Educating for a healthy, sustainable world:
An argument for integrating Health Promoting Schools and Sustainable Schools

Julie M. Davis
Queensland University of Technology, Brisbane, Australia

and

Sue M. Cooke
Queensland Health, Brisbane, Australia

ABSTRACT

Al Gore's movie *An Inconvenient Truth* and the British government's Stern Review of the economics of climate change have provided heightened awareness of how humans are over-stretching the Earth's life support systems. The health of human populations and the health of global ecosystems are inextricably linked and the need for fundamental changes in how we live is becoming impossible to ignore. While not the complete answer, education must be a part of imagining and transforming our patterns of living. Learning embedded in educational systems derived from worldviews that replicate unhealthy and unsustainable lifestyles and environments, is not part of the solution but a significant part of the problem. In Australia, two internationally implemented whole-school reform movements, Health Promoting Schools and Sustainable Schools – seek to provide ways of operationalising transformative educational processes. Both movements aim to build resilience and optimism, use action-oriented teaching and learning approaches, and have a focus on the future. While these two approaches to educational and social change have much in common, currently there is virtually no conversation between their proponents and advocates. This paper makes a case for Health Promoting Schools and Sustainable Schools to work together – both theoretically and practically – with the ultimate goal being the emergence of schools that are both green and healthy. Such integration would make an important educational contribution to the creation of a healthy, sustainable world.

Words: 4475

INTRODUCTION

Today's world is characterised by increasing uncertainty, instability and rapid change, simultaneously presenting unimagined possibilities and major social, health and environmental problems. The Internet, for example, offers huge amounts of information, entertainment, commerce and communication across the globe, instantly. Nevertheless, as Lester Brown of the Worldwatch Institute (2000) argues it would be a mistake to confuse the vibrancy of the virtual world with the increasingly troubled state of the real world. He emphasises, 'Nature has no reset button' (para 25).

The impacts of such rapidly evolving life circumstances on children's health and wellbeing, and that of future generations, cannot be predicted with any certainty. The emergence in wealthy nations of increasing rates of childhood obesity, mental health problems, asthma and allergies is an uncomfortable indication that, even if our current lifestyles were ecologically and economically sustainable, they are hardly good for children's health. This reality leads us to question whether today's adults could be the last generation to reach higher standards of living and better life expectancy than earlier generations (Olshansky et al., 2005).

In terms of environmental change there is growing awareness that there is only a small window of opportunity, perhaps just ten to twenty years, to reduce global carbon dioxide emissions to prevent catastrophic consequences – including mass population displacements and economic depression – to rival those occasioned by world war (Stern, 2006). Sir David King, Britain's Chief Scientific Adviser, has commented that global warming is a far greater threat to the world than international

terrorism (BBC Online, 2004). The health of human populations is inextricably linked with the health of the global ecosystem. Stern comments 'It is still possible to avoid the worst impacts of climate change; but it requires strong and urgent collective action. Delay would be costly and dangerous' (2006, p. xxvii).

Against this backdrop, responses on a continuum from sunny optimism to pessimistic nihilism and despair may seem defensible. Nevertheless, if society is to rise to the challenges, we need – in both young people and adults – to cultivate the qualities of optimism, critical thinking and competence, and capacity for 'making a difference' that are identified with resilience. While not the complete answer, education and learning must play a significant part in developing resilient, activist citizens.

This paper explores the complex health, environmental and social challenges confronting 21st century humans and argues for transformational and transdisciplinary educational approaches. Two whole-school approaches are described – Health Promoting Schools (HPS) and Sustainable Schools (SS). Both use pedagogical approaches that support action-oriented learning for change, build resilience and optimism, and have a focus on the future. This paper also argues that, at the very least, these two approaches should be mutually informing because so much of their agendas are in common. In actuality, there is little or no dialogue between proponents of these approaches. Ultimately, the authors wish for much more than conversation between health educators and environmental educators. They urge the synergistic integration of HPS and SS, in order to create schools and communities that are both green and healthy – a transdisciplinary response to the urgent challenges of sustainability.

