit www.realbasic.com/realbasic, or call 512-263-1233.

For more information please circle reader service #23



Scan and Read

Scan and Read is a software package from Premier Programming Solutions (PPS) that instantly translates typewritten text into spoken language. It is available free to schools, libraries, literacy groups, and nonprofit training

organizations. Scan and Read works with any computer system running Windows 98 and above, and with any TWAIN USB flatbed scanner. It will read any type of printed material, from books and magazines to owner's manuals and forms. Users can follow along on the screen and control how fast the computer reads the material back. Scan and Read Pro includes 17 different voices, and can accommodate most languages spoken in the Western Hemisphere. Contact PPS at info@readingmadeeasy.com or call 517-668-8188 for more information. To apply for the free software, or to download a free demonstration copy, visit the PPS Web site at www.readingmadeeasy.com.

For more information please circle reader service #24

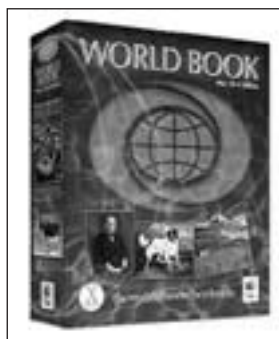


Starry Night Backyard

Starry Night Backyard is an astronomy program from **SPACE.com** that lets you locate yourself anywhere in the universe up to 20,000 light years away and travel through time from 4713 BC – 9999 AD. With this software, you have access to one million stars, Messier objects (galaxies, clusters, and nebulae), and the Hipparcos/

Tychos 3D star database. You can also add new comets, asteroids, satellites, and moons to your program's data. Use the program to view solar or lunar eclipses, stick figures of all the constellations (including the Zodiac), and classical constellation illustrations. Other features include the ability to magnify up to 600,000 times, mimic light pollution, show planet orbits, and print star charts. Starry Night Backyard comes as a CD-ROM that runs on both Windows and Macintosh computers, and is priced for educators at CDN \$58.95. Other editions of Starry Night software are also available. For further information and to order, contact SPACE.com Canada, Inc., 284 Richmond St. E., 3rd Floor, Toronto, ON M5A 1P4, Tel: 416-410-0259 ext. 224, Email: education@starrynight.com, Web: www.starrynight.com/edu. A free student/teacher guide (grade 6 and 9) and a demo version of the software are available on the Web site.

For more information please circle reader service #25



World Book Encyclopedia

The World Book Encyclopedia is available as a 2-disc CD-ROM set. It includes every article from the print edition and more. There are more than 9400 illustrations, 1200 maps, 2 hours of video and animations, over 700 sounds, and a high-performance search engine. A new Macintosh OS X edition was recently introduced,

which features a special "Surf the Millennium" section that invites students to visit each century of the past millennium on simulated Web sites. The World Book Encyclopedia on CD-ROM is available for both Windows and Macintosh computers. Educational pricing begins at CDN \$30 (Windows), \$60 (Mac 2001), and \$99 (Mac 2002 for OS X). To order, contact your regional school and/or library representative in order to receive educational pricing in Canadian funds. To find the representative for your area, call 1-800-837-5365, or visit www.worldbook.com/contact/contact_na_reps.asp. For further information, visit the World Book Web site at www.worldbook.com.

For more information please circle reader service #26

Web-Based



ClassyTeacher.com

The Classy Teacher Web site provides a bridge between teachers and students/parents by offering a place for teachers to post their

daily assignments, class work, and handouts without needing to learn HTML code. Students and parents can then visit the Classy Teacher site, enter their school code and teacher's name, and access the information. By using Classy Teacher, teachers can post information online without needing to learn how to build Web sites of their own. Up to two weeks' worth of assignments can be posted, and teachers can upload files directly from their computers. An email account is also provided for student/parent questions. Teachers pay US \$25 per year for a Classy Teacher account, which is freely accessible 24/7 to students and parents. For further information, visit www.classyteacher.com.

For more information please circle reader service #27



The National Library of Canada

The National Library of Canada makes its collections available online through the Digital Library of Canada, a Web site full of teaching

and learning resources that complement Canadian Social Studies and Language Arts curricula. The site includes exhibitions on Canadian exploration, Confederation, prime ministers, women's achievements, Canadian poetry, and a huge collection of original texts written by Canadian pioneers Susanna Moodie and Catherine Parr Traill. It also offers lesson plans that are tailored to the exhibitions, developed by qualified teachers, and designed to develop and improve student research skills. The lesson plans are available in PDF format and come complete with outcomes, instructions, handouts, rubrics, and extension activities. Research tools for secondary students, such as Virtual Gramophone, Sheet Music from Canada's Past, and Canadiana Quick Reference, are also available. For teachers, AMICUS provides access to catalogues at the National Library of Canada and libraries across the country. Visit the Digital Library of Canada at www.nlc-bnc.ca. All the resources on the Digital Library site are available in both English and French, free of charge. More resources are planned for the future, so check the site regularly.

For more information please circle reader service #28



Pieces of Science

The Franklin Institute Science Museum and the Science Museum, London partnered to create an online science gallery called "Pieces of Science." The museums invited teachers (called Online Museum Educators, or OMEs) on both

sides of the Atlantic to participate in the site's development. The OMEs combed through archives and chose historically significant, scientific objects to profile. They proceeded to learn about the object, its history, and its significance, and developed classroom activities related to their encounters. Finally, the OMEs created Web exhibitions, or "pieces," for other educators to use. Collectively, these products are "Pieces of Science." There are 16 pieces in all, and they are arranged in the gallery from primary up through secondary levels. Visit the online gallery free of charge at www.fi.edu/pieces. Additional information about the OMEs program is available at The Franklin Institute Online, www.fi.edu.

For more information please circle reader service #29



The Teacher List

The Teacher List is a free, daily email service that presents one useful Web site for K-12 teachers each day. Once a site is presented, its link is archived at The Teacher List Web site. The site is divided into four sections in accord with Alberta's classification system. The Teacher List was created by Pete MacKay, a teacher and technology coordinator in Edmonton. He currently maintains the service as a hobby and upholds standards of privacy and control. To join the subscriber list, visit the Web site (www.theteacherlist.ca) and enter your name and email address. You can also suggest a site of your own, and have the opportunity to write the review of the day.

For more information please circle reader service #30



TechSoup.org

Powered by CompuMentor, a nonprofit technology assistance agency, TechSoup.org provides free technology information and resources to nonprofit organizations. The site features a section on nonprofit discounts, which lists discounted software, hardware, Web, and consulting services. The TechSoup community center contains message boards, nonprofit stories, a "career corner," and a just-for-fun virtual soup recipe book. TechSoup also offers nonprofit tools, such as tech support, a glossary of tech terms, lists of resources, free downloads, technology assessment worksheets, and links. Visit TechSoup at www.techsoup.org. For further information, contact TechSoup.org, 487 Third Street, San Francisco, CA 94107, Tel: 415-512-7784, Fax: 415-365-2870, Email: info@techsoup.org.

For more information please circle reader service #31



Virtual Dr.

The Virtual Dr. is a Web site that provides free tips, tutorials, and online discussions about computers. You can find out how to clean up your Windows sys-

tem, defrag your hard drive, optimize your operating system, and install a network. Tutorial topics include the Internet, handhelds/PDAs, hardware (components, memory, modems, storage, etc.), software, and various operating systems (Windows, Macintosh, Linux, etc.). The site also hosts a technical support forum. Visit the Virtual Dr. at www.virtualdr.com.

For more information please circle reader service #32

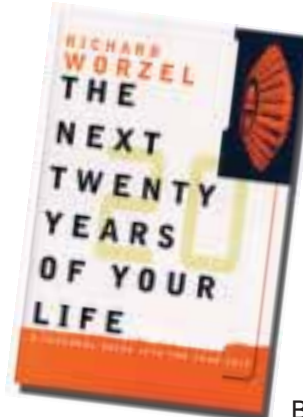
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Learningvillage.com, is an online guide to the best in learning software from Canadian teachers, for Canadian teachers and families.

Learning Village is an independent review and advisory centre for parents and teachers who are looking for credible information on the best in educational software. In Learning Village's Software Guide, you will find our short list on the best we have seen, with complete software profiles, who each program best suits, and commentary from teachers and children who have used the program. Online ordering links and ordering by phone are available on the site, through Learning Village's online partner, the CDROM Store, one of Canada's best educational software retailers.

Learning Village is sponsored by TV Ontario.
www.learningvillage.com



THE NEXT TWENTY YEARS OF YOUR LIFE

**A PERSONAL GUIDE
TO THE YEAR 2017**

**PUBLISHED BY
KEY PORTER BOOKS
AVAILABLE AT MAJOR
BOOKSTORES EVERYWHERE**

Published by Adventus.com, Piano Suite Premier Bundle is a complete learn-to-play piano instruction and practice program that comes with a 49-key, touch-sensitive MIDI keyboard. Piano Suite works well as a learning platform, supporting teacher-guided instruction. It is developed for beginners to those with grade 4-5 conservatory skill, and is suitable for ages 7 to adult. The main screen of Piano Suite has five areas: Theory Thinker, Piano Player, Composer's Corner, History Happens, and Games.

