

TEACH

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Education for Today and Tomorrow

The Conflict Resolution Project

Annual Professional

Development Supplement

The Virtual Classroom

Educational Web Sites

for Teachers

[INSIDE
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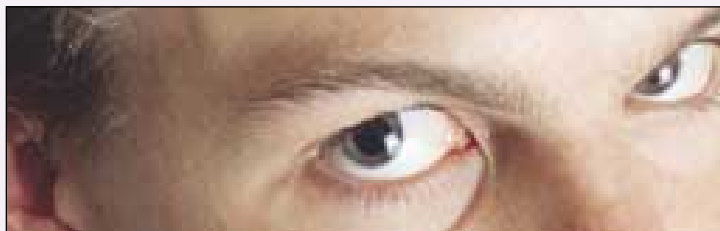
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Contents



Features

The Professional Development Supplement **9**

Browse through the eighth annual version of this resource that brings useful products and services to your attention.

Compiled by Jennifer Kavur

The Virtual Classroom **23**

An innovative design/technology program casts students in the role of designer for the National Arts Centre.

By Jennifer Kavur

Columns

News Front **6**

Info, Data, Stats and the News, News, News

Web Stuff **8**

Notable Sites for Teachers

By Marjan Glavac

Computer **20**

Inspiration

By Dan Lang

Futures **21**

Teachers' Opportunities

By Richard Worzel

Departments

CURRICULA **15**

The Conflict Resolution Project

Ad Index **22**





When it comes to dealing with crises or adversity, education plays a key role. It's important to explore all sides of an event, to air all the issues and apply some critical thinking to an assessment. Everyone has been affected by the events of September 11th and henceforth that date will stand on its own without qualification. We'll just know and understand the reference. In classrooms across the continent, students are asking questions, expressing fears and concerns, debating issues. And that's how it should be. To air these thoughts and emotions is to come to terms with what has happened. There may never be a final resolution, no neat wrapping up of the plot. And that's fine. Amidst all the expressions and discussions and emotions, there are teachable moments. That hatred in such an extreme form leads to destruction. That we shouldn't tar everyone with the same brush. That attitudes towards others; unfamiliar cultures, customs and religions need to be understood before passing any sort of judgement. Out of the tragedy comes an opportunity for educators to do what they do best; guide their students toward knowledge and realization. We should all be grateful for that while never forgetting what has happened or why.

Normality pushes back the aspirations of terrorists. In that vein, we move on to pragmatic things. We are pleased to present our Eighth Annual Professional Development Supplement. We have taken pains to select books, software, hardware and Web sites that we think will offer some insight and interest for you. To help you do your jobs better each day in the classroom. It is a fairly extensive listing. We are remiss if we don't remind you that these descriptions do not constitute a review or an endorsement but hopefully, you'll have enough information to make up your own mind.

On the theme of technology and education, we present a leading-edge project where a group of senior high school students became involved in a very sophisticated design program. Using leading edge 3D software, students participated in the design of performing spaces at the National Arts Centre in Ottawa. This program was overseen by the National Research Council and is an example where students gain practical experience before they leave school.

Our Futures columnist, Richard Worzel, always provocative and stimulating, writes about the opportunities for teachers given the looming labour shortage. And to end off where we began, CURRICULA this issue is The Conflict Resolution Project, a lesson plan we developed some years ago but was never actually published in the pages of the magazine. The title is self-explanatory and provides a resource that will help support you in situations that, unfortunately, tend to crop up all too frequently. ☺

Wili Liberman

Next Issue

- *Crisis Intervention*
- *Innovative ways to teach Mathematics*
- *CURRICULA-The Advertising Project*



TEACH

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Info, Data, Stats, and the News, News, News



Cyber Safety Lesson Plans

Last year, the Women’s Television Network (WTN) Foundation debuted their Cyber Safety Lesson Plan at The York School in Toronto. Cyber Safety teaches children how to safely conduct themselves in Internet chat-rooms, cautions children against providing personal information online, and instructs the etiquette of chat-room discussion. When asked what the Cyber Safety demonstration taught them, several York School students replied that while they were already aware of online dangers, they didn’t realize how

often and how easily they leak personal information into cyberspace, and weren’t aware of how valuable such information can be. Shirley Muir, Executive Director of the WTN Foundation, feels that parents don’t often realize the dangers of chat-rooms and how vulnerable their children can be to Web stalkers. “Letting your child have two hours online in a chat-room without supervision is like dropping them off at the corner of Young and College for two hours, without any instruction on what to do if a stranger approaches them,” says Muir. Cyber Safety works by having children team together in pairs. Each pair assumes a false identity provided to private online chat-room. The kids then try to extract as much personal information from each other as they can, while attempting to keep their own personal details private at the same time. The Cyber Safety Lesson Plan is available free of charge to teachers and parents at the WTN Foundation Web site, www.wtn.ca/foundation, or by calling 1-800-5757317.



Liz Barron, Cyber Safety Designer, Raven Innovation Network (left)
Shirley Muir, Executive Director, WTN Foundation (right)

OnTarget for New Media



OnTarget is a new training and human resource program designed to help high school students, teachers, and guidance counselors keep pace with the latest changes in new media. This free service, funded by the Ontario Ministry of Energy, Science, and Technology, encourages young people to consider new media as a career option, provides them with additional resources through their training cycle, and matches them with new media companies across the province. The OnTarget program provides the following resources: a brochure that describes post-secondary training programs in new media; an online mentor to answer questions about the industry; new media job profiles to give students a better understanding of the types of careers available to new media graduates; assistance with co-op placements; an email newsletter; resources for teachers and guidance counselors who want to learn more about new media; free talks given to high schools by industry professionals; and industry-sponsored career events. Teachers and students are encouraged to register with OnTarget at www.getOnTarget.ca. Those interested in the program can also call 416-926-8908 for more information.

Sports Resources for Ontario Schools



Athletes, coaches, and organizers throughout Ontario can now manage their school sports activities online through a new partnership between the Ontario Federation of School Athletic Associations (OFSAA) and allCanadianSport.ca, a Web portal that provides free online tools for the amateur sports community. allCanadianSport.ca will give participants in Ontario school sport

programs a suite of online communication and administration tools to simplify



the planning, administration, and delivery of sporting programs and events at a local, regional, and provincial level. Members can publish information on games, practices, tournaments, and championship events, post results and stats, message to individuals or to groups, create individual and team Web pages, and promote various tournaments and events. Members can also access the allCanadianSport.ca resource centre (www.allcanadiansport.ca) for sport development, training, scholarship, and education information.

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Technology Serving Education

Notable Sites for Teachers

By Marjan Glavac



Headbone

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

Headbone achieves the almost impossible task of appealing to both teachers and students (ages 8 to 14) by offering a safe, fun, and structured way of exploring the Internet and practicing online research. One activity that appeals to both teachers and students is The Headbone Derby. The Headbone Derby is a series of online adventures exploring themes and subjects such as social studies, government, science, history, citizenship, ecology, and inventions in technology. Through this activity, students learn how to use search engines, critically evaluate online information, apply their knowledge of geography, geology, history, government, and ecology, learn more about important subjects, and apply problem solving and critical thinking skills. Teachers are given an online teachers guide which includes: grade-specific preparation and planning sections, an outline of specific learning objectives, episode plot summaries, discussion topics, and ideas for classroom activities to get the most out of the Headbone Derby series. An "Internet Primer," which provides reference materials on the basics of Web searching and guidance in using the Internet safely, and a Frequently Asked Questions (FAQ) section are also available. Other activities in this versatile and educational site are Headbone Zone activities, which include: Rags to Riches (an economic simulation game), The Price of Fame (a buy, sell, and trade celebrity stock game), Mars or Bust (a survival game), and Fleet Kids (a game that encourages learning through inquiry). This site is educational and fun. It's easy to use, and best of all, it's free!