HEALTH AND ENVIRONMENT: ISSUES AND CHALLENGES

Paradoxically, in a world of rising life expectancies and expectations, humanity is faced with a growing list of complex socio-environmental problems including global warming, diminishing fresh water supplies, heavy reliance on non-renewable energy, rapid urbanisation and growing numbers of environmental refugees. In drawing attention to the link between such problems and children's health, Keating and Hertzman (1999) assert:

> We are witness to a dramatic expansion of market based economies whose capacities for wealth generation is awesome in comparison to both the distant and the recent past. At the same time, there is a growing perception of substantial threats to the health and well-being of today's children and youth in the very societies that benefit most from this abundance (p.1).

McMichael (2003) identifies two significant areas of cost from unsustainable economic practices that fail to recognise that the human economy is wholly dependent on nature's economy. These are:

- over-exploitation of the biosphere's natural capital stocks on which humans depend for clean air, clean water, and healthy food production

- increasing chronic health impairments that reflect deficiencies in modern ways-of-living.

These latter problems include the rise in obesity and diabetes, heart disease and cancer and the growing impact of depression. Additionally, there are new diseases like HIV and SARS and the resurgence of 'old', now treatment-resistant diseases, such as tuberculosis. McMichael also includes the problems of antisocial, violent

and terrorist activities that indicate a breakdown in social structures and a rise in inequality and resentment.

Moreover, while some are enjoying the benefits of increasing globalisation and technology, others are bearing the risks and costs, with the poorest nations and the poorest people within nations most at risk (Lowe, 2006). In relation to climate change specifically Stern comments 'The poorest developing countries will be hit earliest and hardest…, even though they have contributed little to causing the problem' (2006, p. xxvi). This pattern of inequitable distribution of risk and benefit is also compounded into the future. Ultimately, it is children and future generations for whom the implications are most profound (Hicks, 1996).

> We act as we do because we can get away with it: future generations do not vote; they have no political or financial power; they cannot challenge our decisions. But the results of the present profligacy are rapidly closing options for future generations. Most of today's decision-makers will be dead before the planet feels the heavier effects of acid precipitation, global warming, ozone depletion and species loss. Most of the young voters of today will still be alive (Timberlake and Thomas, 1990, p. 11).

A ROLE FOR EDUCATION

Children and young people need to be prepared for a rapidly and radically changing world. This does not mean that adults can simply pass problems on. Instead, adults need to work with and empower young people so that they learn to influence the changes and ultimately to transform the status quo. As stressed in major international reports (UNESCO, 2005, World Commission on Environment and

Development, 1987) education has a pivotal role. Sterling comments 'The key to creating a more sustainable and peaceful world is learning' (2001, p. 12). Learning is also central to health (World Bank, 1993). However, learning embedded in educational systems derived from worldviews that 'sustain unsustainability' is a significant part of the problem. What is needed is education and learning that transforms rather than replicates existing patterns of injustice and inequality, and unhealthy lifestyles and environments.

As those involved in education are well aware, education and learning systems have already undergone significant reform, with particular focus on restructuring education in parallel with economic 'structural adjustment'. Sterling argues that the problem with this culture of change is that it seeks to improve effectiveness without disturbing the basic organisational or instructional milieu of education, analogous to treating the symptoms of an illness but ignoring its underlying causes. He further argues that economic rationalist reforms are more about *adapting* educational policy to the demands of a globalised economy – and helping people *adapt* to change – rather than developing their capacities to *shape* change.

Yet, it is the latter that is needed if education is to be effective in socialising the young to become resilient, healthy individuals and active citizens. As Orr states 'the crisis cannot be solved by the same kind of education that helped create the problems' (1992, p. 83). Fundamental educational reforms that challenge existing goals, structures and roles for schools, teachers and students are required. Sterling argues for transdisciplinary education – that is at once between disciplines, across

disciplines, and beyond all disciplines – to help humans and human systems work with and within Earth's ecological systems, and a 'create/critique' education, oriented towards community, capacity building and creativity. This contrasts with the control, fit and dependence that epitomises economic rationalist reforms and which co-opt education for utilitarian and narrowly-defined economic objectives, based on self-interest. The fundamental task of education today is not just to prepare students for the future, but to equip them to create a future in which they want to live (Eckersley, 2004).

Because of the scale and complexity of the issues, education that is transformative for healthy living and for sustainability must be lifelong, across all sectors of the community, not just formal education. Nevertheless, school education is both compulsory and accessible to the majority of children and has a powerful place in this process. However, embedding healthy living and sustainability principles into schools as has been urged, involves much more than amending existing programs and practices. Such transformative education challenges the status quo of schooling and implies fundamental reform and innovation.