If you are a beginner, you start with "Theory Thinker." The step-by-step series of tutorials (over 170) are interspersed with practice sessions (120 in all) that develop the skills you are learning in the tutorial. High quality graphics will guide you on the fundamentals such as hand position, and then into the basics of treble and bass clef notation, timing, and rhythm.

When you begin practicing on your MIDI keyboard, you can set your own tempo, listen to the song played for you before you start, and when you play, the notes you play correctly will turn green, while a red "X" will appear over any notes you play wrong. Once you have completed the piece, you will get a performance score, with very specific feedback on where you went off the rails, so you can immediately go back and practice until you get it right.



At anytime, you can move from Theory Thinker to "Piano Player," which contains a selection of over 500 songs. When you select a song, you can choose between five different levels of playing difficulty and set the notation to match your current skill level. There are also many very useful setting options (e.g. left hand only, right hand only, both hands, fast or slow tempo, etc.) that help you learn to play the song in manageable chunks. Again, as you practice, you get feedback (i.e. red and green notes) and a complete performance report on your playing skill. The report is automatically saved, which is a useful progress measurement report you can later refer to.

"Composer Corner" is the third area of the program, and allows you to create and notate your own music. As you are composing a piece, you can hear how it sounds, edit it, and print it off as sheet music. You can also save your composition to Piano Player so you can access it, play it, or hear it played for you at any time.

For those interested in the history of music, the "History Happens" area of the program is a mini encyclopedia of interesting biographies on famous composers and performers who have shaped the history of music. The "Games" section is specifically designed to help you learn and remember specific skills and knowledge.

As a public school music teacher, I see tremendous potential for this program in the classroom. By allowing my students to learn and practice on their own through the program, I am able to distribute my time to a larger number of students and give them the help when they really need it. What Piano Suite also allows for, in a group learning situation, is for each student to have a learning path that is customized to their specific music interests, set to their own level of skill, and which allows them

to learn at their own pace and in their own time. I also very much appreciate the teacher setting, which lets me monitor student progress and turn user settings on and off. This program also has enormous potential for teaching music because it creates a sense of self-motivation in the user. Younger students use the test score as a measure of their abilities, and can make judgments about whether or not to move to the next level of songs.

Everyone should be so fortunate to have this program in their classrooms. Across the world of learning software, Piano Suite is probably one of the most sophisticated, comprehensive, and useful learning programs I have seen.

The Piano Suite Premier Bundle runs on Windows operating systems, and costs \$289.99. To order, contact **cdromstore.com**, 345 Danforth Ave., Toronto, ON M4K 1N7, Tel: 416-778-4048, Fax: 416-778-4099, Email: **mkesten@cdromstore.com**, Web: **www.cdromstore.com**, Item Code: 628370100276LV. ©

*Nicole Selig is a music teacher in St. John, New Brunswick, District 8. This review was taken and adapted from **www.learningvillage.com**.*

A new "Internet-enabled" version of Piano Suite Premier is now available. This new version lets teachers connect to their students' computers and interact with them in real time. Teachers can also set up specific lessons in the form of dictation books that students download off the Net. The dictation books contain lesson activities, links, voice and text instruction, and music content. The Internet-enabled Piano Suite is offered as a free upgrade at the *Adventus.com* Web site, **www.adventus.com**. Lesson plans for teachers that support Piano Suite software are also available at the *Adventus.com* site.

Serving Your Classroom Needs

Editorial Sponsorship

Is the learning environment of the future available today? You might think so if you were to visit Craig Roberts' grade 7 computer class at St. Marguerite D'Youville School in Oakville, Ontario. His school board, the Halton Catholic District School Board has acquired a new Web-based curriculum management platform called Microsoft Class Server. Roberts now has the capability of administering and marking tests for his 98 students online. Not only that, the system has an auto-grading function which he can program to set up the evaluation parameters he needs, and the software will take a first pass at grading each student test. Then, he can go into the system and verify the results making changes and adjustments where necessary.

"At first, students were really excited," Roberts says, "but when we told them their parents could check the results too, they were not too excited about that but understood it was necessary." According to Roberts, having this capability gets rid of some of the excuses students have for not getting assignments or tests completed on time. Says Roberts: "I love the auto-grading, and like the flexibility of going back and making changes if I feel a student deserves a better mark."

In the four months that Roberts has been using Microsoft Class Server, using it for testing is the feature he's used most. The range of possible tests meets teachers needs as they can design multiple choice, short answer, true-false and fill-in-the-blanks formats. The degree of functionality, however, offers a great deal more. It is possible, for instance, for a teacher to manage most, if not all their curriculum needs over the course of the school year. The program gives teachers the ability to manage five key areas online: curriculum standards, lesson plans, content, assignments and, as we've seen with Craig Roberts, assessment. Testing then, is just the tip of the iceberg.

The program resides on a server and consists of three parts:

Administrator: A Web site used by server administrators to add or remove classes, teachers, and parents from the system, and to change user permissions.

Teacher: Allows teachers to work offline, or go online to the school or school board server. Contains tools for managing classes, creating assignments, finding and creating learning resources, and tracking and grading student work.

Student/Parent: A Web site provides access to classes and assignments for an individual student and parent. A student signs on to his home page to complete, submit, and review work or tests.



A parent can review completed work, upcoming assignments and current marks rather than waiting for a report card.

Beyond the testing features he currently uses, Roberts sees many possibilities. A colleague of his is taking an online certification course through Microsoft Class Server, so there are professional development opportunities. It would be possible for a school board to post a series of online courses using the program that teachers could complete to upgrade skills and qualifications. "People don't have the time to travel and this gives them flexibility," Roberts says. "You can do it when you have the time to focus. You also have instant access to resources all the time, people will log on and share ideas."

Another area where Roberts sees advantages in using Microsoft Class Server is one that presents challenges to school systems everywhere. "It is a blessing for special needs students," he enthuses. "They can write the test without anyone knowing there might be a modification. It is the same test but the format is different so it creates a level playing field. The kids aren't singled out. They sit with the rest and do it. They get the same feedback and they feel they've accomplished something. It blends in

"At first, students were really excited," Roberts says, "but when we told them their parents could check the results too, they were not too excited about that but understood it was necessary."

special ed(ucation) without doing extra work." It is in this way that technology can serve as an equalizer in education delivering value to those students whose needs are challenging teachers in classrooms across the country. What applies to the writing of tests for these students also applies for working on projects, doing homework and completing assignments.



As we know, teachers are very time constrained and anything that is easy and will save some effort is appreciated. In any kind of new system, there is always a time investment when getting things set up. That is, when a teacher sets their class up on the system, establishes their curriculum needs, creates assignments and tests. In the long run, many of those activities become automated freeing teachers from a great deal of the repetitive work they do daily. The ability to share resources with teaching partners or colleagues or indeed, anyone connected on the Internet or Intranet will help teachers when planning classroom assignments. The auto-grading feature “takes the monotony out of marking for teachers,” says Scott Soroko, the computer technician who set up Microsoft Class Server for the school board. “It saves a lot of time.” Not only that, it can save paper too. Rather than photocopying class sets of assignments or tests, everything is posted in the system and completed online so there is a cost savings to the school and ultimately, the school board while conserving precious resources. For students without online access, they can have a printed copy of assignments and tests to complete in the traditional paper manner.

It is rumoured that some teachers may be intimidated by technology and are put off by the learning curve required in working with something new like Microsoft Class Server. Roberts scoffs at the notion: “A teacher only needs word processing skills like typing a letter and then they can do this easily. If you want to add graphics, you still use word processing. There’s no reason it can’t be done. You can use Microsoft Word as an editor and save the work as a Web page. People need to try it to see how easy it is.”

As teacher Craig Roberts notes, the front end of the system is easy to use but the back end also delivers a lot of attractive features. The Halton Catholic District School Board consists of 33

elementary schools and five secondary schools. Two more of each type of school are being built this year as well as an adult education centre. The entire system is connected through a fibre optic network. The system runs through Windows 2000 and was simple to install, according to Scott Soroko. “The product has never been down once since it was installed. It is very stable and there’s not a lot of maintenance which is a plus for schools and school boards,” Soroko says.

“Parent feedback has been terrific,” says Roberts. “They think it’s great the computer is being used for more than just a babysitting tool.” Parents like the control it gives them and see Microsoft Class Server as a valuable communications tool. It’s important for them to be able to monitor a child’s progress and it can be done quickly and easily from home. And there are added bonuses. Says Soroko: “When parents come in on interview night, the teacher can bring up the work online and give accurate feedback. (The system) keeps it all organized and together.”

Although he teaches computers and likes the idea of his students reading and collaborating online, Craig Roberts doesn’t push technology for its own sake. He sees it as a powerful tool when it is administered properly in his classroom. “There’s always room for the personal touch and the social aspect of learning,” he says. In the not too distant future, publishers will provide all of the required curriculum content online and even provincial testing can be done this way. “I love computers and using them but kids need to interact and express their ideas. This program is a good blend with other aspects of learning.”

For more information on Microsoft Class Server, please go to:
<http://www.microsoft.com/education/?ID=ECS>

Dans la classe, à votre service!