Pacific Bell Knowledge Network Explorer

<http://www.kn.pacbell.com/>

The people at Pacific Bell started The Knowledge Network as a response to the needs of California's teachers, librarians, and students. Faced with a daunting array of technologies and the overwhelming need to train students and staff in the use of technology, The Knowledge Network developed new services for schools, libraries, and community colleges. Although The Knowledge Network was first conceived as a response to the needs of Californians, its many resources are available to everyone around the world via the Internet. The "Online Learning Guided Tour" link offers resources for newcomers to the Internet, for people who know their way around the Internet, and for trainers and mentors. A popular site for newcomers and trainers alike is Blue Web'n. This is a library of sites for educators and librarians, sorted by subject, format, and Dewey classification codes. You can also subscribe to the Blue Web'n Updates listserv and receive a weekly email highlighting the "Hot Sites of the Week" plus four or five new Blue Web'n sites. Another great tool for educators is Filamentality. Filamentality is a fill-in-the-blank interactive Web site that guides you through picking a topic, searching the Web, gathering good Internet sites, and turning Web resources into learning activities. Click on the Filamentality link for more information and examples. Two other must-sees are "Web-based Lessons, Activities and More" and the WebQuests links. The Knowledge Network succeeds in its task to make technology and training less daunting for teachers, librarians, and students.



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

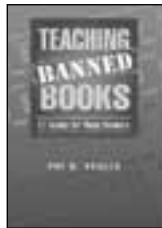
Are you a teacher or parent of preschool, kindergarten, first, or second grade students? Do you need worksheets, lesson plans, or tips? Then this site is for you. Click the "Enter" icon and find links to basic sheets, theme sheets, tech info, and information on books. All of the lesson files and sheets are downloadable and printable and free. They are available as Adobe PDFs, so you must have Acrobat Reader to view them (it is free and available from <http://www.adobe.com/proindex/acrobat/readstep.html>). Once you have Acrobat Reader, simply click on the lesson you want and it will appear in a new browser window. Further information is available by clicking on the "Tech Info" link. The Basic Sheets category contains Zane-Blosner, D'Nealian, and cursive alphabet sheets, with each sheet illustrating one alphabet letter with two words that start with that letter; money sheets for recognizing, counting, and comparing pennies, nickels, dimes, and quarters; and number sheets in Zane-Blosner, D'Nealian, and American Sign Language formats. The Theme category contains fact files, mural sheets, cutouts, and teaching notes on oceans, zoo animals, dinosaurs, and insects/spiders; fun sheets on math, language, and science subjects; and recommended reading for each of these themes. This site adds new worksheets every week. It's a great site for instant help.

Marjan Glavac is author of "The Busy Educator's Guide To The World Wide Web" and a teacher based in London, ON. He can be reached at marjan@glavac.com or <http://www.glavac.com>

Professional Development Supplement

Welcome to TEACH Magazine's Eighth Annual Professional Development Supplement. Each November, we present a compendium of information for your own use and purpose. We give you an overview in terms of what is new, innovative, and useful across a number of general categories. This way, you can scan for relevant information and decide what interests you. Please remember that what follows contains a narrative description of each product and service only, not an endorsement. Don't forget to inquire about educational pricing and discounts where applicable.

Books

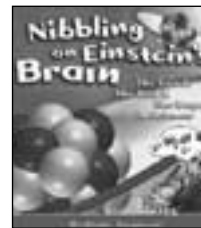


American Library Association

Teaching Banned Books: 12 Guides for Young Readers, by Pat R. Scales, Softcover, 136 pages, CDN \$41.44, ISBN# 0-8389-0807-1, ALA Order#

0807-1-2115. Author Pat Scales is a member of the American Library Association (ALA) Intellectual Freedom Committee and a veteran school librarian. In this guidebook, she suggests that banned books have important lessons to teach youth. Twelve books, all challenged at one time or another, are discussed. Each guide includes a summary of the novel, a pre-reading activity, tips for introducing the topic, critical-thinking discussion questions, and an annotated bibliography of related fiction and nonfiction. There are discussion guides for books dealing with subjects such as societal outcasts, civil rights, and keeping secrets. To order, visit the Canadian Library Association (CLA) Web site, print out an ALA order form, and mail or fax it to: Canadian Library Association, 328 Frank Street, Ottawa, ON K2P 0X8, Tel: 613-232-9625 x310, Fax: 613-563-9895, Email: orders@cla.ca. For more information and resources on censorship and books, visit the ALA Web site at www.ala.org/bbooks/.

For more information please circle reader service #20

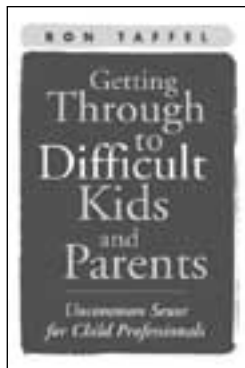


Annick Press

Nibbling on Einstein's Brain: The Good, the Bad & the Bogus in Science, by Diane Swanson, Softcover (112 pages, CDN \$16.95, ISBN# 1-55037-686-1),

Hardcover (104 pages, CDN \$24.95, ISBN# 1-55037-687-X). This book helps children (ages 8-12) learn to differentiate good science from false/misleading science by challenging the assumptions presented through the media and advertising. By following the simple techniques and winning strategies outlined by Swanson, children will be able to become strong advocates for scientific integrity. They learn how to develop scientific theories, design research to test them, and analyze the results. This book is filled with interesting facts, humorous tales and examples, and provocative quotes from scientists, astronomers, and philosophers. A list of recommended books, magazines, and Internet sites, and a glossary of terms are provided for kids who wish to explore further. To order, contact Firefly Books Ltd., 3680 Victoria Park Ave., Willowdale, ON M2H 3K1, Tel: 1-800-387-5085, Fax: 1-800-565-6034, Email: service@fireflybooks.com, Web: www.fireflybooks.com.

For more information please circle reader service #21



Guilford Press

Getting Through to Difficult Kids and Parents: Uncommon Sense for Child Professionals, by Ron Taffel, Hardcover, 244 pages, US \$28.00, ISBN# 1-57230-475-8. Author Ron Taffel provides step-by-step guidance on what is going wrong between youngsters and parents, and between parents and professionals. Teachers can learn what to do when parents can't stop arguing about their child's behavior, how to talk to kids

who get caught up in trying to be cool, and how to help kids and parents stay connected. This book offers strategies for gathering relevant information quickly, and spotting developmental and psychiatric problems early on. It also presents an analysis of the numerous social forces that are fragmenting contemporary families, including time pressures, confusion about parental roles, and the impact of media and peer culture. It stresses the importance of helping parents interact with and understand these outside influences, network with other parents, and stay in touch with schools to monitor academic and social progress. *Getting Through* is available in bookstores across Canada, or by calling Login Brothers Canada at 1-800-665-1148. You may also order copies from Guilford Press online at their Web site, www.guilford.com, or by calling 1-800-365-7006.