TRANSFORMATIVE EDUCATION FOR HEALTH

The importance of education for health outcomes and, conversely, of health for learning outcomes is well established. While health education has been part of the Australian school curriculum for over a hundred years, for much of that time it was narrowly focussed on individual 'moral' and physical issues such as hygiene and the dangers of drinking alcohol. In contrast to early health education that focussed on transmission of knowledge mainly about physical health issues, a progressively more

holistic and ecological approach to promoting health in schools has emerged since the 1970s. This is based on understanding that:

- health has physical, mental, social and emotional dimensions

- simply providing information does not necessarily improve students' health outcomes

- more active involvement of learners promotes behaviour change

- individual behaviour is influenced by social factors such as peer pressure

- physical and socio-cultural environments, including the school environment, influence individual and community wellbeing.

 HPS is a comprehensive process reflecting these socio-ecological understandings, actively promoted by the World Health Organisation, and draws on the ideological underpinnings of the Ottawa Charter (WHO,1986) and the Sundsvall Statement (WHO,1991). St. Leger (2005) articulates key principles for HPS, which include:

- upholding social justice and equity concepts

- student participation and empowerment

- creating safe and supportive school environments

- linking health and education issues and systems.

Health Promoting Schools

HPS promote general wellbeing and learning through active classroom practices (curriculum), improving the physical and social environments of the school (environment/ethos), and by forging partnerships with parents, community and agencies (community). Ideally, they model in microcosm how a healthy and

sustainable world might function. The process is fundamentally democratic and participatory.

For the past twenty years, the HPS concept has enabled health issues to be addressed in more effective, inclusive and empowering ways (Young, 2005). As St. Leger observes 'school programs that are integrated, holistic and strategic appear to produce better health and education outcomes than those which are mainly information based and implemented only in the classroom' (2005, p.145). However, evaluating HPS presents challenges, not least because of its multi-dimensional strategic approach (Denman et al., 2002). While random controlled trial methodology is regarded as the 'gold standard' for evaluating health interventions, it is increasingly recognised that both process- and outcome-based evaluations are required when evaluating HPS, to elucidate what works and why.

Nevertheless, in recent years, school health promotion has been subjected to robust systematic reviews of controlled trials which have demonstrated benefits to social and physical environments of schools and to health related behaviour. There is good evidence, specifically, for the effectiveness of programs supporting mental health promotion, dietary intake and physical fitness (Stewart-Brown, 2006). Additionally, the evaluations have shown that programs should be sustained, multifactorial, whole-school, and provide appropriate professional development. These studies strengthen the argument for HPS.

Furthermore, the benefits of comprehensive approaches to health promotion such as HPS extend beyond health outcomes. Jack Jones, former WHO School Health

Education Specialist notes, 'We know that healthy children learn well. If they are healthy, young people can take full advantage of every opportunity to learn…. We can improve the yield of educational investments if we can help schools to become health-promoting schools' (Australian Health Promoting Schools Association, 2001, p.2). The recognition that HPS are effective schools, which improve educational as well as health outcomes, underpins England's National Healthy School Standard (NHSS), launched in 1999 to reduce health inequalities, promote social inclusion and raise student achievement. A review of school evaluations found that NHSS schools improved at a faster rate than schools not included in the program. Among the changes, NHSS was effective in improving learning environments, student concentration and performance, staff health and wellbeing, and raising student achievement (National Foundation for Educational Research and Thomas Coram Research Unit, 2004).

In Australasia, as in many other regions, HPS has enhanced the way a range of obvious health issues such as nutrition, sun-safety, road safety and mental health have been addressed. Complex issues which are less commonly linked to health have also found solutions through this approach, including school decision-making processes and school-community connectedness (Carlsson et al., 2001). Additionally, the capacity exists to address more abstract concepts such as intergenerational equity and socio-ecological sustainability. HPS that address student concerns about pollution and unsustainable living through energy reduction and recycling programs, for example, are attending to such abstractions in concrete ways.

Although some writers have made clear connections between health education and education for sustainability (Jensen et al., 2000), the practical links are less well established. A logical and well overdue progression for education is the recognition that human health and the health of the planetary ecosystem are interdependent and that this must translate into curricular and broader educational processes.