Publireportage

Les écoles disposent-elles aujourd'hui des possibilités d'apprentissage de demain? Une visite de la classe d'informatique de 7^e année de Craig Roberts à l'école Sainte-Marguerite d'Youville d'Oakville (Ontario) pourrait le faire penser. Le conseil scolaire concerné — conseil de district catholique de Halton — a fait l'acquisition d'une nouvelle plateforme de gestion des programmes d'études accessible par Internet : le serveur de classe Encarta de Microsoft. M. Roberts a maintenant la possibilité d'administrer et de noter en ligne les tests de ses quatre-vingt-dix-huit élèves. Par ailleurs, le serveur comporte une fonction d'auto-notation par laquelle l'enseignant peut programmer ses propres paramètres d'évaluation et qui permet de sortir une première note pour chaque test. Craig Roberts peut alors entrer dans le système et vérifier les résultats, y apportant éventuellement des changements s'il le juge nécessaire.

« Au départ, les élèves étaient très enthousiastes, a dit M. Roberts, mais lorsqu'on leur a dit que leurs parents pourraient également voir les résultats, leur enthousiasme est quelque peu tombé; ils ont pourtant compris que c'était nécessaire ». Il estime qu'avec cette capacité, finies bien des excuses de ne pas avoir fait ses devoirs ou de ne pas avoir terminé ses tests en temps voulu! Il ajoute : « J'aime beaucoup l'auto-notation et

« Au départ, les élèves étaient très enthousiastes, a dit M. Roberts, mais lorsqu'on leur a dit que leurs parents pourraient également voir les résultats, leur enthousiasme est quelque peu tombé; ils ont pourtant compris que c'était nécessaire ».

j'aime le fait de pouvoir retourner dans le système pour faire des changements si j'ai l'impression qu'un élève mérite une meilleure note ».

Craig Roberts utilise le serveur de classe Encarta depuis quatre mois et c'est surtout pour les tests. Les différents tests possibles répondent aux besoins des enseignants qui peuvent les adapter : choix multiple, réponse courte, vrai ou faux, blancs à remplir. Le degré de fonctionnalité offre cependant davantage. Un enseignant peut, par exemple, gérer la plupart de ses problèmes, sinon tous, en matière de programme d'études sur l'ensemble de l'année scolaire. Il peut aussi gérer en ligne cinq secteurs importants : normes des programmes d'études, plans de leçons, contenu, devoirs et, comme nous l'avons vu avec



Craig Roberts, évaluation. Les tests ne constituent qu'une toute petite partie de ce qu'on peut faire.

Le programme réside sur un serveur et comprend trois parties : une pour les administrateurs, une pour les enseignants, une pour l'élève et les parents.

Partie pour les administrateurs — Les administrateurs du serveur utilisent un site Internet pour ajouter ou supprimer des classes, des enseignants et des parents, ainsi que pour changer les autorisations d'utilisateurs.

Partie pour les enseignants — Cette partie permet aux enseignants de travailler en différé ou d'aller en ligne sur le serveur de l'école ou du conseil scolaire. Elle contient des outils pour gérer la classe, préparer les devoirs, trouver et créer des ressources d'apprentissage, repérer et noter les devoirs des élèves.

Partie pour l'élève ou les parents — Un site Internet permet à un élève ou à ses parents d'avoir accès aux classes et aux devoirs. Ainsi, un élève va sur sa page d'accueil pour terminer, soumettre et revoir son travail ou ses tests. Les parents, eux, peuvent revoir le travail terminé, les devoirs à faire ainsi que les notes obtenues plutôt que d'attendre le bulletin scolaire.

M. Roberts voit dans ce système beaucoup d'autres possibilités que celles des tests qu'il utilise actuellement. Par exemple, l'un de ses collègues suit, grâce au serveur Encarta, un cours d'accréditation en direct; il existe donc des possibilités de perfectionnement professionnel. Il serait ainsi possible qu'un conseil scolaire utilise le programme pour afficher en ligne une série de cours que les enseignants pourraient suivre en vue d'améliorer leurs compétences et leurs qualifications. « Cela donne une certaine souplesse si on n'a pas le temps de voyager, dit M. Roberts. Vous le faites quand vous avez le temps de vous concentrer. Vous avez également accès instantanément à la documentation à tout moment et pouvez entrer dans le système et partager vos idées. »

Un autre secteur pour lequel M. Roberts voit des avantages à utiliser le serveur Encarta est celui des élèves en difficulté qui posent des problèmes à n'importe quel système scolaire. « À cet égard, le serveur est une véritable bénédiction », dit-il,



enthousiaste. « Ces élèves peuvent passer le test sans que personne ne sache qu'on a pu y apporter des modifications. Il s'agit du même test, mais personnalisé, en quelque sorte. Plus de distinctions : ces enfants sont là avec le reste de la classe et font leur travail comme les autres. Ils obtiennent les mêmes réactions et ont le sentiment d'avoir accompli quelque chose. Le serveur intègre l'éducation spécialisée sans occasionner de travail supplémentaire. » C'est de cette façon que la technologie peut servir d'égalisateur lorsqu'il s'agit de communiquer des valeurs aux élèves dont les besoins présentent, en classe, des difficultés pour les enseignants, et ce, partout au pays. Ce qui s'applique aux tests pour ces élèves s'applique également au travail sur des projets et aux devoirs à faire chez soi ou en classe.

Nous savons bien que les enseignants ont de très fortes contraintes de temps; ils apprécient donc tout ce qui leur facilite le travail. Bien entendu, comme pour tout ce qui est nouveau, il y a toujours un investissement de temps à l'installation — lorsque l'enseignant entre sa classe dans le système, établit ses besoins relatifs au programme d'études et prépare ses devoirs et les tests. Mais à la longue, nombre de ces activités deviennent automatiques, ce qui libère l'enseignant de beaucoup de tâches qui reviennent tous les jours. La possibilité d'échanger de la documentation avec des partenaires ou des collègues ou, à vrai dire, avec n'importe qui est connecté à Internet ou à l'intranet, aidera les enseignants à préparer les devoirs de leurs élèves. Selon Scott Soroko, l'informaticien qui a installé le serveur de classe Encarta pour le conseil scolaire, la fonction d'auto-notation « supprime la monotonie que connaît l'enseignant lorsqu'il note les devoirs de ses élèves et fait gagner beaucoup de temps ». Autre point important, elle fait également économiser du papier. En effet, au lieu de photocopier des séries de devoirs ou de tests, tout est affiché dans le système et fait en ligne, d'où des économies pour l'école et, en fin de compte, pour le conseil scolaire, outre la préservation de ressources naturelles précieuses. Les élèves qui n'ont pas accès à Internet peuvent toujours disposer d'une version imprimée des devoirs et des tests qu'ils feront de la façon traditionnelle.

On dit que la technologie intimide certains enseignants qui sont déconcertés par les difficultés associées à l'apprentissage de quelque chose de nouveau comme le serveur Encarta, mais M.

Danse la classe à votre service!

Roberts écarte cette notion même : « En fait, on n'a besoin que de savoir utiliser un traitement de texte, comme savoir dactylographier une lettre; on peut alors facilement s'en servir. Si on souhaite ajouter des graphiques, le traitement de texte est toujours là. Il n'y a aucune raison de ne pas pouvoir le faire. Vous pouvez utiliser MS Word comme éditeur et sauvegarder le travail comme une page Web. Il faut vraiment l'essayer pour voir comme c'est facile ».

En tant qu'enseignant, Craig Roberts fait remarquer que si l'interface utilisateur est conviviale, le logiciel lui-même possède également de nombreuses caractéristiques fort intéressantes. Le conseil scolaire de district catholique de Halton compte trente-trois écoles élémentaires et cinq écoles secondaires, ainsi que deux élémentaires, deux secondaires et un centre d'éducation pour adultes en construction cette année. L'ensemble du système est connecté grâce à un réseau à fibres optiques. Le système fonctionne sur Windows 2000 et a été très simple à installer. « Le système n'est pas tombé en panne une seule fois depuis qu'il a été installé; il est très stable et ne nécessite pas beaucoup de maintenance, ce qui est un plus pour les écoles et les conseils scolaires », de dire Scott Soroko.

Selon M. Roberts, la réaction des parents a été très favorable. « Ils pensent que c'est une excellente chose que l'ordinateur soit davantage qu'un accessoire de gardiennage. » Les parents aiment le contrôle qu'il leur donne et considèrent le serveur Encarta comme un excellent moyen de communication. Ils trouvent important de pouvoir suivre les progrès de leur enfant et peuvent le faire rapidement et facilement à partir de chez eux. Il y a également d'autres avantages. Selon M. Soroko, « lorsque les parents viennent pour la soirée des entrevues, l'enseignant peut faire sortir les devoirs en ligne et être ainsi en mesure de faire des commentaires précis. Le système conserve tout ensemble de façon organisée. »

Bien qu'il enseigne l'informatique et aime l'idée que les élèves lisent et collaborent en ligne, Craig Roberts ne prône pas la technologie à outrance. Il la considère comme un outil puissant lorsqu'il est géré correctement dans sa classe. « La touche personnelle et l'aspect social de l'enseignement restent possibles. » Dans un avenir pas trop éloigné, les éditeurs fourniront en ligne tout le contenu des programmes et on pourra aussi passer de cette façon les examens provinciaux. « J'aime beaucoup les ordinateurs et j'aime les utiliser. Mais les enfants ont besoin d'interagir et d'exprimer leurs idées et je trouve que ce logiciel s'intègre bien aux autres aspects de l'apprentissage. »

Pour plus de renseignements sur Microsoft Class Server, visitez le site :

<http://www.microsoft.com/canada/education/?ID=ECS>

Veuillez noter que ce site est en anglais.

