V. 17 N.2 (#90) Winter 2008 \$12.00

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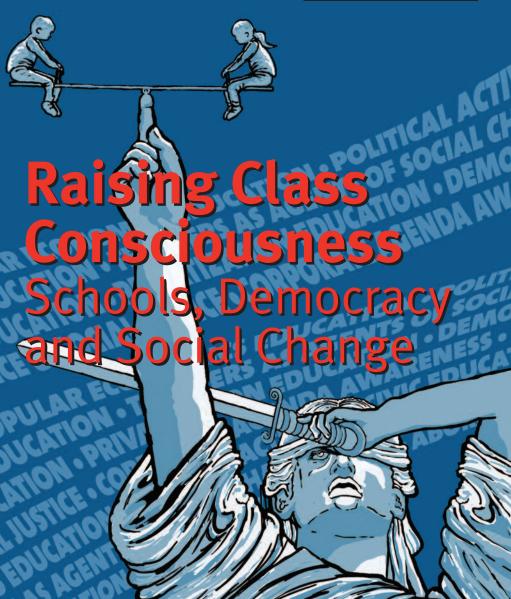
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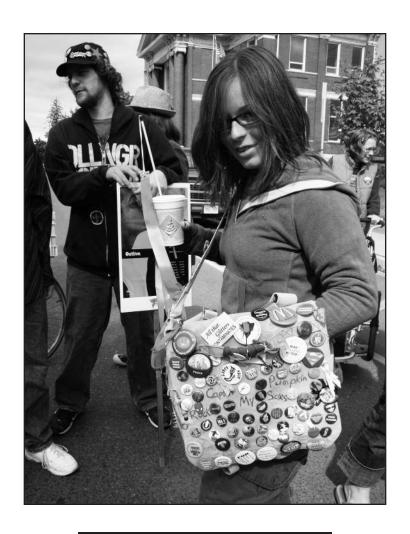
OUR SELVES

Economics for Everyone

Science and Social Justice

Dismissal of the Halifax Regional School Board





OUR SCHOOLS The Canadian Centre for Policy Alternatives OUR SELVES



Our Schools/Our Selves is published four times a year by the Canadian Centre for Policy Alternatives, 410-75 Albert St., Ottawa, ON K1P 5E7. This is Volume 17, Number 2, Issue #90 of the journal (Winter 2008). Our Schools/Our Selves is a member of the Canadian Magazine Publishers Association. It is indexed in the Canadian Magazine Index and the Alternative Press Index.

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ISSN 0840-7339

ISBN 978-0-88627-544-0

PRODUCTION

Typesetting and design: Nancy Reid. Printed in Canada by Imprimerie Gagne, 750 Ave. Deveault, Louiseville, PQ J5V 1B4. Publications Mail Registration No. 8010.

Cover Illustration: Dirk Vanstralen

Cover Design: Nancy Reid First Page Photo: Nancy Reid

The opinions expressed in *Our Schools/Our Selves* are those of the authors, and do not necessarily reflect the views of the CCPA.

Contents

VOLUME 17, NUMBER 2 (#90)

WINTER 2008







9 Education Roundup

LARRY KUEHN

19 Editorial:

How Do We Educate for Democracy?

FRIKA SHAKFR

25 Viewpoints:

25 A Graduation Speech

DR. PAUL SHAKER, DEAN OF EDUCATION, SIMON FRASER UNIVERSITY

29 The University System Reborn

From intellectual servitude to freedom of thought

ROSHAN VIRK

33 Democracy, Neo-liberalism and the Dismissal of the Halifax Regional School Board

MIKE CORBETT

43 Science and Social Justice Are Not Mutually **Exclusive**

(Limitations of) teaching for social justice in the Ontario high school science curriculum **IOHN ROMAS**

Youth Culture and War 53

Propaganda — what can we learn from the last century?