For more information please circle reader service #22

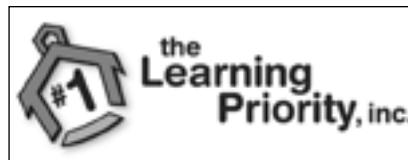
Software



Adobe PageMaker 7.0

Adobe's latest version of its desktop publishing software, PageMaker 7.0, incorporates new features that are tailored to the needs of educators. Teachers can import Photoshop or Illustrator designs directly into PageMaker 7.0, output documents to tagged Adobe PDF files, convert materials from Microsoft Office applications, and use a data merge feature that integrates PageMaker with database information. Education materials created in PageMaker 7.0 can be easily converted to Adobe PDF files and automatically reflowed so that finished documents can be viewed in print, on the Web, or with wireless devices and PDAs. 47,000 clip art graphics, unavailable in previous versions of PageMaker, are also included. PageMaker 7.0 can be used to create student ID cards, tickets, school directories, certificates of award, and fundraising bookmarks. A self-paced tutorial CD is included with the software so those without experience can learn key concepts and functions with ease. PageMaker 7.0 is priced at CDN \$434 for educators (CDN \$119 for educator upgrades). It supports both Macintosh and Windows platforms. For information, visit www.adobe.com/products/pubcoll/main.html.

For more information please circle reader service #23



EduLink

EduLink has released a new suite of educational learning tools that focus on improving the learn-

ing skills of students and enhancing the instructional practices of teachers. The tools support inquiry and designed-based learning by encouraging students to use the Internet and collaborate with other students. Included in this suite is Cognitive Mapper, a tool for the collaborative development of critical analyses that provides an intuitive graphical interface for creating diagrams of nodes and links. Interactive Map Maker is a tool that creates geographical maps and diagrams - users can import images that are GIF or JPEG encoded, scale and clip the images, and add annotated notes and links. Crossword Builder, a tool designed for teachers to build crossword puzzles, automatically assigns numbers to clues and organizes them into sets going across and down. For further information on these tools and others, visit EduLink at www.Edu-link.com.

For more information please circle reader service #24



Microsoft Encarta Reference Library 2002

Microsoft's Encarta Reference Library 2002 is the latest and most comprehensive resource ever offered in the Encarta line of products, with five times more content than the standard version of Encarta that comes with most PCs. Multimedia features include a research organizer, curriculum guide, 3-D virtual tours, and an interactive world atlas. Encarta Researcher helps students gather, organize, and footnote information (whether text, graphics, or multimedia) from any portion of Encarta or the Web, and automatically footnotes and includes a bibliography for all research compiled through its tools. Live Streaming Media allows users to enjoy music, news, or talk radio from around the world. Update Encarta delivers new and updated information via the Internet through October 2002. 3-D Virtual Tours recreate some of history's most significant architectural achievements, such as the Roman Forum and Coliseum. Fact Finder is a handy pop-up feature that provides instant access to definitions, translations, and business profiles simply by mousing over a word. Encarta Reference Library 2002 also draws information from other Encarta resources, such as Encarta Encyclopedia Deluxe 2002, Encarta Dictionary and Thesaurus, Encarta Interactive World Atlas, and Encarta Africana. Completely download Encarta Reference Library 2002 to your hard drive and eliminate the need to swap the five-disc CD-ROM set, or purchase the newly featured single-disc DVD. Encarta Reference Library 2002 is available at an estimated retail price of CDN \$99.95. It runs on Windows operating systems, and is not available for Mac. For more information, visit www.microsoft.com/encarta/.

For more information please circle reader service #25



National Film Board of Canada

Between the Lines, an interactive CD-ROM set by The National Film Board of Canada, aims to help grade 8-12 students understand the nature and impact of the media on our society. Eight creative media projects are outlined on two discs, including how to develop a music video, design a multimedia advertising campaign, edit television news, and decide to run a story. Between the Lines is applicable to art, humanities, communications, journalism, English, media studies, ethics, and social studies classes. The CD-ROM set is priced at CDN \$139.95, and runs on both Windows and Macintosh platforms. Order copies online at The National Film Board Web site, www.nfb.ca, or call 1-800-267-7710 / 514-283-9000.

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Hardware



Mouse-Net

Mouse-Net is a classroom system that gives all students in a classroom, along with their teacher, access to a single computer. The system is comprised of one "teacher control station" and between 1-32 wireless touchpads. To use Mouse-Net, simply plug the control station into the PS2 (mouse port) of your computer, plug your mouse into the back of the control station, turn the computer and the control station on, and pass out the touchpads. The control station (labeled with buttons 1-32) designates which touchpad has control over the computer screen (e.g. touch button number four on the panel and the student with touchpad four can interact with the computer). If you want to regain control over the computer, simply move your mouse. No software is required to use Mouse-Net, and the system will work with any Windows-based program that works with a mouse. Student touchpads are powered by AAA batteries. Pricing begins with the "Basic A" package for US \$1995, which includes the teacher control station and eight radio-controlled touchpads. For more information, and to order, visit www.mouse-net.com.

For more information please circle reader service #27

Web



AESOP

AESOP (Automated Educational Substitute Operator) is an Internet and telephone-based substitute management system distributed by FrontLineData Inc. AESOP allows teachers to post their absences over the Internet for substitute teachers to view and accept. Substitutes can also access the system over the telephone using a toll-free number. Teachers log on to AESOP and post their job opening along with any lesson plans and notes. At the same time, district-approved substitutes log on

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For more information please circle reader service #28



FREE

Federal Resources for Educational Excellence, or FREE, connects teachers with hundreds of free online educational resources from more than 35 U.S. federal organizations. FREE is the most popular K-12 resource on the U.S. Department of Education Web site. Resources include teaching ideas, learning activities, photos, maps, primary documents, data, paintings, and sound recordings. For example, you can listen to Winston Churchill deliver his "iron curtain" speech at Westminster College in 1946 (www.hpol.org). Subject areas on the FREE site include the arts, educational technology, foreign languages, health and safety, language arts, mathematics, physical education, science, social studies, and vocational education. New teaching and learning resources are added each month. Visit FREE at www.ed.gov/free.

For more information please circle reader service #29



Intel

Intel's previously-available classroom kit, The Journey Inside: The Computer, is now available as an interactive program on the Web. The Journey Inside Web site is designed for teaching and learning about computers and the Internet through activities that help explain how technology works and impacts our society. The site is divided into two sections, one for students and one for teachers. The section for teachers provides supplemental and background materials for the classroom, and allows teachers to customize the student section to suit their students' needs. The Journey Inside is suitable for grades 5-9 science, mathematics, and technology classes. To access The Journey Inside, visit www.intel.ca/ca/education/journey/index.htm. Intel has also added new features on its Canadian Education Web site. "Unit & Lesson Plans" is a new database for K-12 teachers to download lesson plans free of charge. The plans have been written by teachers and cover a wide range of topics, including history, science, math, English, and foreign language. "Ask Our Teachers" is a new online service that enables teachers to consult with expert teachers to improve their use of technology in the classroom. These resources, among others, are available at www.intel.ca/education.

For more information please circle reader service #30



Meridian

Meridian is an electronic journal dedicated to research and practice of computer technology in middle school classrooms. It is published twice yearly by an interdisciplinary team of North Carolina State University graduate students representing a broad range of fields, from education to forestry. Meridian features research findings, practitioner articles, commentaries, and book excerpts by educational researchers, technology designers, middle school teachers, and authors. The journal is available free of charge at www.ncsu.edu/meridian/.

For more information please circle reader service #31



ReadingRockets.org

Developed by WETA, ReadingRockets.org is a comprehensive Web site that provides

Pre-K to Grade 3 teachers with tools that help children learn how to read. The site features practical tips and online forums, a professional development section filled with articles on reading research and practice, and video clips modeling best practices of reading teachers. Visit the site at www.ReadingRockets.org. For more information on WETA and its programs, visit www.weta.org.

For more information please circle reader service #32



Tapped In

Tapped In is an online community of K-12 teachers and librarians, professional development staff, teacher education faculty and students, and researchers.