CURRICULA

4 PAGE
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MAR./APR. 2002 ISSUE



This teaching unit has been developed in reference to the Language Arts curriculum of the Pan-Western Canadian Curriculum protocols and the Atlantic Canada Technology Education Curriculum formulated by the Atlantic Provinces Education Foundation.

It is appropriate for grades 5-12 and the following curriculum areas are applicable: Language Arts, Social Studies, Media Studies and Technology Education.

THE **ONLINE** PUBLISHING PROJECT

Publishing online is a powerful educational tool that has the potential to allow students across a wide range of ages, grade levels, interests and abilities, to develop their skills and advance their personal views for a vast audience. This process should instill both discipline and allow for the evolution of self-confidence as students work on their own writing and open it up for a connected readership. When one writes and publishes, those words will have an effect on someone somewhere. Within the realm of the Internet, there is no hard and fast expectation as it is a medium of transferability. The user links and links and links making discoveries along the way, some good, some of dubious merit and everything in between. The process of writing and revision of text helps students critically assess their own work and in doing so delivers the ability to do the same of others; a crucial skill requirement in the wired world.

Learning Outcomes:

Language Arts

Students will:

- Listen, speak, write, view and represent to explore thoughts, ideas, feelings and experiences.
- Listen, speak, read, write, view, and represent to comprehend and respond personally and critically to media texts.
- Listen, speak, read, write, view, and represent to manage ideas and information.
- Listen, speak, read, write, view, and represent to enhance the clarity and artistry of communication.
- Listen, speak, read, write, view and represent to celebrate and build community.

Technology

Students will:

- Be able to respond with critical awareness to various forms of the Arts and be able to express themselves through the Arts.
- Be able to assess social, cultural, economic, and environmental interdependence in a local and global context.
- Able to use the listening, viewing, speaking, reading and writing modes of language to think, learn and communicate effectively.
- Be able to use the strategies and processes needed to solve a wide variety of problems.
- Be able to use a variety of technologies, demonstrate an understanding of technological applications, and apply appropriate technologies for solving problems.

Think

Within any unit of study, you must either assign a topic or find a topic of interest among the students in your class. What interests them and how does it fit into what you are currently doing with regard to the curriculum? Might this topic be the environment, endangered species, music, movies, books, fashion, art, relationships, government, sports, current events, Canadian geography, computers or...? You set the guidelines and within them, brainstorm some ideas so that students aren't left to their own devices grasping for a topic on which to write. You should also decide what it is you want students to publish and within what parameters. That is, should students write an essay, an opinion piece, a review, a feature article, do an interview or write a column? Decide what format in which all of this writing will appear. Will it be an electronic newspaper (e-paper), a newsletter (e-newsletter), magazine (e-zine) or something else?

While students are assessing potential topics, have them ask themselves the six basic questions inherent in any journalistic piece: Who, What, When, Where, How and Why?

Who is involved? What happened? When did it happen? Where did it happen? How did it happen? Why did it happen? This will help clarify and separate the issues from actual information and help students decide whether the topic they're considering has enough details for them to write about. Within a topic, students must then identify the story or issue they wish to pursue in their writing. For example, the environment is a very broad topic. An examination into how the public water system in Walkerton, Ontario became contaminated might make for a compelling story. The story might be written from the perspective of a young person (the same age as the student) whose family became ill during the crisis and how those events affected their lives.

Decide

Students should decide what type of writing they wish to do:

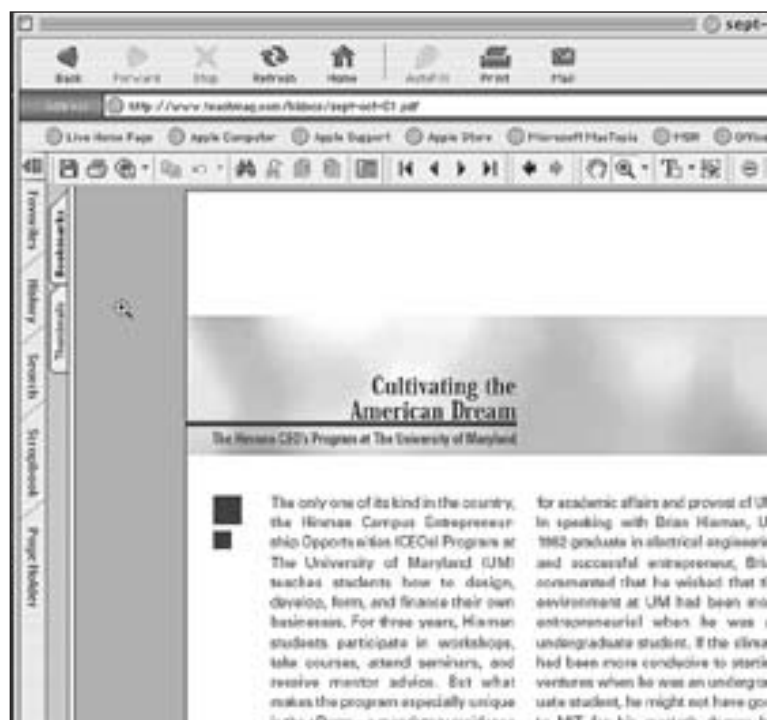
Essay—a critical and objective examination of a topic or issue that has a beginning, a middle and an end;

Opinion Piece—where the writer expresses personal views (often backed up with research) on a given topic or issue;

Review—a critical examination of a book, movie, video or work of art;

Feature Article—an in-depth examination of a topic, issue or event that looks at the reasons why something happened and attempts to examine all of the details while answering the six basic questions;

Interview—a dialogue between the writer and the person being interviewed, the purpose of which is to bring out information



about that individual's life or how they fit into a particular story or event;

Column—usually written by someone who has expertise and experience in a given area such as law or financial management, for example, who can speak knowledgeably about specific issues that fall within their area of interest and/or expertise.

All of these forms appear in the mix that make up a hardcopy newspaper or magazine as well as their online versions. This is what provides the variety in writing that readers come to expect from publications whatever the medium or format. Try to get as much diversity in the forms written as story ideas out of your class. Variety does stimulate reader interest.

Practice

Writing is hard work. It requires much practice and revision to achieve a good result. It is just as important for students to gain experience in writing about different stories as it is employing different forms. Have the students in your class practice writing in the different forms as previously mentioned.

Research

Research is a critical part of any writing. It is how a writer gets the informa-





tion to support the perspectives and arguments that are presented in the piece he or she is writing. Without proper research or “doing your homework”, it is difficult for a writer to appear credible when their work is published. Part of the process of writing is discussion and debate when a reader questions or wants to clarify a point made. It is very difficult to support a position outlined in a piece of writing without having done the research.

Students will complete at least one of the following:

1. Find three online publications by searching the Internet.

What do you like about them? Is it easy to find information on those sites? What role do graphics and images play in the layout and design of the online publication? Do they enhance the ability to retrieve information quickly and easily? Is it easier to understand what the stories are about? Is there anything the publication could do to improve? Write a review of one of the publications you have found.

2. Go to a news-oriented Web site of your choice (yahoo.com, msnbc.com, torontostar.com, globeandmail.com etc.) and



find a story that falls into one of the following topic areas: social, cultural, economic, and/or environmental. Represent your own views on the information presented in the story. Remember the six basic questions and write this as an Opinion piece but support your perspective with research and solid arguments. Think about and include what impact the story might have on your community and other areas around the world.

3. Your task is to interview a local celebrity. By that we mean someone who stands out in your community be it at home, in school or your circle of friends and acquaintances. Why is this person worth interviewing? Decide what you want to talk about and the types of questions you need to ask. Is there extra research you need to do about this person's life and background or some event in which they may have been involved? For example, if it's a local politician, knowing something about the history of local politics would be useful. How do you want to conduct the interview? Will you record it on audio tape? Do you have access to a camcorder or digital camera or digital video camera? Will you take notes by hand or use a laptop? Where will the interview take place? In an office, a classroom, a hallway, on the street? Is this a good place for the interview that will allow you to ask the questions you want without extra distractions? Conduct the interview, write up your notes or transcribe them if recorded or if using video, see about having the interview properly edited so that it makes sense. A videotaped interview may have to be a specific length of time, say two or three minutes. Similarly, a print-based interview may require a specific length or number of words, say 1000 for example. Now that the interview is done, you may have to revise it to fit the length requirements. Once the interview is done and the editing completed, show/share it with the rest of the class.

Creative Activities

Students will select one of the following:

1. Attend a live performance of a play, concert, a dance or a movie and write a review of what you saw. After you have written the review, think about what other elements can be brought in to bring the review to life.

Are there images, audio or video clips, and graphics that can be used to enhance the review? Gather all the elements together and add them to your review as best you can.

For younger students, they can illustrate the review with drawings of their own, anything that adds a dynamic element to the review. What programs will allow you to





put all of this together and post the finished review to a Web site. If your school or class has that capability, make sure the review is posted online.

2. Take a story idea like music videos. You will write about this topic from three different perspectives. The first perspective is that music videos are a good thing for kids to watch. You have to explain why and support your views with solid arguments. The second perspective is that music videos are not a good influence on kids. Again, you'll have to support your views effectively.