STEPHEN DALE

63 End the Curriculum of Killing

MATTHEW BEHRENS

69 Talking About Teaching Mathematics for Social **lustice**

DAVID STOCKER, DAVID WAGNER

83 Re-imagining Policy: Some Critical Steps **Towards Educational Equity**

DOMINIOUE RIVIÈRE

99 Why Activists Must Study Economics

Get ready for Economics for Everyone, an indispensable upcoming resource IIM STANFORD

109 Youth "Participaction" & Democracy

Reflections on teaching Civic Studies 11 in British Columbia

PAUL ORLOWSKI

123 It's Time To Take the Teaching Gender Aptitude Quiz!

MICHELLE MILLER

133 University Front:

Waste Not, Want Not: Corporatization and "Efficiency" in Canada's Classrooms

CLAIRE POLSTER

145 From Other Media:

Democracy and Education

(from Common Dreams)
PHILIP KOVACS

149 International:

Fires, Festivals, and Franchise: Youth, Citizenship in France

IACKIE AMSDEN

157 Book Reviews:

157 Learning to Leave – The Irony of Schooling in a Coastal Community by Mike Corbett

ANIKO VARPALOTAI

163 Open Minds to Equality: A Sourcebook of Learning Activities to Affirm Diversity and Promote Equity by Nancy Schniedewind and Ellen Davidson

DARREN LUND



How Do We Educate for Democracy?

BY ERIKA SHAKER

If we continue to force children to memorize the dates of wars without asking why we have perpetual war; if we continue to force children to memorize mathematical precepts without understanding how and why we use math; if we continue to force children to learn to read while ignoring literacy, we should not expect anything different than what we have had for many years: a bewildered herd.

If, however, we want something much different for our children, for our communities, and indeed for the world, then we must take a radically different approach to how we educate future citizens.

If we want democracy, we must educate for democracy.

The above quote is from "Democracy and Education," an article by Philip Kovacs which appears in this issue of *Our Schools/Our Selves*. And in framing this editorial — and this issue — I can think of no better place to start than with that succinct encapsulation of the fundamental relationship between educa-

tion and democracy — and the risks of ignoring it.

In a somewhat hamfisted way, one Conservative MP actually succeeded in making this relationship headline news — briefly, anyway. Pierre Poilievre (MP for Nepean-Carleton) invited students to write a 500 word essay explaining why the age of consent

should be raised from 14 to 16 (note that students were not asked to defend their opinion as to whether the age of consent should be raised — presumably any essay that did not reflect M. Poilievre's own political position or that of his party was not welcome). Entries would be judged by two constables from the Nepean police department and the "winning" student would receive a scholarship of \$1.000. Students were also required to collect 25 signatures for M. Poilievre's petition to pressure the Senate to pass bill C-22, raising the age of consent for sexual activity to 16.

Mr. Poilievre explained that this was merely his attempt to help raise student awareness about teenage sex. "I don't see the concern," he told the CBC (November 8, 2007). "Any tool you can use to encourage young people to build their minds, to participate in the democratic process and put their thoughts on paper in written word is a good thing."

What's particularly interesting is M. Poilievre's assertion that getting students to collect signatures that support only one side of a political issue — his own — is his definition of participation in the democratic process. Absent from his vision of democracy, presumably, is debate or discussion. And then there's the bribe of \$1,000 — students being paid not for *their* opinion, but for their articulation of M. Poilievre's. All wrapped up in the cheap trap-

pings of a "scholarship," clearly reinforcing the message that this must be educational.

Fortunately, this issue of *Our Schools/Our Selves* serves as a contrast — perhaps antidote would be a better word — to M. Poilievre's experiment in "demockracy." Readers will note that a number of our articles focus specifically on what can be done and, further, what is being done in classrooms across the country to facilitate democracy and democratic exchanges in our schools; and to encourage and empower students and educators to be agents of social progress.

This is not to imply that things are all rosy; as several authors demonstrate, educational institutions at all levels can behave (or be required to behave) in ways that actually suppress democracy. In "Democracy. Neoliberalism and the Dismissal of the Halifax Regional School Board." Mike Corbett examines what led to the Nova Scotia Education Ministry's decision in 2006 to dismantle the largest democratically-elected board in the province and replace it with a gentleman appointed to act as the Board, apparently because the members were arguing, sniping, and "refusing to cooperate with each other." As Mike explains, "Democracy is not about being quiet, doing what one is told, and knowing one's place. Real democracies flourish in open debate...where voices are not silenced because they speak of upsetting things. Real democracy is about managing conflicting interests and perspectives. Real democracy takes time and argument, it is in one sense 'inefficient,' messy, and it can even get downright nasty."