This site is designed to help you use the Internet to connect with other teachers and support each other via the Web. Tapped In's staff members help organizations quickly and effectively plan and conduct online courses, discussions, focus groups, Web tours, and other professional development activities, often in conjunction with face-to-face activities and other online technologies. Tapped In membership is free to all educators and education researchers. Visit Tapped In at www.tappedin.org.

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Teachers Network

TeachersNetwork.org is the Web site for Teachers Network, a

nonprofit, international education organization that identifies and connects teachers within public school systems. The site features a collection of streaming videos showcasing the work of teachers, a helpline for new teachers that has a 72-hour guaranteed response time, bulletin boards, a bookstore, lesson plans, a section with information on grants, and instruction on using the Internet in your classroom. For further information, visit www.teachersnetwork.org, or email info@teachersnetwork.org.

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Coping with September 11



Choices for the 21st Century

The Choices for the 21st Century Education Project, a program of the Thomas J. Watson Jr. Institute for International Studies at Brown University, has posted curriculum material on its Web site for teachers' use. The material covers the recent terrorist attacks in the U.S. and is meant for use with high school students. Included in the material are Q & A sessions with research scholars from the Watson Institute and a framework of policy options. The options are written in stark terms in order to highlight different perspectives and the values that underlie them. Each option includes a set of arguments against it, and is designed to help students think carefully about the trade-offs of each. In the end, students are asked to frame their own option reflecting their own views. Among the issues that the researchers address are the recent discussions about America being "at war" and what this sort of war might look like, why there appears to be so much resentment against the U.S., how we might think about this event in the context of American history, and whether these attacks will change life in the U.S. forever. The Choices Project is a well-established source for balanced curricular materials that promote critical discussion of contested issues. While the Project typically sells its curricular material, staff members are encouraging broader use by offering this particular material free of charge on the Web at www.choices.edu.

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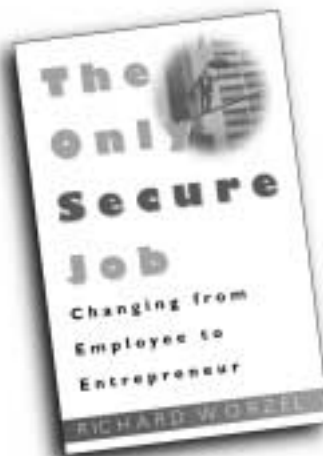
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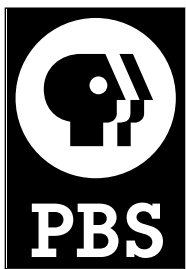
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Education World: Helping Children Cope
 Education World, a Web site that provides free educational resources, has compiled an extensive list of links for teachers seeking guidance on teaching about tragedy. The links are available under the heading "Helping Children Cope: Teacher Resources for Talking About Tragedy," which can be found in the "Special Ed & Guidance" section of the Education World Web site, www.education-world.com/a_curr/curr369.shtml. Some of the articles listed include: "Coping With a National Tragedy" from the National Association of School Psychologists, "Helping Children and Adolescents Cope with Violence and Disasters" from the National Institute of Mental Health, "Talking About Conflict and War" from The Learning Network, and "How to Help Children After a Disaster: A Teacher's Guidebook" from the Federal Emergency Management Agency.

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PBS: America Responds
 In the "America Responds" section of the PBS Web site, teachers have access to lesson plans and other resources that deal with terrorism. Designed for grades 2-6, "A World At Peace" invites students to brainstorm the basic rights of people everywhere, explore the United Nation's Declaration of Human Rights, and then use international photography galleries as part of a multimedia creative writing assignment imagining a world at peace. For middle-high school students, the "Tolerance in Times of Trial" lesson plan uses the treatment of citizens of Japanese and German ancestry during WWII as historical examples of ethnic conflict during times of trial, and discusses the problems inherent in assigning blame to populations or nations of people. For middle school students, "Emergency Preparedness" introduces governmental and humanitarian response mechanisms to natural and man-made disasters. For high school students, the "Taming Terrorism" lesson plan poses the question, "Who can stop international terrorism?" Students learn about different international agencies working to eliminate terrorism, study the recommendations of various international summits and conferences, and debate the effectiveness of various proposed measures. PBS also offers related resources for educators seeking access to more information elsewhere online. To access these resources, visit www.pbs.org/americaresponds.

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UNICEF Canada:
Education for Development
 Education for Development is a set of teaching and learning resources from UNICEF Canada that contribute to the survival, development, and protection of

children in a more peaceable, equitable world. Written by Canadian educators for practical use in classrooms and other learning settings, these resources are renowned for their quality and positive approach to global issues and development. They encourage critical "literacies" in interdependence and diversity, children's rights and global citizenship, and peace and conflict resolution. These resources are available free of charge from UNICEF Canada, and are copyright-free for non-saleable, educational use. To order, visit the "Curriculum Corner" in the "Global Schoolhouse" section of the UNICEF Canada Web site, www.unicef.ca, email education@unicef.ca, or call 1-800-567-4483.

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CURRICULA

NOV/DEC 2001 ISSUE

THE CONFLICT RESOLUTION PROJECT

Several years ago, we developed a teaching resource on the theme of Conflict Resolution. This resource never actually appeared in TEACH Magazine but was packaged with it as an ancillary resource. At the time, it was developed as part of a Stay-in-School program and funded by Human Resources Development Canada. In the wake of recent events, we felt it was appropriate to present this resource again. At the time of writing, tensions around the world are high and people are looking for answers. Some, the minority fortunately, are pointing fingers in the wrong direction. This resource maintains its relevancy as, no matter the circumstances, conflict is never far away. It is our hope this resource will be useful to you.

We encounter conflicts every day. Whenever the needs, ideas or expectations of the people and institutions around us do not match our own, conflict can arise. Young people with few skills for dealing with conflict may feel powerless, alienated and incompetent. For these students, conflict can be especially frustrating and stressful. Equipping them with skills for dealing with conflict situations can make life in and out of school more manageable. The more students think about conflicts and methods for resolving them, the better they will become at dealing with them. This teaching unit stands as an opportunity to explore different kinds of conflicts and learn some techniques for dealing with them. But we are only scratching the surface of a fascinating and important subject. There are many excellent resources that offer a more in-depth view of conflict resolution. Some of these are listed under the section, Resources.

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Learning Outcomes

Students will:

- A. Be presented with a method for dealing with conflict
- B. Explore different kinds of conflict
- C. Develop effective peer interaction skills
- D. Promote positive interactions with peers and adults
- E. Learn how to initiate a difficult or stressful conversation
- F. Learn how to listen to and explore another's point of view
- G. Learn how to talk constructively and express a point of view
- H. Learn to look for a solution that is successful for both parties

Brainstorm-All About Conflict

Include everything from territorial wars to fights with a sibling over bathroom rights; disagreement with a teacher over a mark to confrontations between students of different racial backgrounds. Even an internal struggle can be used: smoke a cigarette or kick the habit; drop out or stay in school; buy another chocolate bar or save the money. After completing the lists, have small groups gather to compare and discuss their lists. Does everyone always agree what a conflict is? Have the groups present their findings to the whole class.

Who Are the Parties Involved?

There are a number of ways to look at conflict and to categorize the ones that confront us. You can think about who is in conflict. A conflict can be with yourself (intrapersonal), for example, deciding whether to wear a sweater that is a gift from a favourite aunt when you are worried that friends might laugh at you. A conflict between two or more people (interpersonal); like a guy blowing smoke in another's face. There are conflicts between individuals and institutions (a student and the school), between two groups (teachers and students) and within a single group (members of a teachers' union disagreeing over a contract offer). Look over the list of conflicts from the brainstorming session and decide who has an interest in each conflict. Find as many different ways of categorizing the conflicts as you can.