The third perspective is that of a young adult, someone in their mid-twenties who has finished school and is working at their first job. What do you think their view would be concerning music videos? Read all three of the versions out loud to yourself. Which one sounds the most convincing? Can you improve it in any way? Is there anything you can take from the other two versions that will make this last one stronger? Present your chosen version to the class.

Final Project

Using all of the skills, knowledge and experience you have drawn on in the previous activities, it is now time to create and launch your own E-zine. This will require working in teams and dividing up roles and responsibilities (publisher, editor, copy editor, advertising manager (if applicable),



designer, layout artist, Web master etc.). Look back at the online publications you researched earlier and recall what you admired about them. How can that help you in designing your own? With your team, discuss ideas for the e-zine, what will it be about, what will it be called, who is its target audience, what will be its philosophy (mission statement), tone (provocative, fun, academic, news-oriented...) and format (text-based, text and images, text and multimedia, text, multimedia and interactive)? Think about the amount of time and effort that is required in putting together your first issue. Make sure everyone can handle the workload and then decide how much time is required to get all of the tasks completed. In other words, set up a schedule and make sure you stick to it. Everyone is given a deadline to get finished. Once you've figured out what you need to do, it is the publisher's role to ensure everyone does the job on time, so this is a very important position. All of the roles are important. Without teamwork, a project like this can't be completed. Put together a rough version of your e-zine and let others take a look at it and give you feedback. If you agree with their comments and they make sense, revise your first draft and do another assessment. Let every member of the team look at the work others have done and give their comments. When everyone is satisfied and after some last minute tweaking, arrange through the school or class Web master to have your e-zine posted to the available Web site. And remember the best part about all the hard work involved in putting together an e-zine is the launch party. Make sure to have a good one and make it fun.

Sources

www.snn-rdr.ca
www.wier.ca

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

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Digital Cameras

By John Cordukes

and Your Science Class



As educators, ask yourselves the following questions: Would you like your students to show their parents exactly what can be cultured from their musical instruments? Do you want your students to have photographic observations from labs and field studies? Would you like to excite your classes with new technologies in your science curriculum?

If you answered “yes” to any of the above, then perhaps you should consider using a digital camera in your science class. Images from digital cameras can be used in a myriad of ways, and there are cameras for all budgets that are simple to use and require very little extra time to incorporate into your lessons.

Any activity in class can be made more exciting with a camera because everyone likes to take and look at pictures. Petri dishes growing coloured bacteria colonies cultured from kitchen cloths, toothbrushes, or dust can be accurately recorded with photographs. Cells from tomatoes and fat, viewed through a microscope, can be imaged with a digital camera. Complicated lab set-ups or procedures lend themselves to digital imaging, proving that the saying “a picture is worth a thousand words” is really true.

Students can add labels to parts of photographed set-ups using common drawing software.

A photograph of several labeled test tubes with wide-range pH indicators and test liquids showing a rainbow of colours is a great way to display observations in a lab report. Imagine a report from a field study with photographs of plants, trees, or small organisms imbedded right in with the text. If your students are building cars for a motion unit – balloon cars, mousetrap cars, or cars designed to save an egg’s life – photographing the cars being built in various stages would be an excellent addition to a written report.

Computer slideshows are a great way to show a class the results of an independent project, and images from a digital camera can be directly incorporated into such a project. Power Point and Corel Presentation are two common slideshows that easily allow students to meld text, images, and sound. Any project that has a sequence of steps, a device that is made, or that demonstrates visible changes, will lend itself to photographic recording and slideshow presentation. Be sure to keep a copy of the presentations after students have shown them to the class - these presentations can be linked one to another, and then

played as a continuous slideshow to parents at an open house to demonstrate what your students have learned in class.

Here is another nifty thing that you can do: with your collection of photographs of students working in class and on their experiments, you can create a musical “Photojam” of your science class activities. Shockwave’s free downloadable program Photojam creates animated slideshows such as music videos and kaleidoscopes from folders of digital images. Since it plays all images in a folder automatically (no linking of images is required), you can create a slideshow of 100 images in minutes. This is also great for an open house, but remember that you may need to get parent / student permission to use the photographs before presenting them in public.

Digital cameras come in all shapes, sizes, and costs. They are usually advertised by the amount of resolution (detail) that they can record per image. Cameras that take 1 MP photographs can store 1 million pixels (dots) of colour per image. Those that are 2 MP store 2 million pixels of colour per image. Larger resolutions allow you to create bigger and sharper images. Cameras of 1 MP - 2 MP have enough resolution to make

very good prints up to 4-in. x 6-in. in size, which is great for school. On a computer screen that spreads out the pixels, the images can be up to 16-in. x 21-in.. These cameras can be bought for as little as \$300, and many companies will give schools a business discount towards purchasing cameras and equipment.

Once you have a camera, you need digital "film" to put in the camera on which to record the images (digital cameras don't use traditional film). Most digital cameras record images on reusable computer media cards (smart media, compact flash, memory stick, etc.). You transfer the images from the media card (they cost between \$80 to \$150 depending on how many pictures they store) to your computer through a card reader (a \$50 - \$150 device that holds the media card in your computer – it looks a bit like an external floppy drive).

Some cameras, such as the Sony Mavicas, record images directly onto floppy disc, CD, or rewritable CD. While these cameras are a bit more expensive to buy, their "digital film" (floppy discs or CDs) are cheaper than media cards. Moreover, since floppy discs and CDs can be put directly into any computer, and you don't need to have a card reader.

If you or your students are new to photography, don't feel that digital cameras are "too complex." Many cameras are "point and shoot." All you need to do is turn them on, compose your picture, and press the shutter. The most common features are the zoom lens and the flash. More complicated cameras come with many more features, but they can still be used in a point-and-shoot manner. This is important, because you want your students to be able to use the camera with a minimum of fuss.

Careful preparation, as with many things, is the key to having your students use a digital camera successfully. I show my classes the camera, review how much the camera is worth, and explain how to be careful of the lens and LCD screen. It is also good to show them how to reduce "camera shake" (by holding the camera firmly and bracing your elbows against your chest) and to remind them to keep the camera strap around their necks at all times. I also briefly introduce the concept of "composition," reminding my students to look for stray heads and hands in the perimeter of the image. Pictures look better if the screen is filled with the subject being photographed.



I permit classes with mature students to use the camera on their own (although I still keep an eye on it). In other classes, I stay with my students while they take their pictures (this is a safeguard for both of us). If there is a particularly unusual set-up in the lab that day, I will give my students hints on how to take the pictures.

There are a lot of interesting situations where one might take photographs in class. A digital camera can be placed at the ocular of a microscope to photograph cells on a slide. Have the slide

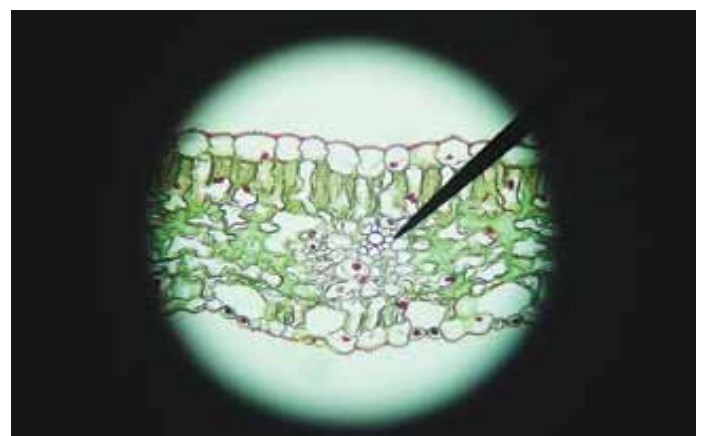
ready, and then bring the camera right up to the ocular. One person holds the camera while another adjusts the microscope diaphragm. It is worth taking two or three of these pictures under slightly different lighting conditions. You can also use the zoom feature to make the microscope image appear larger or smaller.

A series of test tubes in a rack can be easily recorded. Place a white or black binder behind the test tube rack to blot out the background of people, taps, and windows. The camera will automatically focus on the object in the middle of the screen (all digital cameras have auto focus), so if the middle of the test tube rack has a gap between test tubes, the camera may focus on the binder instead of the test tubes. Move the camera slightly and check carefully to be sure that it is focused on the test tubes.

Moving objects, like cars on ramps, need special attention or the images may be blurry. Place yourself so that the object is moving towards you at an angle (instead of across your view) from left to right. If your camera has ISO settings, set it at the highest setting (a high ISO makes the camera more sensitive to light, which allows it to use a faster shutter speed to reduce blurring). If the camera has "shutter priority mode," use it and set the shutter speed to 1/500th of a second. Depending on the class, you might explain why this is done, or you might simply set the camera ahead of time.

Digital cameras are very sensitive to light, so you may not need a flash to illuminate your subject. Sometimes this will produce images with a slightly skewed colour, however. Experiment with flash and different white balances (a camera setting) to get the best colour for your room and lighting.

Students will need access to the photographs once they have been taken. I simply copy the images into a folder on my computer desktop, giving it a name like "Biology" or "Chemistry" so that each class knows which file to access. My students are then free to copy the images they need to a floppy disk and bring them home or to the computer lab. Many students email the images to their homes.