Stephen Dale examines the ways in which a popular annual produced in the early 1900s in Great Britian for Canadian boys (Young Canada) shaped a generation in preparation for a cultivated and "civilized" life — and an honourable and glorious death on the battlefields of Europe. Although he does not focus specifically on the school system, but rather on other vehicles of youth-focused culture production. Stephen's article - an excerpt from a work in progress — is particularly relevant given the ways in which the military are again playing an influential role in public schools.

In a related article, Matthew Behrens of "Homes not Bombs" examines how school boards across the country have high school co-op programs offering students placements with the Canadian Armed Forces - and the community organizations adamantly opposing arrangements. Matthew wrvlv comments that some of the military's recruits will "likely be coming out of the same place that is called upon to provide a curriculum of tolerance, respect, and nonviolent conflict resolution."

The ways in which educational restructuring can stifle democracy are not limited to primary and

secondary schools. Universities and colleges are not immune either, Claire Polster discusses how the obsession with research grants and competition (for students, for research dollars and for public reputation) in the post-secondary sector has made our universities less, not more, efficient. Claire offers a number of suggestions for reversing this situation. measures which, if implemented, "might ultimately also help to erode the corporatization process itself (such as by promoting greater participation. tivism, and democratization in our universities)," and, conceivably make universities generally more attractive places to work. teach and learn.

Roshan Virk, a university student in BC, elaborates on his frustrations with a post-secondary system that privileges evaluation over education, competition over collaboration, and quantity over quality. "I used to dream that university was about critical thinking and creating new ideas. but I was wrong," he laments. "How is it possible to do this when the whole system is geared towards intellectual servitude?" Roshan suggests another model for higher education is possible — and necessary, after he visits another university with a very different philosophy.

And in addition to these thoughtful and pointed analyses of what has been done to limit rather than foster democracy in our educational institutions, and suggestions for how to reverse this trend, a number of authors have taken the time to talk about how they are trying — how we must all try — to return education to its more radical roots: teaching and learning for democracy.

In a graduation speech, Dr. Paul Shaker (Dean of Education at SFU) explains in the most eloquent of terms the unique and enormously responsible position these young graduates will be taking in our modern society: "a co-equal goal of teaching, along with conveying the status quo, is to inspire inquiry, imagination, vision. Educators who break the mold are often responding to this mission. Along with others in society, they have imagined racial, disability, and gender equality when the laws did not. They have doubted orthodoxies about science and social science. only to be told what fools they were. They have had a vision of a world without want and of peacekeepers and river-keepers in the face of anger and ridicule." Teachers as powerful agents of social change must feature prominently not just in the education debates, but in classrooms across the country as we decide. collectively, what kind of world we want to build — and the principles that world will reflect.

Very much along these lines, Paul Orlowski explains how he sees the act of teaching — specifically, the act of teaching Civic Studies 11 in BC, where issues of privilege and power distribution are part of the curriculum. "Attempts to strengthen democracy through the development of an informed and active citizenry must include analysis of the more effective hegemonic devices in Canadian society. Corporate media is clearly on the side of corporate privilege, Teachers of Civic Studies need not be." And after reflecting on his experiences in the classroom teaching this course, he asserts that "if all provinces were to have a similar high school course [Civic Studies 111, there is good reason to believe that the collective political consciousness of the next generation of Canadians would significantly increase. This, in turn, would only strengthen our democracy, perhaps helping Canada realize its enormous potential."

David Wagner and David Stocker's conversation teaching for and about social justice is an evocative piece. Both are math educators passionate about peace, social justice, and exposing and addressing inequities in the world. But what role can (or should) a teacher play in "educating awareness"? Is the "responsible" thing to talk about these difficult concepts in the classroom or rather to "let children be children"? These are many of the questions with which teachers may be struggling as they contemplate their own responsibility to students, to themselves, and to the world around them issues that permeated Dean Shaker's speech. As many of the authors in this issue of OS/OS demonstrate, the concept, or perhaps the assumption, of the "neutral classroom" is one that requires constant interrogation.