*Resource-based disputes: "It's mine." "No, it's mine."
Needs-based disputes: "I need to be loved and respected."
Values-based disputes: I believe in choice, you don't."*

*Who is Involved? Intrapersonal conflict: one person
Interpersonal conflict: two or more people
Intragroup conflict: the members of the same group
Intergroup conflict: two or more groups*

Positions VS. Needs and Interests

Ask students to imagine the scene that might take place between a parent and a teenager when the teenager arrives home an hour late without calling. Ask students to think about what the teenager and the parents might say to each other. What emotions would they express? Now, ask students to think about what the parents want to achieve through this confrontation. What do the parents need from the teenager? What does the teenager want to achieve? Point out that in a conflict, people may adopt positions ("You're grounded!") that are quite different from their needs and interests ("I need to know that you are safe.") Working individually on conflicts selected from the list compiled during the brainstorming session, have students identify the people involved in the conflict, their positions, needs and interests.

The People, The Problem, The Resolution

Have students think about a conflict they had at school. Have them write down the answers to the following questions: Who was the conflict with? What was it about? How was it resolved? Next, ask them to think of a conflict they had at home and answer the same questions. Finally, have them think about a conflict they had with a close friend and answer the questions.

After completing the assignment, discuss it. Did students behave the same way in all three cases? What things were different? How does the nature of the dispute (resource, needs or values-based) affect how you resolve it? How do the people involved affect how you resolve it?

Styles of Resolving Conflicts

Help students to think about their personal conflict management strategies, either by having them record real conflicts over the course of a week or by asking them to imagine how they would handle a number of situations. In either case, distribute a chart called **Table: Conflicts** divided into three columns with the following headings: People Involved, Problem, What I Did. You may ask students to fill out the chart using 5-6 conflicts that they encounter in their own lives over the next few days. Or you may ask them to imagine

they were involved in the conflicts described here and fill in the chart accordingly. After filling in their charts, have students consider the final column: What I Did. Are there any similarities in the way they handle each of the conflicts? Did they use one conflict resolution style for all the conflicts or

did they draw on different styles? Introduce the conflict resolution styles described in the adjacent box. What other styles can they identify in themselves or the people around them? Ask students to consider whether they tend to use one of these styles more than another. Discuss the advantages and disadvantages of each style.



Strategies For Dealing With Conflict

Conflict is not only inevitable, it is natural, healthy and provides opportunities for growth. Instead of trying to eliminate conflict, try to “manage” it to bring about positive results. Encourage students to view conflict in a positive light by beginning with an exercise in which they identify situations in which conflict can lead to a change for the better. Then focus on improving listening and communicating skills. Finally, introduce the Conflict Resolution Model.

What Can Be Gained?

Working individually or in small groups have students choose a conflict from the previous section, **Table: Conflicts**. Ask students to identify the people involved and the problem. Then ask them to discuss what each of the people involved might lose depending on how the problem is resolved. Can each of the people gain something if the conflict is resolved in a different way? For example, can they feel better, help others to understand them better, get something that they want or make it easier to get along with someone else? Be sure to distinguish between the categories “positions” and “interests or needs”.

Active Listening

To resolve a conflict, it is often necessary to begin by listening to the other party’s point of view. If they are angry or unclear about their own feelings, it may be hard to get to the heart of the matter. In active listening, you listen for a main idea, ask questions to make sure you understand and then summarize the message and reflect the speaker’s feelings.

Introduce the Active Listening Techniques to the class. Students may need to hear how these techniques work. You can demonstrate with the help of a student volunteer. The volunteer’s job is to explain to you that he/she is late for class because of a dentist appointment. Start by demonstrating *ineffective* listening: interrupt, criticize (“I don’t like that tone of voice, stand up straight when you talk to me”), exaggerating (“You’re always late, you’ll never amount to anything if you don’t come to class on time”), lecturing (“There are rules in this school about being on time and you should know them by now”), and threatening (“You be on time or else”). Then demonstrate *effective* listening by asking the same student to explain why homework hasn’t been completed. Use the active listening techniques.

Divide the class into pairs. Have each student choose a conflict (see box, above right). Have one student use the active listening techniques to encourage his/her partner to discuss one side of the conflict. Then they can change roles, with the other student using the Active Listening Techniques while the first student talks about the other side of the conflict. Then discuss how well the techniques worked and why.

Conflict Examples

- A. On the way home from school, a student you don’t know too well begins insulting your best friend, making nasty racial put-downs.
- B. There is a fire drill. You know that this is a drill and not a real fire. As you are leaving the school building, one of your friends starts talking to you about some important personal problems. A teacher confronts you about talking during the fire drill and asks to speak to you about your disruptive behaviour after school.
- C. You come home from school and discover that a parent is looking through your drawers and pockets.
- D. You want to pierce your nose but your parents are against it.
- E. A friend owes you money but won’t give it to you claiming to be broke.
- F. All your history assignments have been late this year. Another one is due tomorrow and you know you can’t get it done. You ask the teacher for an extension. The teacher wants to know why.
- G. Your parents say you cannot date anyone from a different religious background.
- H. You are supposed to do a homework assignment with a friend, but you can’t agree on the topic.
- I. The student sitting next to you during a test copies all your answers. When the teacher hands back the tests, you are given a zero and with it is a note stating that the principal is setting up an interview with your parents to discuss cheating. The other student got an “A”.



Conflict Resolution Styles

Accommodator:	“Let’s do it your way.” (Gives in to others, wants to be liked or avoid being disliked.)
Avoider:	“Problem? I don’t have a problem.” (Denies there is anything wrong which can be very confusing for others.)
Compromiser:	“I already see a way around this.” (Looks for a natural solution but doesn’t always take the time to hear the other party’s position.)
Collaborator:	“I see your point and I hope we can solve this together.” (Works with the other party to solve the problem, deals with both the emotion and the conflict.)
Note:	These styles may seem hierarchical but there are times when each of them is appropriate. The most effective problem-solvers have a variety of techniques in their repertoires and draw on those that best fit the circumstances.

Active Listening Techniques	
Encourage:	"Tell me more." (Conveys interest and encourages the other person to talk without agreeing or disagreeing)
Clarify:	"How did it happen?" (Get more information and make sure the information you have is accurate, use question words like How, When, Why, Where and Who, so the speaker can't simply answer yes or no)
Restate:	"What I hear you saying is..." (Check to make sure you both understand things the same way by restating the information in your own words)
Reflect:	"You sound frustrated." (Show you understand the speaker's feelings by naming them, without judging their appropriateness)



Situation Table

1. A son thinks his mother expects him to babysit too often.
2. A girlfriend wants her boyfriend to stop spending so much time with another girl.
3. A student feels the teacher is unfair to punish the whole class for the bad behaviour of just a few students.
4. At a party, a friend thinks a girl has had too much to drink and shouldn't drive herself home.
5. A daughter has trouble studying when her father plays classical music too loudly.
6. A sister wants her brother to give her a turn using the phone.
7. A brother wants to watch a different TV show than his sister.

I Messages

With the class, select a situation from the Situation Table or make one up. Start by identifying the goal of the main player in the situation; to do less babysitting, or get a friend to be more attentive, for example. Then ask the group to make up a one sentence message starting with the word "You" that the person might use to express his/her feelings and move toward the goal. Record the sentences on the board or in a notebook. Discuss the suggestions. How well would they achieve the goal: What effect would these messages have on the other party involved?