TRANSFORMATIVE EDUCATION FOR SUSTAINABILITY

Education for sustainability (EfS) – evolving from environmental education – has been part of the education landscape in Australia for more than thirty years. It is underpinned by concepts that emphasise the environment in its totality – natural and cultural, technological and social – and their complex interplay. To address environmental issues and to achieve sustainable futures, it is recognised that, in addition to knowledge and understanding, there needs to be a transformative educational paradigm. This involves clarification of environmental attitudes and commitments, development of critical thinking, and learning how to work collaboratively to improve human and environmental wellbeing. Regular use of learner-centred, interactive strategies that engage learners with real-life challenges and the development of possible solutions are seen as central to EfS. This is because the scale and complexity of the challenges are a multifaceted interplay of natural and human systems that are embedded in the ways we live our daily lives. Hence, EfS is much more than a subject or discipline issue to be embedded into, for example, Science or Geography. It is transdisciplinary in nature, and requires the participation of the whole school and its community to maximise sustainability outcomes.

Sustainable Schools

In Australia, Sustainable Schools (SS) is a recent initiative, commencing in 2001, and partly funded by the Commonwealth government through the Australian Sustainable Schools Initiative (AuSSI). In other countries, such whole-school approaches are variously called Enviroschools (New Zealand); Green Schools (Sweden); Green School Project (China); and Eco-schools (Europe, Africa and South America). SS is seen as a way of embedding education for sustainability into schools, and is a direct contribution to the United Nations Decade of Education for Sustainability 2005-2014. Like HPS, SS is a difficult concept to define. At the broadest level it encourages and supports schools to develop a culture of sustainability. It seeks to overcome fragmentation by promoting whole-school approaches to environmental issues of importance to students and communities. These may include obvious matters such as water management, energy efficiency, and biodiversity. However, broader social and socio-environmental issues can also be addressed, for example the impact of building and grounds design on student behaviour, health and safety. School decision-making practices, student leadership and community ownership of problems and solutions are also integral to the teaching and learning processes of SS.

In a recent international review of whole-school approaches to sustainability (Henderson and Tilbury, 2004) key features were identified that characterise a sustainable school. In summary these were: whole-school participation in planning and actions; reciprocal partnerships between the school, students, families, community and stakeholders; inclusive and democratic learning and teaching approaches that value critical thinking and active participation; transdisciplinary

approaches to curriculum; school grounds valued as learning environments; the school viewed as a 'learning organisation' that supports collegial practitioner research and professional development for teachers, managers and their professional and community partners; and leadership that places high value on sustainability by reducing the school's 'ecological footprint'. In effect, implementing a SS approach encourages schools to become models for sustainability within their local communities, demonstrating that the school 'practices what it teaches'.

While it is still early days for SS in Australia, initial evaluations give optimistic results. The Victorian Sustainable Schools Pilot Project (2004) has demonstrated some significant environmental, educational, social and economic benefits for schools, as well as the creation of new school-community partnerships and school leadership opportunities. In one school, for example, the amount of waste sent to landfill was reduced by 90%, saving $3400/year. These savings were then spent on other environmentally-sound practices. The comparative study of the Victorian and NSW Sustainable Schools pilot projects also found identifiable educational, social and community benefits, with a majority of schools in both states identifying that the benefits of participation outweighed the costs (Larri, 2006, p. 36). Obviously, more rigorous investigations will need to be undertaken to determine the ongoing efficacy of the SS approach – this is where discussion and debate around evaluations of HPS have much to contribute – but initial signs are encouraging.

SYNTHESIS AND DISCUSSION

At first glance, Health Promoting Schools and Sustainable Schools may appear to have little in common – the former examines the human world, the latter investigates

the natural world. However, closer examination (Table 1) of these two approaches reveals that they are fundamentally similar in intent, based on their shared socio-ecological foundations, transformative and futures-oriented perspectives, and learner-centred pedagogies.