John Romas spent his threeweek Alternate Practicum (part of his teacher training at Queen's University) at the CCPA, A new teacher (new to Ontario, anyway). John designed three lesson plans senior level Biology, Chemistry and Physics) to demonstrate how science and social justice could be combined in a way that makes the course content even more relevant to students. The article in this issue of the magazine provides a synopsis, but the full version, along with complete lesson plans, may be downloaded from the CCPA web site (www.policvalternatives.ca).

Michelle Miller, of the Miss G____ Project, designed a quiz which serves as a crash course in how to teach about gender in secondary schools. Readers should note that the Miss G___ Project is working to rewrite high school curriculum so that it includes an inter-disciplinary Gender and Feminist Studies course: "It's time to take the Teaching Gender Aptitude Quiz!" is a saucy and interactive way to introduce gender education and feminism into the classroom.

In an excerpt from his upcoming book, *Economics for Everyone*, Jim Stanford discusses the need for a resource to popularize economics, making it more accessible to the general public.

Although this book is not specifically intended for school, it too has everything to do with education and democracy. As Jim explains, "A society in which ordinary people know more about economics, and the often conflicting interests at stake in the economy, is a society in which more people will feel confident making up their own minds about what's best — instead of trusting the experts. It will be a more democratic society."

Democracy in education is not limited to classroom content, of course - it has to do with the ways in which curriculum is drafted, where priorities are set, and how principles are imbedded in what teachers teach and students learn. In "Re-imagining Some Critical Steps Towards Educational Equity," Dominique Rivière rejects the concept of "boutique multiculturalism" and contemplates what the re-election of a majority Liberal government and the continuation of many of the existing education policies trumpeted by the McGuinty Liberals might mean for real educational equity in Ontario.

Discussions of youth activism, culture and democracy are not limited to North American schools: Jackie Amsden looks at the thriving network of child and youth councils in France (not without flaws, to be sure), which build on a long tradition of political awareness and involvement among younger citizens, and sug-

gests how and what Canada might learn from this practice.

Two resources have been reviewed in this issue: Drawing on her own background in rural education, Aniko Varpalotai has thoughtfully and eloquently reviewed Mike Corbett's most recent book. Learning to Leave: The Irony of Schooling in a Coastal Community. This book examines the Catch-22 that is the reality of many coastal (and rural) schools and teachers: "The role of educators in this contradictory relationship of encouraging formal education and school completion while trying to validate the inherent values of rural traditions and community values, is to maintain a fine balance." Schools — not just coastal or rural schools, but all schools must, according to the author and the reviewer, be prepared to confront much more explicitly issues such as gender, "along with racism and other forms of oppression and systemic inequality."

Educator Darren Lund reviews Open Minds to Equality: Sourcebook of Learning Activities to Affirm Diversity and Promote Equity (3rd edition) by Nancy Schniedewind and Ellen Davidson and published by Rethinking Schools. This indispensable resource provides readings, background information, and suggested activities that push "teachers and students to confront their own biases, as well as addressing the systemic forms of racism and other oppression," particularly in a post 9-11 world. Darren challenges Canadian educators to produce a Canadian version of this book which, he feels, would represent "a long-overdue addition to the anti-oppression materials needed, now more than ever, in this country."

It has been a great pleasure and privilege to work on this issue of Our Schools/Our Selves. in no small part because I have been repeatedly amazed, humbled and inspired by the remarkable work being undertaken by students and educators, both young and those more experienced, in classrooms across the country — people who have then given so generously of their time, experience and expertise to share themselves and their work with this magazine. At a time when so much of what we once considered a fundamental right, or a core principle, is coming under attack dressed up in the rhetoric of "individual freedom" or "choice" or "common sense," these creative and passionate educators and students play an ever more important role. As Philip Kovacs asserts, if we want democracy, we must educate for democracv...and we must ensure that educational institutions are in a position to encourage and facilitate this objective.