Messages that begin with the word "You" may sound to the person involved like an accusation, threat, insult or command. Rather than helping to achieve a goal, these kinds of messages may make the other person feel guilty or defensive. Now ask the group to make up messages starting with the word "I". Would these messages be more effective in achieving the goal? Why? How would these messages make the other person feel? "I" messages allow the speaker to express feelings, goals and reasons without putting the listener on the defensive. Have students practice making "I" messages to express the feelings and goals. For each situation described in the Situation Table, have students construct a sentence to express the main player's feelings and goals in the following form: I feel _____ when you _____ because _____.

Collaborative Problem Solving

Introduce the following conflict resolution model to the class. This is only one of many conflict resolution models. Stress that this particular model works best when both sides agree to talk about the problem when there exists the possibility for mutual gain.

- Step 1:** Discuss and identify the issues ("We're both feeling emotional. Let's try to figure out why. What do you need from this situation? What do I need?")
- Step 2:** Develop mutual goals ("Let's try to figure out if there is anything important to us both in this situation. Where do we see eye to eye?")
- Step 3:** Brainstorm and evaluate options ("What solutions do you see? Is there a way for both of us to come out of this feeling good?")
- Step 4:** Create a solution and a plan for putting it into action ("It seems like we've found a way to handle this. Let's talk about how we can make it happen.")

Discuss how well this model would solve the kinds of conflicts students face. Point out that the success of this model depends on the willingness of both sides to work together and stay focused on finding a solution. Both parties must be able to listen to the other side's point of view without judging it. That's where active listening comes in. They must also be able to express their own point of view without casting blame or making the other side feel guilty: Using "I" messages is a good way to do that.

It is also necessary to work a step at a time and not try to solve the problems before both sides have had a chance to express their points of view and some mutual goals have been set. Mutual goals are common ground; things that are important to both sides. After the sides have agreed on a set of things that are important to both of them, they have similar interests. They are truly on the same side, working together to achieve their common goals. One way to find a workable solution is to brainstorm, then come up with all the possibilities you can think of without judging or evaluating them. After a list has been compiled, evaluation can begin. From the list several possibilities can be combined and refined into a solution.

Have small groups attempt to solve conflicts using this model. Each group should choose a conflict and then divide in half with each half representing one side of the issue. Afterwards, discuss the process. Did they reach a resolution? Are both sides satisfied?

Resolving Conflicts

Have students work in pairs to solve a conflict. Allow them to choose a conflict from the news or draw on their own experiences or that of a friend or family member. Each student in the pair will take one side in the conflict. The students should start working independently of each other, by describing the problem, the people involved and the goals they have in resolving it. Now the pairs should meet to try to resolve the conflict. They may draw on any of the strategies they have learned to solve the problem. Encourage the pairs to keep a record of the strategies they used and how successful they were. Finally, ask students to analyze the experience. Were they successful in finding a mutually agreeable resolution to the conflict? Why or why not? Under what circumstances (if any) did the conflict escalate? What strategies were successful and why? What would they do differently next time?

Topics For Further Investigation

There is a great deal more to cover on the subject of conflict resolution. You and your students may want to investigate further. What role does emotion, particularly anger, play in conflict? How can emotions be managed in a conflict? How can you recognize a conflict that can be resolved by mutually acceptable solutions? What if you cannot reach an agreement to solve a problem? What other models for conflict management exist? When is an objective party useful in solving a conflict?

Resources

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3. Ury, William. *Getting Past No: Negotiating Your Way From Confrontation to Cooperation*. Penguin Books, 1991.
4. Kearns, Tim, Carole Pickering and John Twist. *Managing Conflict: A Practical Guide to Conflict Resolution for Educators*. Ontario Secondary Teachers' Federation, Educational Services Committee, 1992.
5. Kriedler, William. *Creative Conflict Resolution*. Scott, Foreman and Co., 1984.
6. Sadalla, Gail et al. *Conflict Resolution: A Secondary School Curriculum Community Board Program Inc.*, San Francisco, 1987.
7. Justice Institute of B.C., www.jibc.bc.ca
8. The Safe Together Web site, www.safetogether.ca
9. Mahatma Gandhi Canadian Foundation for World Peace, www.gandhi.ca
10. Conflict Resolution Network Canada, www.nicr.ca
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12. Conflict Research, Resolution and Education Group, www.ucalgary.ca/uofc/research/crreg/index.html
13. Rigby, Ken. *Stop The Bully, A Handbook for Teachers*. Pembroke Books, 2001.



Software Review: Inspiration (Version 6)

By Dan Lang

Published by Inspiration Software Inc., Inspiration (Version 6) is an idea and information organizing tool – “concept mapping” on a computer – that allows the user to create, develop, and organize his ideas and information for any type of written project, research, or study. The program can also be used as an assist to understanding concepts and organizing the thinking process.

Inspiration allows you to do “mind mapping” on your computer. When you open Inspiration, you are presented with a blank work screen and the tools are arrayed along the top and side of the screen (very similar to a browser layout). Whether you are new to the concept of mind mapping, or are familiar with it using pen and paper, it is worthwhile to start with the tutorial to learn the program’s operating capabilities. It turns out that all the functions are worth knowing, if you want to get the most out of the program.

When you open the main screen, a circle is presented on the page. You start by typing your central idea (i.e. name of book, science concept, an assignment question, etc.) Your written text will appear in the circle. You then add more circles and write in your additional ideas or information. As you place each additional circle on the page, a connecting line will automatically appear. If you wish, you can rearrange the connecting line. Before you know it, you will have a visually laid out presentation of all your ideas that you can then work with.

If you want to get your ideas down really fast, you click on the “RapidFire” button – when you hit the return key, what you just typed will automatically appear in a newly created circle and be connected with the circle that you are typing in. This enables you to get a lot down very quickly in a visually organized way, without having to take time to place the graphics on the screen.

Once you have completed your initial map you can, with one click of the “Arrange” button, have the whole diagram instantly reconfigured. You also can easily reorganize or add more content, change connections, and add pictures (there are over 1200 clip art images that you can easily drop in).

Inspiration will also instantly convert the written text in your visual diagram into a written outline that will look like a table of contents with every idea in your diagram properly sub-headed. If you are preparing to write a report, for example, the table of contents appears instantly, and if you choose, you can draft all your written content right on the outline page.

This version of Inspiration will also allow you to put hyperlinks right on your page, so you can link one idea on your diagram to a specific page on the Internet. This can be very useful, for example, when you are using the program as a research desktop and you want to have all the Internet-related content you have found readily accessible from your diagram. The program also has many visual templates so you can just fill in the content instead of constructing the visual components from scratch.

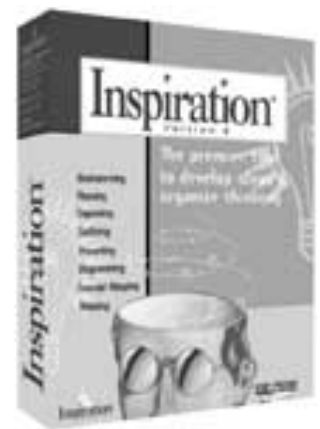
We believe this program may best suit students who already use the technique of mind mapping, so when introduced to the program, they will not be trying to learn the technique itself while trying to learn the program at the same time. We found that it isn’t difficult to become more preoccupied with the program than gaining confidence and capability in the technique itself. For some, Inspiration worked well with new users, while others preferred to start by learning mind mapping with pencil and paper and then graduate to using the program. Quite separately, this program has great utility as a tool for teachers who want to quickly create any type of visual diagram for teaching

purposes (concept charts, flow diagrams, etc.). This program can also help those students who have difficulties organizing their thinking processes and fully capturing their ideas in their work.