Table 1: Common Features of HPS and SS

Feature	HPS	SS
Holistic approach that integrates…	…curriculum, environment/ethos and community, for measurable health, social and educational outcomes	...sustainability education with measurable environmental, economic, educational and social outcomes
Uses democratic, participatory, action-based learning models e.g.…	…a democratic health education model	…action research
Student centred, empowerment pedagogies involving the whole school in addressing …	…real-life health issues eg tuckshop nutrition, physical education, mental health, including bullying	…real-life environmental issues eg energy/water use, tuckshop waste, shade and schoolground ecosystems
Schools as learning organisations with teacher development oriented towards…	…health issues and healthy living	…environmental issues and sustainable living
Porous boundaries between school and community involving…	…parents and health and welfare services	…parents and environmental advocacy groups
Systems change and capacity building through networks e.g.…	…experienced schools mentoring novice schools	…hub schools inducting new entrants
Transferability of skills, knowledge and attitudes create dispositions for…	…holistic personal health and healthy communities	…environmental stewardship and sustainable living

As Table 1 illustrates, health education as exemplified by HPS and sustainability education, illustrated by SS, are not add-ons to an already over-crowded curriculum. These approaches represent a fundamentally different way for schools to function. They provide strategies to help young people and their communities deal actively, optimistically and resiliently with a world in change. Furthermore, they are both about investing in the long term rather than meeting mainly short term (often individual) educational goals – renewing the focus on the social goals of education. How our schools are run speaks volumes about what is valued.

Such whole-school approaches, however, are notoriously difficult to implement and sustain (Denman et al., 2002). Old patterns of thinking and acting are hard to break. Despite this, if we are to reorient schools so that they effectively contribute to healthy and sustainable living, educators and others need to maintain the transformative push and not allow it to be diluted and compromised. This requires a deep-level cultural shift, not simply additional techniques or resources.

One way that this can be supported is to draw on the synergies between HPS and SS. Rather than asking schools to choose between HPS or SS, we believe there are benefits for the supporters of both movements to work more closely together. This means that proponents need to recognise that these approaches are more alike than different. For example:

- Planting trees for shade in a school ground reduces sun exposure (health issue) and, at the same time, promotes soil and energy conservation, and CO_2 reductions (environmental issues).

- Creating 'green' outdoor spaces and enhanced contact with nature (environmental issues) provides for physical activity and also promotes mental health (health issues).

- A 'litterless lunch' policy encourages children to bring lunches that minimise packaging (environmental issue). Such lunches, with less processed food and more fruit and vegetables, promote healthy eating (health issue).

- A 'walking bus' where children walk to/from school with a parent who 'drives' at the front and another who supervises the rear, means fewer cars on the road. This reduces air pollution (environmental issue) and potential

vehicular injuries, while encouraging social connections and physical activity (health issues).

For teachers, thinking synergistically about HPS and SS may provide a practical way of overcoming the oft-felt stresses from the proliferation of educational 'innovations' seeking a foothold in schools. Combining HPS and SS would also enable the simultaneous achievement of multiple health, environment and educational goals, through efficient utilisation of scarce resources.

Additionally, greater convergence between HPS and SS means that the SS movement, as the more recent of these whole-school movements, can learn from the experiences of HPS. HPS has a deepening theoretical base, a developing national and international research base, some well-developed case studies and process guides, and substantial resources already available to schools and teachers. On the other hand, SS brings new energy and perspectives, and new partnerships, for example, with the environment movement. It also brings a futures orientation and a stronger grounding within education. It seems clear that there should be greater sharing of resources, ideas, networks, and learning from each other's theories, perspectives and experiences.

The authors believe that these two approaches should be brought together into one transdisciplinary movement. Rather than schools choosing to be either an HPS or an SS, all schools should be both green and healthy. Such integration strengthens the nexus between health and environment, highlights the role of education as a transforming social practice and builds capacities for healthy, sustainable living.

CONCLUSION

Humanity is living in a period of rapid change with many opportunities and some enormous challenges. To function and flourish in an uncertain world, children and young people must be equipped with dispositions and strategies to cope with and lead the changes. This must include the deep understanding that human health and the health of the planetary ecosystem are interdependent. It also means changing mindsets about how we live, now and into the future. Education and schooling need to be positive contributors to sustainability, rather than social forces that perpetuate unhealthy and unsustainable ways of living.

With this in mind, educators, health professionals, and environmentalists must resist reform pressures designed mainly to encourage people and economies to adapt to the demands of a globalised market economy. Fundamental educational reform that challenges existing goals, structures and roles for schools, teachers and students is urgently needed for truly transformative change. HPS and SS have the potential to be important contributors to such change, helping to build community capacity, creativity and foresight.

As this paper has demonstrated, HPS and SS share the same socio-ecological foundations and transformative orientations. By working together to create green and healthy schools that nurture human and environmental resilience simultaneously, education may then play a constructive role in creating green and healthy futures. While not a new concept, in these critical early years of the 21st century, this is an idea whose time has come.