It is truly overwhelming to work with so many individuals who are clearly more than up to the challenge.

IOHN ROMAS



Science and Social Justice are Not Mutually Exclusive

(Limitations of) teaching for social justice in the Ontario high school science curriculum

As a 2007 B. Ed. student in the Faculty of Education at Queen's, I have learned a great deal about the pedagogy of secondary science, educational theory, and adolescent learning and development. Through course readings and my teaching experiences, I've also come to appreciate the value of teaching for social justice. One of my greatest challenges this year has been to figure out how to best combine social justice within the secondary science curriculum

Sadly, from what I saw during my practice teaching, my initial response was no. I examined the science course profiles and associated curriculum expectations. Then, I looked at a calendar, and all my grand ideas went out the window. The sheer volume of information I had to "cover" severely limited my ability to teach the way I wanted to teach, the way I was being taught to teach. I ended up supplying what Kohn describes as a "bunch o' facts". There wasn't enough time to allow students to construct their own knowledge. There wasn't enough time to progress through different levels of learning, to more complex thought and analysis. There wasn't enough time to do the kinds of activities I wanted to do. How was I going to find time to incorporate teaching for social justice, if I had to race just to get through the science material?

OUR SCHOOLS/OUR SELVES

At our last on-campus session, I was asked and agreed to participate in a study by Dr. Magda Lewis, a professor in the Faculty, on the attitudes of teacher candidates towards teaching for social justice and teacher-training programs in general. During one interview, we discussed the difficulty of teaching for social justice from a "packed" science (and math) curriculum. It turns out I wasn't the only one trying to figure this out.

If as educators we hope to create caring students, we need to do a better job of giving students reasons to care. Historically, science and math have enjoyed a privileged status over the arts, but most educators have not taken advantage of this motivational advantage to encourage students to consider the "bigger picture." Traditionally, there has been a disconnect between the concepts we teach and society in general, as evidenced by every teacher's favourite question from students: "Why do I need to know this?"

Given the time and curriculum constraints, how can we teach science and cultivate critical, caring students? My original intention was to research ideas for teaching for social justice within the framework of the science curriculum objectives. However, the more I researched, the more frustrated I became with the limitations of working within the curriculum framework. It was dif-



Nancy Reid

ficult to "check off" objectives as I composed lessons concerned with social justice for Biology, Chemistry and Physics (especially Physics!). The pressure to meet these objectives makes it seem like teaching anything else is wasting valuable time. It became clear that a more creative or at least less rigid approach was needed. In a packed curriculum, most teachers logically want to "cover" basic concepts, and may not have time to progress to the "Relating Science to Technology, Society, and the Environment" component, the very component designed to provide students with the opportunity to put what they have learned into practice in a meaningful context. Contextualizing these scientific concepts with social justice issues directly links the science to technology, society, and the environment in a way that is arguably more relevant than the existing objectives of these sections.

As I began researching, I had the opportunity to read Maththatmatters, a CCPA publication written by David Stocker, a progressive educator at an alternative middle school in Toronto. He provided fifty (ves. fifty) detailed lessons on teaching social justice issues through math, and even cross-referenced his lessons with skills from the various course strands. This should serve as a model for teachers to find creative ways to combine curriculum content with teaching for social justice, to educate and cultivate caring members of society. I have tried to take a similar approach for three outlines of science lessons, one each for a senior Biology, Chemistry, and Physics class (referenced by course codes used in Ontario schools — for example, 3C, 3W, 4U — but applicable in other jurisdictions). While the full lesson plans are available from the CCPA website (http://www.policyalternatives.ca) I hope in this article to provide a synopsis of the some of the ways in which science education and social justice may be combined in a way that may actually serve to increase students' engagement with the classroom material and the world around them.

Senior Biology: HIV/AIDS

The 3C and 3W science course profiles have strands, or sections, dealing with Microbiology and Micro-organisms and Immune Systems. This is a logical place to teach about HIV/AIDS. (In fact, such a lesson could also meet several objectives in the 3U course.) Some other suggestions that may also be suitable for a biology

OUR SCHOOLS/OUR SELVES

class while teaching for social justice include nutrition/obesity, genetic engineering, genetic modification of food, distribution of food resources, immigration and population growth.