Inspiration is so very easy to learn and use. In terms of functionality, the visual templates, the ability to turn the diagram into a written outline, and the ability to put hyperlinks on a page are all very useful aspects. The RapidFire option is also excellent for those thinkers who need to “get it out fast” before they “lose it all.” In terms of the “real” world, we have seen the enormous lift in quality of thinking and communicating that students are able to achieve through using this technique as a working tool. The Inspiration program is also one they enjoy using, simply because it makes the “doing” of their preparatory work easier.

Inspiration is intended for grades 3-4 and up (a junior version for grades K-3 is also available, which is much more graphics-based). It is priced at \$139.99, and available for both Windows and Macintosh platforms. You may order copies of Inspiration online at the Learning Village Web Site, www.LearningVillage.com ©

Dan Lang is a freelance writer based in Toronto and the founder of LearningVillage.com. He may be reached at lang@lang.com.



Teachers' Opportunities



What kind of professional future do teachers have? What opportunities await you if you are a teacher? The answers to these questions depend very much on where you are in your career, but the key factor, no matter how old you are, is that the education system is going to be desperate for teachers in virtually every area, and choices will open up for you. No matter how badly you feel teachers are being abused as a group, the situation is quickly shifting to give you, as an individual, a great deal of leverage in managing your own career.

By my own admittedly crude estimates, Canada is going to be short about 12,000 full-time teacher-equivalents by the 2005-06 school year. Figuring 25 kids per class, this means there will be approximately 300,000 kids in classes without teachers – which is roughly equal to the total school age population of the province of Alberta.

If you are an experienced teacher approaching retirement age, you have several options open to you. First, you can take early retirement and quit work altogether. Second, you can take early retirement and go right back to work for the same school board as a supply teacher or a fill-in, with much of the pay and none of the hassles. This kind of opportunity is going to expand as school boards become more and more desperate to fill teaching vacancies. You can also start teaching at a private school, depending on what private schools there are in your community, because private schools are going to experience severe shortages too. Or you can move into what might be called “para-teaching,” working for one of the many emerging coaching and tutoring organizations. You can even decide to start your own tutoring service, beginning with clients from the school where you formerly taught.

All of this leaves aside any other skills you may have, such as talents in math or the sciences, or a facility with the Internet. With the cooling in the economy, such opportunities are not as widespread as before.

If you are an experienced teacher, but not close to retirement age, you have three fundamental choices. First, go to a private school, as described above. Second, quit and go into para-teaching. Or third, decide what you want to do within the education system, because the opportunities are going to start opening up quickly. Assuming you don't have some kind of professional black cloud hanging over your head, you should be able to pick the province you want to work in, the school board you want to work for, and perhaps the school you'd like to work at. You may also be able to pick a different specialty, assuming you



By Richard Worzel

“If you want to make a real difference in education, being a principal is the place to be. A principal makes the most important difference between a school that works and one that doesn't. If you're good, I encourage you to become a principal because we need you. Just don't expect it to be comfortable or easy.”

can cut it, and you may not have to have the same qualifications as required in the past. If you want to become a principal, the door will be wide open, because the shortage of principals is probably going to be worse than in any other category. (As an aside, if you want to make a real difference in education, being a principal is the place to be. A principal makes the most important difference between a school that works and one that doesn't. If you're good, I encourage you to become a principal because we need you. Just don't expect it to be comfortable or easy.)

With experience and ability, you will be able to pick and choose your opportunities – and that includes moving to the States, the U.K., and probably Australia or New Zealand as well. So decide what would be your ideal job, and then go for it. You'll probably get it. (But be cautious about accepting jobs in other countries, because recruiters don't always tell you everything you want to know, just everything they want you to know. And make sure you get all the promises in writing.)

If you're a young teacher just starting out, I would suggest that you grit your teeth and hold on for a few years. If you like teaching, but hate the system and the way it treats you, you may find things starting to get better once the shortages in teachers become so apparent that even politicians in denial can no longer pretend that everything's fine. Meanwhile, consider where you want your career to go, including which country, which province, what school board, and what specialty or specialties you'd like, and set your course that way. With the enormous cohort of kids currently in the system, and the large numbers of baby-boom teachers just starting to retire, opportunities are going to open up quickly over the next few years. You may be the low man (excuse me, "person") on the totem pole right now, but that will change quickly. If you like this field, hold on. Things will get better.

Finally, if you're in teacher's college, wasting time and learning useless theory while waiting for your teacher's certificate, be prepared for a rough entry into the

system, but a solid future beyond that. Our education system is the social structure that is slowest to change, and most resistant to new ideas, including the idea that change is mandatory. It will come, not because the politicians and school boards are brilliant or progressive, but because they will finally have no choice.

And for those of you who have come to hate the system and the way it treats

teachers, all I can say is that whatever goes around, comes around. The day is coming when you'll be able to smile at each other and say, "It's payback time!" ☺

Richard Worzel is a Toronto futurist who volunteers his time to speak to high school students. Contact him through this magazine, or by e-mail at futurist@futuresearch.com

ADVERTISERS INDEX

Reader Response #	Advertiser	page#
1	Apple Canada	2,3,23
2	Canadian Test Centre	20
3	Education Canada	12
4	Marjan Glavac	9
5	LearningVillage.com	11
6	National Resources Canada	Insert
7	VSO	9
8	Richard Worzel	11

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From: CTC/Canadian Test Centre
Subject: Canadian Achievement Tests, Third Edition (CAT-3)
Date: Wednesday, September 20, 2000

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The program began in 1998, when Catholique Collège Samuel-Genest (CCSG) sought the NRC's help in modernizing its design and technology program. CCSG wanted something that would bridge the school's technology gap and prepare its students for college and university engineering programs. To fulfill this request, Paul Amirault, 3D virtual environment designer at the NRC Institute for Information Technology (IIT), The Virtual Classroom. This new program trains CCSG students in 3D virtual technology and gives NRC researchers an opportunity to study e-mentoring at the same time.

Finding a suitable 3D CAD software program for the Virtual Classroom was a crucial and difficult decisions to made. Choosing 3D software for highschool use is vastly unlike that of private industry. In private industry, applications are purchased for a specific function, an individual preference, or a corporate



The Virtual Classroom

By Jennifer Kavur

A group of high school students are busy reconstructing performing spaces at the National Arts Centre (NAC) in Ottawa. Part of an ongoing program at the National Research Council (NRC), the students are creating these environments in 3D virtual reality space.

Scenery on the stage based on the original design of John Pennoyer for the National Arts Centre production of "All's Well that Ends Well" NAC Theatre modeled in VectorWorks and rendered in Cinema 4D

policy, and professionals will normally make extensive use of manuals and available training. But high schools don't have such manuals or training readily available to their students, and they often prefer intuitive applications instead. Also, high schools have access to CAD software at a fraction of its normal cost, so they tend to choose software with the highest market value (believing they are getting the most for their money). Unfortunately, such high market value software usually requires steep learning curves way beyond that of high school students, even the exceptional ones. And since students can come from either Windows or Macintosh backgrounds, software compatible to both platforms should be used. All things considered, Nemetscheck's Vectorworks program was selected as the software that best fulfilled all of Virtual Classroom's needs.

Another important part of the development process was choosing the technology for e-mentoring. Remote control and the Web camera were initially selected. Remote control technology would allow a teacher to remotely view a student's computer screen and, if necessary, take control of the student's computer so both could see the same thing in real time. The Web camera was for audio and visual communication. Yet problems with Web camera technology soon appeared. Network traffic caused lag time in the camera's audio communication. While the camera's visual capa-

bilities were beneficial to e-mentoring, its deficiency in audio communication was a detriment too great to ignore. Researchers replaced the Web camera with the telephone, and the ideal combination of technologies for e-mentoring was found.