References

Australian Health Promoting Schools Association (2001) *A National Framework for Health Promoting Schools.* Sydney.

BBC Online (2004) Global warming 'biggest threat'. In *BBC News online* http://news.bbc.co.uk/2/hi/science/nature/3381425.stm.

Carlsson, D., Rowe, F. and Stewart, D. (2001) Health and wellbeing in the school community environment: evidence for the effectiveness of a health promoting schools approach. *Environmental Health* **1,** 40-50.

Commonwealth Dept of Environment and Heritage and Victorian Dept of Education and Training (2004) *Victorian Sustainable Schools Pilot Project*. Melbourne.

Denman, S., Moon, A., Parsons, C. and Stears, D. (2002) *The Health Promoting Schools: Policy, Research and Practice.* RoutledgeFalmer, London.

Eckersley, R. (2004) What makes a good life? In *Healthy Minds, Healthy Bodies, Healthy Nation* (Ed, Galbally, R.) Australian College of Educators, Canberra, pp. 63-72.

Henderson, K. and Tilbury, D. (2004) *Whole-School Approaches to sustainability: An International Review*. Australian Research Institute in Education for Sustainability, Canberra.

Hicks, D. (1996) A lesson for the future: Young people's hopes and fears for tomorrow. *Futures* **28,** 1-13.

Jensen, B., Schnack, K. and Simovska, V. (2000) *Critical Environmental and Health Education: Research Issues and Challenges.* The Danish University of Education, Copenhagen.

Keating, D. P. and Hertzman, C. (Eds.) (1999) *Developmental Health and the Wealth of Nations.* The Guilford Press, New York.

Larri, L. (2006) *Comparative Assessment: Australian Sustainable Schools Initiative Pilot Programme in NSW and Victoria*. Dept of Environment and Heritage, Canberra.

Lowe, I. (2006) Shaping a sustainable, healthy future. *VicHealth Letter: Healthy Planet, Healthy People* **Summer,** 4-7.

McMichael, T. (2003) Sustainability, health and wellbeing. In *Australia 21, Nature and Society Forum, In Search of Sustainability* online conference.

National Foundation for Educational Research and Thomas Coram Research Unit (2004) *Evaluation of the Impact of the National Healthy Schools Standard*. Department of Health and Department for Education and Skills, London.

Olshansky, S. J., Passaro, D. J., Hershow, R. C. et.al. (2005) A potential decline in life expectancy in the United States in the 21st century. *New England Journal of Medicine* **352,** 1138-1145.

Orr, D. (1992) *Ecological Literary: Education and the Transition to a Postmodern World.* State University of New York Press, Albany.

St Leger, L. (2005) Protocols and Guidelines for Health Promoting Schools. *Promotion and Education* **XII,** 145-150.

Sterling, S. (2001) *Sustainable Education: Revisioning Learning and Change.* Green Books, Bristol.

Stern, N. (2006) Executive summary In *The Economics of Climate Change* British Government, London, pp. i-xxvii.

Stewart-Brown, S. (2006). *What is the Evidence on School Health Promotion … What is the Effectiveness of the HPS Approach?* WHO Regional Office for Europe, Health Evidence Network Report, Copenhagen.

Timberlake, L. and Thomas, L. (1990) *When the Bough Breaks...Our Children, Our Environment.* Earthscan, London.

UNESCO (2005) *United Nations Decade of Education for Sustainable Development.* UNESCO, Paris.

World Bank (1993) *World Development Report 1993: Investing in Health.* Oxford University Press, Oxford.

World Commission on Environment and Development (1987) *Our Common Future.* Oxford University Press, Oxford.

World Health Organisation (1986) *The Ottawa Charter for Health Promotion* from *First International Conference on Health Promotion* Ottawa, Canada.

World Health Organisation (1991) *Sundsvall Statement on Supportive Environments for Health.* United Nations Environment Programme, World Health Organisation and Nordic Council of Ministers.

Worldwatch Institute (2000), Information Economy boom Obscuring Earth's Decline. Retrieved 16 Feb 2000 from http://www.worldwatch.org/alerts/000115.htm.

Young, I. (2005) Health Promoting in Schools: An Historical Perspective. *Promotion and Education* **XII,** 112.