After being provided with appropriate resources (the UN and WHO have a number of excellent graphics detailing the spread of HIV-AIDS), students can try to determine why they think there are such large differences in the incidence of people living with AIDS or AIDS deaths globally.

An investigation of the life cycle of an HIV virus would easily lead to a discussion of how the virus enters human cells, and how viral genetic material is replicated. This would set up a potential group discussion where students could explore how they might design a drug to fight AIDS (based on their knowledge of the life cycle of the HIV virion), and how they might design global prevention strategies to fight the spread of the AIDS epidemic.

My intention here was to show an example of how we can teach for social justice while still meeting course objectives. In this particular example, students can at least deconstruct commonly-held beliefs about who gets AIDS and become more aware of the uneven global incidence. Further exploration could examine the disproportionate impact on certain segments of Canadian society¹, classes of HIV/AIDS drugs, drug resistance, or opportunistic infections.

Although my primary focus was on combining the content, the lessons can be as open-ended and student-driven as the teacher feels comfortable with. There are many resources available for teachers to research more interactive lessons.² We all want to maximize their use of class time, and teachers can focus on whatever they think is most important. But educators need to ask themselves: which do you feel is more important to students' well-being, knowing the names and locations of the structural proteins gp120 and gp41, or knowing that one in four persons in Canada with HIV is unaware of his or her infection? (Leading Together)

Senior Chemistry:

Water: Purification and Commodification

The idea here came mainly from the objectives relating to water purification and treatment in the 3U course (it's found in the Solutions and Solubility section); I took it one step further. Some other ideas for curriculum integration might include air quality and pollution, the Greenhouse Effect and global warming, and alternative forms of energy.³

Teachers could start with some interesting facts to whet their students' appetite (http://www.thirdworldtraveler.com/Water/Blue Gold.html is an excellent resource):

- The world's 225 richest individuals have a combined wealth equal to the annual income of half of humanity. The three richest people in the world have assets that exceed the combined gross domestic product of 48 countries.
- The United Nations reports that Europeans spend \$11 billion a year on ice cream, \$2 billion more than the estimated total money needed to provide clean water and safe sewers for the world's population. More than five million people, most of them children, die every year from illnesses caused by drinking poor quality water. While billions go without clean water, North Americans use 4,900 litres (converted from 1,300 gallons) of water per person every day.
- North Americans and Europeans spend more on pet food than the total money needed to provide basic health and nutrition for everyone in the world.

After establishing the names and locations of countries with the fewest and the most freshwater resources, students could explore issues of inequity by modifying an activity demonstrating the distribution of wealth as compared to the distribution of freshwater resources.⁴

A short quiz might help demonstrate the importance of water on a global scale. After an overview of the hydrologic cycle and the water treatment process graphics available online) students could explore a series of questions:

1. What precautions need to be taken to ensure that water is safe to drink?

OUR SCHOOLS/OUR SELVES

- 2. Is there any way you can think of to "create" more freshwater?
- 3. Use a flow chart or diagram to illustrate a process to make seawater potable.
- 4. What is desalination, and why don't countries do this more?
- 5. How could we help solve the global water problem?
- 6. Consumers (including myself) are growing frustrated with the rising costs of gasoline. At the time of this writing, the price per litre of gasoline in the Ottawa area hovered around \$1.02. At this time, a 591 mL bottle of Dasani water (a Coca-Cola product), costs \$1.96. What is the price per litre? Why is water more expensive than gasoline?
- 7. Find a newspaper article (cbc.ca, bcc.co.uk, cnn.com, etc.) about this subject, using given keywords (water, commodification, privatization, resource, consumption, etc.)

Again, this is merely a starting point, but it provides an excellent opportunity for further lab investigation into water treatment,⁵ removing unwanted ions from solution and common ion effect or solubility, all of which are readily available on the internet. The integration of social-justice-based resources would also expose students to the issue of the unequal distribution of freshwater resources, the increasing commodification of water and its implications for the future.⁶

Leaving students with more questions than answers is not necessarily a bad thing.