Now in full operation, the Virtual Classroom program begins each September at CCSG. Senior students are introduced to Vectorworks software by teacher Daniel Gauthier, and throughout the semester, Amirault is available online as a virtual classroom assistant. If a student has a problem that Gauthier cannot solve, Gauthier calls Amirault on a cell phone. Using Timbuktu's application for remote control, Amirault accesses the student's computer via the Internet. He takes control of the computer, and then finds and explains the problem as if he is physically there. Under normal circumstances, this process takes just a few minutes, after which Amirault returns to his NRC projects and the student continues working in Gauthier's class. "Obviously, having access to Paul from my classroom using Timbuktu isn't quite the same as having him physically in the classroom with the students," says Gauthier. "However, it turns out that using Timbuktu and a cellular telephone is remarkably efficient." After the semester is over, Virtual Classroom graduates apply for co-op positions in virtual reality projects at various research institutions across Canada such as the NRC, the NAC, and the Canadian Space Agency (CSA).

Bassam Azzi, a Virtual Classroom graduate, is creating an institute in virtual reality for the NRC that will be opening at the University of New Brunswick in Fredericton. Sebastien St. Louis, another graduate, is busy creating 3D virtual environments of the laboratory facilities at the David Florida Laboratory (CSA). "I've had a taste for 3D for a couple of years now," says St. Louis, "but the program really helped in developing it. I now know a lot of methods in modeling and animation and am thinking of furthering my skills at a local college before trying my luck at Sheridan. Pixar, here I come."



NRC Building (M-2) modeled and rendered in Vectorworks

The NAC Project

The most impressive virtual reality project is currently taking place at the NAC. For years, Paul Hennig, NAC production administrator, had wanted to virtualize the Centre's performing spaces. But the resources and technical problem solving required for such an undertaking



Opera of the NAC modeled and rendered in Vectorworks

were daunting. When Hennig heard about Virtual Classroom students doing exceptional work at the NRC, he contacted the Council and discussed the possibility of having students work in a similar fashion at the Centre. Hennig felt that recreating the performing spaces in 3D would be extremely valuable for assisting in several areas of set design, and that the Centre was an ideal test bed for e-mentoring. The Council agreed. After a series of brief meetings between Hennig and Amirault, the NAC project was defined and began on February 11, 2001. William Cyr and Matthieu Carrier, two students from CCSG, were chosen to participate.

The NAC project holds possibilities even beyond that of set design. For example, the virtualized performing spaces could be offered online to the public. Potential ticket holders could download a virtual space and view the stage from their seats prior to purchasing them. The NRC has already done preliminary work in this area using Nemetschek's Cinema 4D, a 3D visualization program that is also used for creating animations and visual effects.

Cyr summarizes his experience at the NAC: "Before my co-op started, I really didn't know what to expect. The minute I walked in to the NAC, I knew that this was going to be an amazing project, and it's been amazing so far. Working with Paul Amirault and Paul Hennig has really made the job more enjoyable. There wasn't one moment when we thought we couldn't do something. We had one of the best 3D modelers on our side. At any time, if we had a problem, we would simply give Mr. Amirault a call, and he would log onto our machines and take control. We would show him the problem and in no time he had a solution for us. It's a great feeling, knowing that no matter how hard the task may seem, a solution is only a phone call away."

He continues: "The program did have an impact on my future. It made me realize 3D is the next big step. The possibilities with 3D modeling are unbelievable, and with the skills and experience I gained here, there's no reason why I couldn't be a part of this. Working at the NAC was a whole other experience. I got to understand how theatre works, got to see backstage, and met a lot of interesting people. This program will stay with me for a long time." ☺

Paul Amirault is a 3D Virtual Environment Designer at the Institute for Information Technology, National Research Council Canada. He also leads Virtual Classroom projects within the NRC's Broadband Visual Communications research program. For further information on the Virtual Classroom program, contact Amirault at Tel: 613-993-2576, Email: paul.amirault@nrc.ca.

iBooks Integrate Technology and curriculum in Red Deer

By Jeremy Simon / Editorial Sponsorship

These days, people in Red Deer, Alberta can boast about their Memorial Cup-winning Rebels hockey team. But they can also be proud of their local school board, and its progressive approach to integrating technology.

Meet Piet Langstraat, 40-year-old former classroom teacher and school principal, now District Coordinator for Technology at Red Deer Public School District No. 104. Piet is overseeing a pilot project at Red Deer middle schools that clearly raises the bar for classroom computer use.

As computers began appearing in schools in the 1980s, something called the "computer-option" model quickly developed. Computer-option meant students could choose to learn about computers, with the computer as the focal point. But now, educators want students to learn through computers, using the computer as a tool. That means getting computers into circulation, and integrating them with the mainstream curriculum of math, science, reading, and writing.

That's why Red Deer turned to the iBook. As part of the pilot project, every Red Deer middle school has a specially-made cart that can wheel up to 40 iBooks between classrooms. Each classroom has been equipped with at least four Ethernet ports - two of them receive AirPorts, and another receives a printer. iBooks then move freely about the classroom, maintaining



a wireless network and Internet connection. "It takes the teacher about three minutes to set it all up," says Langstraat. "It's very slick."

With this system in place, students can embark on some very interesting programs. One, called the "Stock Market of Eastview," has grade 8 students building and tracking investment portfolios. Their work is kept in a FileMaker Pro database that gets refreshed every day with current stock prices. This activity supports several underlying elements of the math curriculum, including graphing and charting.

Traders work in groups of four, often in different classrooms at the same time. Their activities are coordinated by the networked iBooks. "Another system wouldn't lend itself to this kind of collaboration," says Langstraat, who adds that some healthy competition emerges between the groups.

iBooks have been applied to the fine arts curriculum as well. Grade 6 students used digital cameras to take self-portraits, and then made manual contour drawings of their own faces in Adobe PhotoShop. Special effects were applied, and the art was then printed in different variations. Mac OS, the platform of choice for graphics applications, enabled young children to produce high quality pieces of art.

Red Deer is almost an exclusively Mac school district. Of the 2500 personal computers they own, all but 150 are Macs. Langstraat says this long-standing policy is based on Mac's ease of use and reliability.

Back at the middle schools, iBooks are helping grade 6 students prepare for provincial achievement tests in language arts. A program helps students break down the elements of a short story they are expected to write, such as character and setting. Then the iBooks display images of people and places to stimulate



the children's imaginations. How would you describe this person? What could happen in a place like this? Students have a template alongside the image to record their thoughts.

According to Langstraat, the iBooks create both excitement and a whole new way of approaching the task. Best of all, Alberta students are able to use the iBooks while actually taking the provincial tests.

Other projects have included an online math application for grade 7 students, and an interactive database of book reviews. Langstraat says that the iBook project relies on the teacher librarian to be the lead technology teacher. He or she weaves the technology into a cooperative unit, works with teachers in the classrooms, and manages a central research facility equipped with iMacs.

"This project is not about teaching technology for technology's sake"

"This project is not about teaching technology for technology's sake," Langstraat explains. "We're looking for computer applications from real life, so that you can grab the tool when it's appropriate. It's really no different than picking up your pencil."

In a way, Red Deer has two sets of Rebels - a championship hockey team, and group of educators willing to think and act beyond conventional wisdom. Both are valuable additions to the community. ©

Jeremy Simon is a freelance writer based in Toronto.



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