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In large classes, I do two things to reduce congestion around the computers. I copy the folder of images to several computers so several students can access the images at once. I also have one student in a group access the images. This student can send the images via email to the members of his group from home, or put them on floppy disks at home for sharing. You can also copy the folder to a Web site, where students access their photos via the Internet from home or school at their own convenience.

A nice feature of digital imaging is the ability to fix or enhance a photo with editing software when the image is less than perfect. Students can take an image and easily alter its brightness, contrast, sharpness, and colour. They can crop out any stray faces that intruded into the picture. Many image editing programs are available, such as Adobe Photoshop and Photodeluxe, Paint Shop Pro, and Ulead PhotoImpact. Word processor programs like Microsoft Word and Corel Word Perfect also have some image editing features built-in. Of particular note is Irfan View. This is a free program that is easy-to-use and downloadable from the Internet.

If you are thinking that this probably adds a lot of preparation time to your day, nothing could be further from the truth. Point-and-shoot cameras are easy to use and require a minimal amount of time to learn how. Student preparation is easily done at the start of the lesson. It takes only minutes to copy photographic files from the camera onto a computer when students are done. Further transferring of images and image manipulation with programs is done by the students. The projects that students produce, whether written reports or slideshows, can be saved for open house displays, saving you the effort of creating something else. And finally, the images that you

gather can be saved and quickly incorporated into a Photojam, again saving you open house preparation time.

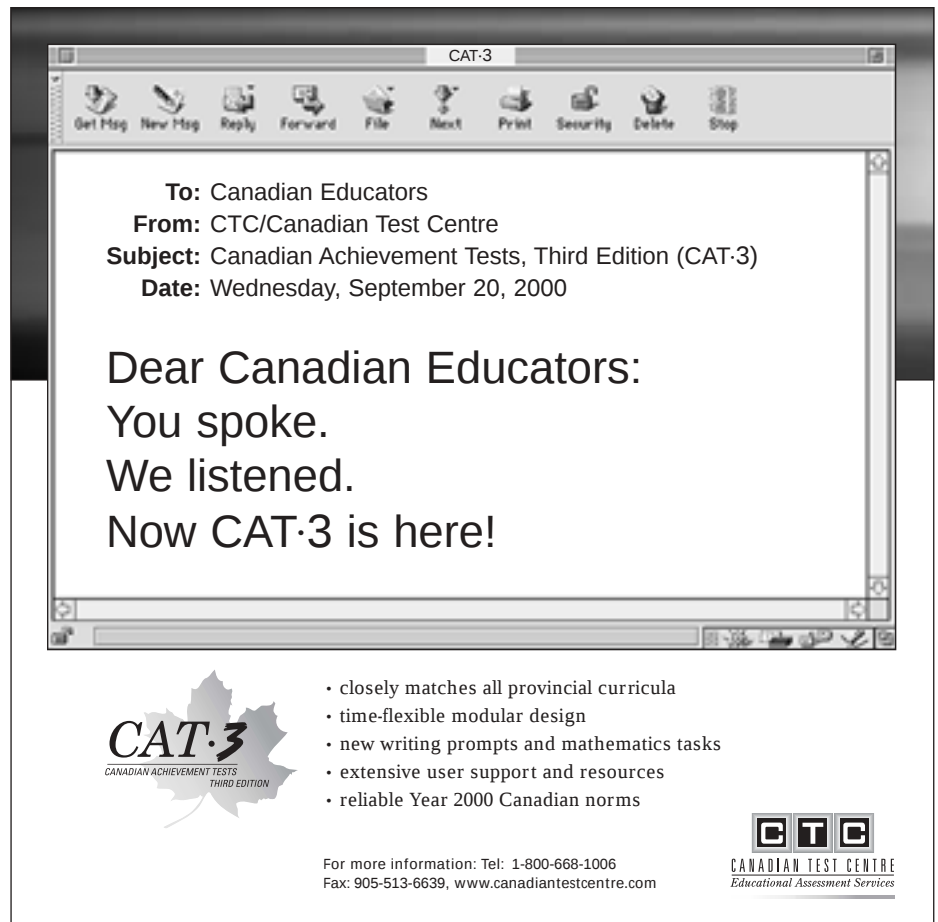
Photography has always had potential in science classes, but it has been held back because of the repetitive cost of printing pictures from regular film. The myriad of exciting activities and experiments that occur in a science class lend themselves to digital photography, which removes the high cost of printing photographs. It also allows students to present their findings in a variety of forms.

With digital photography, we can expand a student's technological skills with a reasonable amount of preparation. Best of all, it is an exciting and motivating tool that adds excitement and quality to classes. Perhaps the next time you're in class, you'll be asking your students to say "Cheese!" ☺

Resources

Adobe Photoshop Elements demo:
www.adobe.com/digitalimag/main.html
 Paint Shop Pro 7 demo:
www.jasc.com/products/psp/
 Ulead PhotoImpact demo:
www.ulead.com
 IrfanView freeware program:
www.irfanview.com
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www.shockwave.com/sw/downloads/photojam/
 A source of digital cameras:
www.henrys.com
 Cobourg DCI West Science Web Site, showing uses of digital images:
www2.kpr.edu.on.ca/cdcw/science/

John Cordukes is a facilitator of science at Cobourg District Collegiate Institute West in Cobourg, ON. You may contact him at Tel: 905-372-2191, Email: jcord@eagle.ca.



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L'appareil photo numérique et votre cours de science

Par John Cordukes



Comme éducateur, vous devriez vous poser les questions suivantes. Aimerez-vous que vos élèves puissent montrer à leurs parents le genre de culture qu'on peut effectuer sur des instruments de musique? Aimerez-vous que vos élèves aient des photos de ce qu'ils observent en laboratoire et sur le terrain? Aimerez-vous éveiller leur intérêt avec un programme de science intégrant les nouvelles technologies?

Si vous avez répondu par l'affirmative à une seule de ces questions, il est peut-être temps de penser à utiliser un appareil photo numérique dans vos cours de science. Les images qu'on en tire peuvent être utilisées de façons innombrables. Et puis, il y a des appareils pour tous les budgets, qui sont faciles à utiliser et dont l'intégration en salle de classe ne nécessite qu'un minimum de temps supplémentaire.

On peut rendre toutes les activités plus passionnantes avec un tel appareil parce que tout le monde aime prendre et regarder des photos. Photographier des boîtes de Petri dans lesquelles on a mis en culture des colonies bactériennes de couleur recueillies sur des linges de vaisselle, des brosses à dents ou de la poussière constitue un moyen très précis de prendre note de ses observations. L'appareil photo numérique peut transformer des vues microscopiques de cellules de tomates et de gras en images. Les installations complexes se prêtent bien à l'imagerie numérique, la preuve qu'une « image vaut mille mots ». Les élèves peuvent aussi étiqueter des parties des installations ainsi photographiées au moyen de logiciels de dessin.

Une photo de plusieurs éprouvettes étiquetées présentant des indicateurs de pH bien divers et des solutions pour essais dans tout un arc-en-ciel de couleurs est un moyen formidable de faire part de ses observations dans un rapport de laboratoire. Imaginez un rapport d'étude sur le terrain avec des photos de plantes, d'arbres et de petits organismes intégrées au texte. Si vos élèves construisent des autos pour une composante animée, autos ballons, autos souricières ou autos conçues pour protéger un oeuf, les photographier à plusieurs étapes de leur fabrication serait un excellent ajout à leur rapport écrit.

La présentation d'un diaporama sur ordinateur est un moyen formidable de montrer à toute la classe les résultats d'un travail indépendant. Pourquoi ne pas y incorporer des images créées avec un appareil photo numérique? PowerPoint et Corel Presentation sont deux logiciels de présentation de diapositives usuels qui permettent aux élèves de fondre sons, texte et images. N'importe quel projet comportant une succession d'étapes, la fabrication d'un mécanisme ou la démonstration de changements visibles se prête bien aux notes photographiques et aux présentations de diaporamas sur ordinateur. N'oubliez pas de garder une copie de ce que vos élèves auront présenté en classe, car vous pourrez les enchaîner pour en faire une présentation continue lors d'une soirée pour les parents et ainsi montrer ce que leurs enfants ont appris en classe.

Voici une autre chose bien que vous pouvez faire. Avec votre collection de photos d'élèves travaillant en classe et de leurs expériences, vous pouvez créer un « Photojam » musical des activités de votre classe de science. Le graticiel téléchargeable de Shockwave crée en effet des présentations animées telles que vidéos et kaléidoscopes à partir de dossiers d'images numérisées. Puisqu'il fait sortir les images d'un dossier automatiquement (pas besoin de lier les images), vous pouvez créer une présentation de 100 images en quelques minutes. Une autre chose à utiliser lors d'une soirée des parents! Mais attention. Vous devrez peut-être obtenir la permission des parents ou des élèves avant de montrer leur photo en public.