Senior Physics: Solar Energy

Yes, even physics can be linked to a social justice issue! In fact, physics may provide the best context for project-based learning and exploration. Wind energy, child labour (energy, work and power), nuclear energy, alternative forms of energy (solar is presented here) are just a few ways in which physics content can be combined with social justice themes.

After providing students with background information looking at the growing potential global energy crisis (specifically in oil and gas production), students can look at the impact on Canadian oil production — and (furthermore) the

impact that an energy shortage in the United States may have on Canada.

FURTHER READING:

- 1) "U.S. needs for oil, gas hurt Canada, report says." *Globe and Mail*, Thursday, October 17, 2002, by Steven Chase.
- 2) "Canada Pays Environmentally for U.S. Oil Thirst." Washington Post, Wednesday, May 31, 2006, by Doug Struck.

SCIENCE CONCEPTS

Renewable energy sources are even larger than the traditional fossil fuels and in theory can easily supply the world's energy needs. After consulting the resource diagrams provided (courtesy of Wikipedia), students might address the following questions:

- 1) How much of the incoming solar radiation reaches land and water? What happens to the rest?
- 2) Come up with a formula that compares the amount of solar energy with that of conventional energy sources.
- 3) Considering the abundance of available solar energy, why do you think we don't use more solar energy? (this should generate an interesting discussion!)

An overview of the Photoelectric Effect — a crash course in how solar energy works — will help students describe how solar energy is converted into electrical energy, and speculate about some of the advantages and disadvantages of using solar energy.

In this segment, the idea was to combine the concepts of work and power with the transformation of solar energy to electrical energy (from 3U Energy, Work and Power, 4U Matter-Energy Interface, 4C Energy Transformations). At the same time, students can learn about the peak oil concept and the environmental effects of fossil fuel production here in Canada. There are also many possibilities here for constructing class projects, for example: building a solar-powered car, a solar still to distil water, or a solar oven.

CONCLUSION

We believe that education is a lifelong learning process. We also believe that the future of our society depends on informed and educated citizens who, while fulfilling their own goals of personal and professional development, contribute to the social, economic, and cultural development of their community and of the country as a whole. Beyond our borders, Canadian education should reflect the priorities of Canadians while contributing to strengthening Canada's place internationally.

From the Victoria Declaration of 1993, (http://www.cmec.ca/science/framework/pages/english/1.html)

...Noble intentions, for sure, but does the current science curriculum allow us as educators and students to meet the goals expressed in the previous quote?

Trying to produce lessons for social justice from the mandated science curriculum can be difficult so we need to ask ourselves if, in the interests of time, we can or should "skip" some objectives. A more flexible lesson design approach of stretching across strands or course sections could meet multiple curriculum objectives and save time. Of course, I agree that there are fundamental concepts that must be learned. Anyone who studies or teaches Chemistry recognizes the importance of the mole concept, or the importance of Newton's Laws of Motion in Physics, or the structure of DNA in biology. But do we need so many details across strands in these subjects, details likely to be forgotten as soon as they are tested?

Every science course is divided into *five* separate sections or strands. This "shotgun" approach of covering a wide array of topics leaves little or no time for in-depth examination or reflection on any. Too often science teachers are pressured into following the traditional pattern of new concept, examples, practice problems and homework....then move on. Then, and only if time permits, a recipe-type lab is squeezed in. Learning, perhaps especially in science, should be motivated by questions and curiosity, not facts (Kohn interview). We can and should do more.

Too little time and too much content are enemies of good teaching and real learning. They ensure less opportunity to provide the kinds of activities that enrich student learning, generate interest and foster motivation. Despite our best intentions, if the focus is on the objectives rather than the process, we are forced to teach students to simply regurgitate basic ideas to pass tests. We inevitably teach in a way that does not promote real learning or growth to the extent that we could. Given the pressure to meet as many objectives as possible, the objectives that we are often forced to skip are the ones that provide students with the reasons to care or the motivation to learn. And as a result, students and teachers lose out.