On trouve des appareils photo numérique de toutes les formes, de tous les formats et de tous les prix. On les annonce habituellement en faisant référence au degré de définition de



l'image. Les appareils qui peuvent prendre des photos de 1 Mpixels peuvent stocker 1 million de pixels (points) de couleur par image. Ceux qui ont 2 Mpixels emmagasinent 2 millions de pixels de couleur par image. Les définitions plus fines permettent la création d'images plus grandes et plus nettes. La définition des appareils de 1 MP et de 2 MP suffit pour produire de très belles photos de 4 po x 6 po, ce qui est formidable en milieu scolaire. Sur un écran d'ordinateur qui étend les pixels, les images pourront mesurer jusqu'à 16 po x 21 po. Ce genre d'appareil coûte aussi peu que 300 \$ et plusieurs compagnies sont prêtes à accorder aux écoles un escompte d'entreprise sur l'achat d'appareils et d'autres accessoires.

Une fois muni d'un appareil, il vous faudra un « film » numérique sur lequel enregistrer les images (les appareils photo numérique n'utilisent pas de film traditionnel). La plupart des appareils enregistrent les images sur des cartes mémoire réutilisables (SmartMedia, Compact Flash, Memory Stick, etc.). Le transfert des images de la carte mémoire (qui coûtera de 80 \$ à 150 \$ selon le nombre d'images qu'elle peut stocker) à votre ordinateur se fait par le biais d'un lecteur de carte (mécanisme coûtant de 50 \$ à 150 \$ qui renferme la carte mémoire dans l'ordinateur et ressemble un peu à un lecteur de disquette périphérique).

Certains appareils, comme le Sony Mavicas, enregistrent les images directement sur disquette, cédérom ou CD réinscriptible. Quoique ces appareils coûtent un peu plus cher que les autres, leur « film numérique » (disquette ou CD) est moins dispendieux que les cartes mémoire. Aussi, étant donné que les disquettes et disques compacts s'insèrent directement dans n'importe quel ordinateur, il n'est pas nécessaire d'avoir un lecteur de carte.

Si vous ou vos élèves en êtes à vos débuts en photographie, ne craignez pas que les appareils photo numérique soient « trop complexes ». Plusieurs d'entre eux sont automatiques. Tout ce qu'il faut faire, c'est allumer l'appareil, cadrer la photo et appuyer sur le déclencheur. Les caractéristiques les plus usuelles sont l'objectif zoom et le flash. Malgré les particularités additionnelles des appareils plus compliqués, ces derniers peuvent néanmoins être utilisés en mode automatique. Il s'agit là de quelque chose d'important, parce que vous voulez que vos élèves soient capables d'utiliser l'appareil aussi aisément que possible.

Pour que tout se passe bien, il faut se donner la peine de bien préparer les élèves à utiliser l'appareil. Je montre l'appareil à mes élèves, je leur dis combien il coûte et je leur explique comment faire attention à l'objectif et à l'écran LCD. C'est une bonne idée de leur montrer comment éviter les photos floues causées par le mouvement (en tenant l'appareil fermement, les coudes contre le corps) et de leur rappeler de garder la courroie autour du cou en tout temps. Je leur donne aussi un aperçu du concept de la « composition », leur rappelant de bien vérifier s'il n'y a pas de tête ou de main dans le périmètre de l'image. Les photos sont plus belles lorsque le sujet remplit l'écran.

Lorsque j'enseigne à des adultes, je les laisse utiliser l'appareil par eux-mêmes (je surveille tout de même ce qui se passe). Dans d'autres classes, je reste avec mes élèves pendant qu'ils prennent leurs photos (c'est une mesure de protection pour eux comme pour moi). Si l'installation de laboratoire est particulièrement inhabituelle ce jour-là, je leur donne quelques conseils sur la prise de photos.

Il y a un nombre de situations intéressantes qui se prêtent aux photos dans une salle de classe. On peut placer un appareil photo numérique sur l'oculaire d'un microscope pour photographier des cellules sur une lamelle. Préparez la lamelle à l'avance, puis approchez l'appareil de l'oculaire. Pendant qu'une personne tient l'appareil, l'autre devra ajuster le diaphragme du microscope. C'est une bonne idée de prendre deux ou trois photos dans des conditions d'éclairage différentes. On peut également utiliser le zoom de l'appareil pour agrandir ou rapetisser l'image du microscope.

Vos élèves aimeraient photographier une série d'éprouvettes sur un support? Rien de plus facile. Mettez un carton blanc ou noir pour cacher les gens, les robinets ou les fenêtres en arrière-plan. L'appareil va tout de suite faire le point sur l'objet au centre de l'écran (tous les appareils photo numérique sont dotés de la mise au point automatique), alors s'il y a de l'espace entre les éprouvettes, il se peut que l'appareil se fixe sur le carton au lieu des éprouvettes. Vous devrez donc veiller à ce que la mise au point se fasse bien sur les éprouvettes.

Les objets en mouvement, comme des autos sur des rampes, nécessitent une attention particulière pour éviter les images floues. Il faut vous placer de façon à ce que l'objet se dirige vers

vous en biais, et non pas de gauche à droite. Si votre appareil permet le réglage de la sensibilité ISO, fixez-la au point maximal (une haute sensibilité ISO rend l'appareil plus sensible à la lumière, ce qui permet une vitesse d'obturation plus rapide et donne une image plus nette). Si l'appareil dispose du mode priorité diaphragme, utilisez-le et mettez la vitesse d'obturation à 1/500^e de seconde. Selon le genre de classe, vous voudrez soit expliquer la raison de ce réglage, soit simplement préparer l'appareil à l'avance.

Étant donné que les appareils photo numérique sont très sensibles à la lumière, vous n'aurez peut-être pas besoin de flash pour éclairer votre sujet. Cependant, cela risque de fausser quelque peu la couleur des images. Faites des expériences avec le flash et variez la balance des blancs (l'un des paramètres de l'appareil) pour obtenir les meilleures couleurs possibles selon les particularités de la pièce où vous prenez les photos et les conditions d'éclairage.

Les élèves auront besoin d'accéder aux photos ainsi générées. Je les copie simplement dans un dossier que je place sur le bureau de mon ordinateur et auquel je donne le nom de « Biologie » ou de « Chimie » afin que chaque classe sache quel dossier ouvrir. Mes élèves peuvent ainsi copier les images dont ils ont besoin sur une disquette et les apporter à la maison ou au laboratoire d'informatique. Plusieurs élèves acheminent les images chez eux par courriel.

Lorsque la classe est plus nombreuse, je fais deux choses pour réduire la congestion autour des ordinateurs : je copie le dossier d'images dans plusieurs ordinateurs pour que plusieurs élèves y accèdent en même temps et je donne l'accès au dossier à un seul élève par groupe. Cet élève peut ensuite envoyer les images aux membres de son groupe par courriel depuis sa maison ou les transférer à une disquette à distribuer aux autres. Vous pouvez également mettre le dossier dans un site Web auquel les élèves accéderont par Internet depuis la maison ou l'école au moment opportun.

L'imagerie numérique comporte une particularité bien intéressante, c'est-à-dire la possibilité de réparer ou d'améliorer une photo au moyen d'un logiciel d'édition graphique lorsque l'image est moins que parfaite. Les élèves peuvent facilement modifier la luminosité, le contraste, la netteté et la couleur d'une photo. Ils peuvent couper les visages qui auraient pu se glisser par inadvertance dans la photo. Il existe plusieurs logiciels d'édition graphique, tels que Adobe Photoshop et Photodeluxe, Paint Shop Pro et Ulead PhotoImpact. Même des logiciels de traitement de texte comme Microsoft Word et WordPerfect de Corel comportent des fonctions intégrées de manipulation de l'image. Irfan View est un autre logiciel intéressant. Gracieux à utiliser, il suffit de le télécharger depuis Internet.

Vous craignez peut-être que tout cela ajoute beaucoup de temps de préparation à votre journée de travail, mais c'est tout le contraire. Les appareils automatiques sont faciles à utiliser et ne demandent qu'un minimum de temps d'apprentissage. La préparation des élèves se fait rapidement au début de la leçon et il faut quelques minutes seulement pour transférer les fichiers photographiques de l'appareil à l'ordinateur une fois les photos prises. Le transfert ultérieur des images ainsi que leur manipulation à l'aide de logiciels sont pris en charge par les élèves. Les travaux qu'ils réalisent, rapports écrits ou présentations de diapositives, peuvent être sauvegardés et utilisés plus tard lors des soirées pour les parents, ce qui vous épargne la préparation d'autre chose. Enfin, les images que vous aurez recueillies pourront être sauvegardées et rapidement incorporées dans un « Photojam », autre moyen de gagner du temps de préparation lors d'un événement ou d'une visite de parents.

La photographie a toujours eu un énorme potentiel dans les cours de science, mais le coût d'impression des photos empêchait qu'on en fasse usage à volonté. La myriade d'expériences et d'activités qui ont lieu dans une classe de sciences se prêtent bien à la photographie numérique qui élimine les coûts d'impression exorbitants. Elle donne également aux élèves la possibilité de présenter leurs découvertes ou observations dans une variété de formes.

Grâce à la photo numérique, on peut développer davantage les compétences technologiques de l'élève et y consacrer un temps de préparation raisonnable. Mieux encore, c'est un outil emballant qui motive les élèves et ajoute à la qualité de vos cours. ☺

Ressources

Démonstration d'éléments d'Adobe Photoshop :

www.adobe.com/digitalimag/main.html

Démonstration de Shop Pro 7 : **www.jasc.com/products/psp/**

Démonstration de Ulead PhotoImpact : **www.ulead.com**

Graticiel IrfanView : **www.irfanview.com**

Graticiel Photojam : **www.shockwave.com/sw/downloads/photojam/**

Renseignements sur les appareils photo numérique :

www.henrys.com

Démonstration de l'utilisation d'images numériques,

site Web de Cobourg DCI West Science :

www2.kpr.edu.on.ca/cdciw/science/

John Cordukes est facilitateur du programme de sciences au Cobourg District Collegiate Institute West à Cobourg en Ontario. Vous pouvez communiquer avec lui par téléphone au 905-372-2191 ou par courriel à jcord@eagle.ca.

Notable Sites for Teachers

By Marjan Glavac



Book Adventure

<http://www.bookadventure.com/>

The Book Adventure site is a free reading incentive program dedicated to grades K-8. Created by the Sylvan Learning Foundation and sponsored by well-known educational associations and corporations, it is designed as a resource for both teachers and parents.

Kids have over 5400 titles and descriptions of popular books to choose from. They read the books offline, and when they've finished a book, they can return to the site and take a multiple-choice quiz for a prize incentive.

The Teachers Lounge is a great resource for creating reading lists for students. The Book Finder tool allows you to search over 5400 books by grade level (K-8), reading level, fiction or non-fiction, genre (37 categories in all), title, and ISBN. Once the results have been returned, they can easily be printed out as a reading list for teacher reference, or for student and parent use. There is even a tool for printing out labels to help you identify books in your class and school library.

Teachers who register themselves and their classes are able to view and monitor the class and individual student progress. Class reports can be selected that list the total books read, last book quizzed, and date/score of the last quiz taken. Any prizes students' earn can also be viewed and either approved or not approved by the teacher.

This site is well worth the time to check out for extensive reading resources and a different type of reading incentive program.



HPR*TEC

<http://hprtec.org/>

The High Plains



Regional Technology Education Consortium (HPR*TEC) was formed to help teachers and other educators create, share, or find solutions to problems they encounter when integrating technology into education. With a region covering 2.7 million students and 173,000 teachers, HPR*TEC offers a tremendous network of experts.

In "Network of Solutions," there are links to such areas as: Profiler, an online collaboration tool to strengthen your school district's ability to share expertise; RubiStar, a tool to help teachers develop rubrics without having to start from scratch; TrackStar, an online interface to organize online resources and file them in a TrackStar database; www.4kids.org, a kid-safe spot where a weekly newspaper features three or four fun and educational sites for kids; www.4teachers.org, an indexed collection of online resources made-by-teachers-for-teachers; and Edlines, an educational Web-based newsletter.

By far, one of the most innovative and useful features of this Web site is the TrackStar feature. TrackStar is a program that allows teachers to organize a collection of Web sites into an interactive, online presentation. It is a Web-based lesson plan maker. All lessons are searchable by keyword, subject, grade, themes, and standards. You'll find some great ideas here, plus a lot of opportunities to create and share some great lesson plans for other teachers in the Internet community.

Tapped In

<http://www.tappedin.org/>

Tapped In is a Teacher Professional Development Institute that goes a long way in helping teachers find the time to



participate in high-quality professional development activities. It's also a way of maintaining support for teachers after a workshop and encouraging sustained interaction among participants. This is a teacher community where teachers with diverse interests, skills, and backgrounds can meet and learn from one another; where teachers can be exposed to not one, but many education reform concepts and approaches; and where teachers from across the country and world can find high-quality resources in minutes, rather than hours.

How is this all done? By MUVE (multi-user virtual environment) technology. Although the technology sounds daunting, it's really pretty amazing stuff, and you don't have to be a techno wizard to use it. MUVE combines the convenience of a chat room with the versatility of a real-life classroom. You can talk in real time, use a whiteboard, project notes, and even share URLs to everyone in the room to see.

To help you get the most out of your Tapped In experience, there is an extensive FAQ section and extensive Help Guides and Tips. With over 8000 members made up of K-12 teachers, Staff Developers, Preservice Teachers, School Administrators, Education Researchers, Librarians, and others, there's a good chance you'll learn something new and bring back a different perspective to your class and school.

Marjan Glavac is author of "The Busy Educator's Guide To the World Wide Web." He can be reached at marjan@glavac.com or <http://www.glavac.com>

An Apple For The Teacher

By Jeremy Simon / Editorial Sponsorship

There was a day when an apple could be seen on every teacher's desk. This tradition is now being revived at River Valley School in Alberta—but in a very different way!

That's because the Apple in question is a PowerBook G3 400. River Valley, a K-8 facility in the Alberta school district of Chinook's Edge, is in the middle of an experiment to find out whether issuing teachers laptop computers could improve the quality of education for students.

Conversations on the future of technology in education between School Board Director of Technology Services Barry Allen and River Valley Principal Allan Tarnoczi led to the school's purchase of its first portable lab three years ago. The next year, a second lab was purchased as part of a research project. This project measured the impact of integrating technology into the mainstream curriculum of art, science, and mathematics in four grade 6 classrooms.

River Valley Vice-Principal Rod MacLean says, "When we saw the success our grade 6 team was having, and the effect on student learning, we started to think: How can we make this a school-wide program? One of the things needed was to get teachers' technology know-how to a comfortable level."

This comfort took the form of a PowerBook for each of the 42 teachers at River Valley—the largest technology expenditure a school in the division had ever contemplated. To justify the expense, and create lasting value from the experience, the initiative was structured as a measurable research project. Teachers would keep records of how they used the computers, and how it affected the way their students learned in the classroom. If the computers

were not having a measurable effect in the hands of teachers, they would revert to student use.

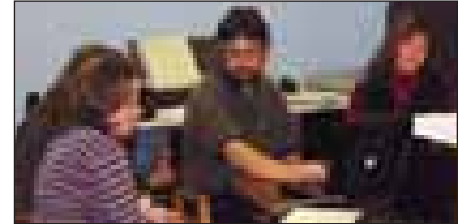
The project would take full advantage of wireless networking within the school provided by Apple's AirPort hub. AirPort maximizes the mobility of PowerBooks, and enables teachers to share files easily with other teachers and students.

In January 2001, River Valley approached Barry Allen with the idea for the third phase of the project. "I was very interested," Barry admits (noting that his own house is AirPort-equipped). "I think Apple is the best tool for the creative work we do in education," adds Barry. "They're easy to use, reliable, and perform well in a wireless environment."

The River Valley School Teacher Laptop Project officially began in March 2001, and will conclude in June 2002 with a formal assessment and report. An interim evaluation was conducted in September 2001.

"When we saw the success our grade 6 team was having, and the effect on student learning, we started to think: How can we make this a school-wide program?"

And how is it going? "In the beginning, I met with the teachers to develop specific goals," says MacLean. "Teachers have already exceeded those goals and upgraded to more sophisticated ones. This year, I sat in on teacher grade team discussions that debated the merits of various electronic report card formats. These conversations illustrate just how far our teachers have come." Teachers are now eager to bring laptops in to their rooms for students to accomplish curriculum goals. To meet



teacher demand for laptops, River Valley had to purchase its third portable lab in September 2001.

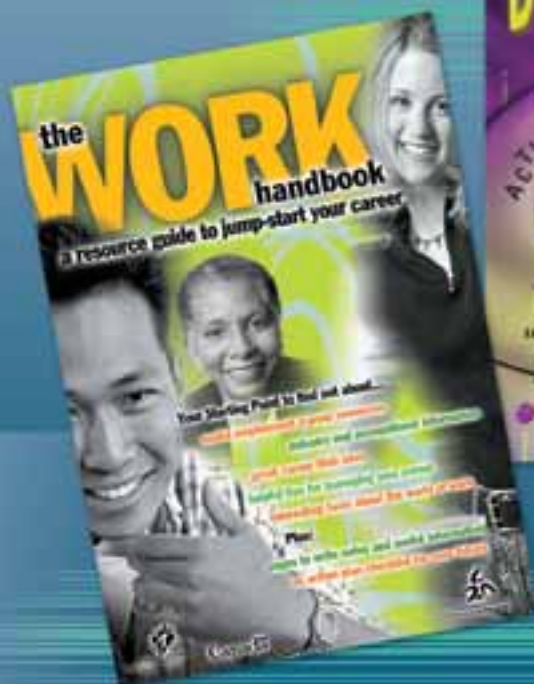
Barry Allen adds his observations: "I go to schools where teachers have laptops and it's just amazing. Teachers gather in clusters to plan and spontaneously start pulling up documents to share information. They reach out to the Internet whenever they need to."

The program is not without its wrinkles. For instance, support requirements and peripheral investments are greater than expected. River Valley was able to budget for a half-time tech support teacher this year (Kris Skinner). Kris and the school's full-time tech aide (Deb Craig) provide in-service training and technical support to staff.

Some teachers feel time-pressured by the additional set of goals the initiative requires. Still, River Valley administrators believe these problems are transitional, and that mobile computing will become a permanent part of teaching. "I can't see teachers giving up their PowerBooks, the way things are going, and I sure don't want to be the one to ask for them back," says MacLean.

An apple on the desk was always a symbol of the esteem in which teachers were held. This new Apple serves much the same purpose—a visible investment in professionalism and every teacher's ability to lead students into the information age. ☺

Jeremy Simon is a freelance writer based in Toronto.



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