Traditional approaches tend to start by teaching students specific basic concepts, then (if there is time) move on to more critical and complex thinking. To simplify concepts, we tend to decontextualize them, believing it supports the generalization of learning. For example, we may isolate an equation from any context and present it as a universal principle that can then be applied to any context. However, providing a relevant context increases students' intrinsic motivation to learn. This begs the question, should we start by providing relevant contexts, and leave it up to students how much detail they want to learn? Would this be a better method to keep students motivated in our schools?

Due to the current time and curriculum constraints, we have little choice but to sacrifice depth for breadth. In math and science, we often don't have the time to provide the kinds of activities that enhance student learning, and we lose the chance to relate what we teach to society and the environment. These subjects have enjoyed a privileged status over the arts; arguably we have an even greater responsibility to help students make such connections. In contemplating the purpose of an education, we need to ask ourselves: what do we really want our students to learn in school?

Fortunately, more and more teachers are exploring this concept and posting complete lesson plans on teaching for social justice and global education. The BC Teachers' Federation is one organization that has many well designed elementary and secondary lessons and associated resources available at http://www.bctf.ca/SocialJustice.aspx?id=6218.

Teaching for social justice provides the context for students to want to learn and care about their communities. It may require some creative approaches to time management and lesson planning, and it may also be outside the comfort zone of some math and science teachers. But how can we expect students to take

OUR SCHOOLS/OUR SELVES

chances in their learning if we as teachers aren't willing to do the same?

John Romas recently graduated from the Faculty of Education at Queen's University in Kingston, Ontario, and currently teaches in Brampton, ON. A longer version of this article, complete with detailed lesson plans, is available on the CCPA web site (www.policyalternatives.ca).

ENDNOTES

- ¹ Leading Together: Canada Takes Action on HIV/AIDS (2005-2010).
- ² For example the Project for Enhanced Effective Learning at http://www.peelweb.org/index.cfm?resource=about.
- ³ In fact, some websites even have prepared lesson plans http://participate.net/educators/.
- ⁴ Economic and Social justice: A Human Rights Perspective by David Shiman. http://www1.umn.edu/humanrts/edumat/hreduseries/tb1b/Section2/activity2.html
- ⁵ (http://www.learner.org/channel/workshops/chemistry/workshop7/7_5.html)
- $^{\rm e}$ For more information, see http://www.blueplanetproject.net/, http://www.canadians.org/water/index.html.
- 7 (figures from http://en.wikipedia.org/wiki/World_energy_resources_and_consumption)
- 8 (http://www.re-energy.ca/t-i_solarelectricitybuild-2.shtml)
- 9 (http://www.i4at.org/surv/sstill.htm)
- 10 (http://www.re-energy.ca/t-i_solarheatbuild-2.shtml)
- ¹¹ Cordova, D., Lepper, M. (1996). "Intrinsic Motivation and the Process of Learning: Beneficial Effects of Contextualization, Personalization, and Choice." Journal of Educational Psychology, v.88(4), 715-730).

f we want democracy, we must educate for democracy — and we must ensure that educational institutions and educators are in a position to encourage and facilitate this objective.

This issue of Our Schools/Our Selves examines the relationship between schools, democracy and social change - and the profound dangers of ignoring that connection. A number of articles examine events and decisions that have suppressed democracy in education: the dismantling of the Halifax Regional School Board, or the ways corporatization at universities makes institutions of higher learning less efficient, less democratic, and less about learning altogether. Other articles provide very tangible evidence of how educators and students are fostering learning environments and educational resources that enhance democratic exchange and integrate social justice concepts into the classroom. What might a curriculum truly committed to a critical view of equity and multiculturalism look like — and what impact might this have on students in Ontario? How can a Civics class foster BC high school students' participation in the democratic process? How can science curriculum also teach about social justice? What is the responsibility of the educator in taking a moral stand on contentious issues and in bringing difficult concepts such as justice, fairness, sexism, homophobia, racism and equality into the classroom? These are some of the questions our authors tackle—with humour, self-reflexivity, and passion.

Our Schools/Our Selves is a quarterly journal on education published by the Canadian Centre for Policy Alternatives (CCPA).

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