

Partners for Health

Schools, Communities and Young People Working Together

A joint project of the University of Toronto, the Canadian Association for Health, Physical Education, Recreation and Dance (CAHPERD), the Canadian Association for School Health (CASH) and Health Canada

University of Toronto*

Andy Anderson, Ontario Institute for Studies in Education

Ilze Kalnins, Department of Public Health Sciences

Dennis Raphael, Department of Public Health Sciences

CAHPERD

The Quality School Health Program

CASH

Douglas S. McCall, Executive Director

and

Health Canada

*The authors' names have been placed in alphabetical order to highlight the collaborative effort that went into the preparation of this monograph.

**Partners for Health:
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In the waning years of the twentieth century, young people are facing a rapidly changing world. The health and well-being of Canada's children and youth are being influenced by a variety of factors with which we, as adults, have had limited experience. As we come to grips with these forces, the role of educators and schools as promoters of health and well-being comes into question. Although this question identifies opportunities for educators, it also presents profound challenges. Schools do have an important role in promoting the health of Canadian children, but ultimately, success in this complex task requires the creation of partnerships involving schools, communities and young people working together.

SECTION 1: HEALTH AND LEARNING

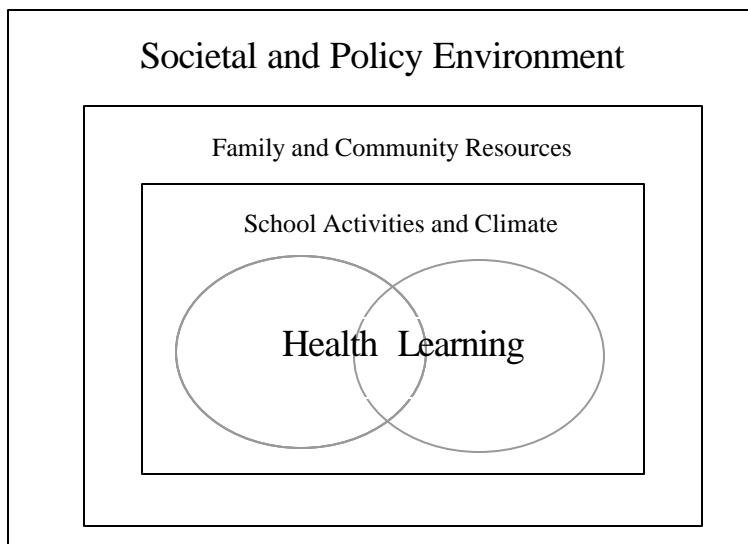
This monograph discusses the health of Canadian children and youth, and the role schools can play in promoting health. The idea that schools can promote health is not as straightforward as it may seem, mainly because the definition of what constitutes health (Seedhouse, 1997), the factors that influence health (Raphael, 1996), and the meaning of health promotion have changed considerably over the last decade (Harrison & Ziglio, 1998; Millstein, Petersen & Nightingale, 1993; Raphael, 1998). The monograph considers some of these issues and their implications for health promotion in schools, and discusses various models of school-based health promotion that schools are being urged to adopt. It outlines the benefits of promoting health, as well as the costs associated with failing to do so. This information will be of particular interest to educators, but will also be useful to others

concerned with the health and learning of young people (health workers, policy makers, parents and other concerned citizens.)

The Need for School-Based Health Promotion

There is increasing recognition among educators and health workers that schools, and the activities that occur within them, can provide a powerful means of supporting both young people's health and learning (World Health Organization, 1997). Health and learning are closely related. **Health** influences the ability of young people to benefit from the learning opportunities provided by schools. Poor health causes absenteeism, poor classroom performance, and school drop-out. Successful **learning** provides children and youth with the foundations needed for healthy physical, mental and social development. It provides knowledge and skills that allow for healthy choices concerning lifestyles and the

Figure 1: Influences Upon Health and Learning



development of vocational and social skills, and it strengthens the ability to cope with life's demands that follow the school experience.

Despite this reciprocal relationship between health and learning, promoting learning has been considered as the mandate of schools, while promoting health has been the responsibility of the public health and health care systems. The distinction between these mandates is breaking down as recognition grows that health and learning are interdependent and that both are affected by the social context of children's lives.

Schools are one of the most important influences in young people's health. Their influences are exerted not only through their instructional and extra-curricular activities, but also through their organizational environments and the services that are available at or through schools. Although a key influence, schools cannot support health and learning by themselves. Other environments, such as families, communities and societies (Figure 1) also influence positive outcomes. This suggests the need for schools to work with families and communities to promote health. It also suggests that governmental decisions may need to be addressed in terms of their effects on the health of children. Ultimately, young people themselves will have to choose to participate in these ongoing efforts to promote their health and learning.

Recognizing that health is linked with learning, and that both are related to the social contexts of young people's lives leads to new ways of thinking about what is needed to support the health and learning of young people. This monograph explores the

opportunities and challenges for schools in developing and implementing new approaches to promoting health that is responsive to new ways of thinking about health, and the relationship between health and learning. The following ideas are explored:

1. What is health?
2. What is a healthy young person?
3. What conditions affect young people's health?
4. What is modern day health promotion?
5. What are current models for school-based health promotion?
6. What are the implications of these new models for students, teachers and health professionals?

SECTION 2: WHAT IS HEALTH?

There are many ways of thinking about the characteristics of a healthy young person (Hurrelman & Losel, 1990). In the field of education, teachers and administrators may think about health in terms of healthy development. Health and physical education teachers may think about it as teaching young people about health, and encouraging them to adopt healthy lifestyles. Health care professionals may think of health as absence of illness. Public health workers may consider health from the perspective of behaviours that place young people's health at risk. And all of these groups, as well as the general public, may consider health in terms of coping and attaining good quality of life. How people think about health will influence how they attempt to promote it.

Health as Healthy Development

Educators often think about the health of young people in terms of developing literacy skills, attaining personal and interpersonal maturity, and acquiring the life skills needed for entry into adulthood and civic society (Havighurst, 1953; Good & Brophy, 1996). Literacy skills of information collection, critical review, analysis, synthesis and application to specific situations or problems are integral to effective personal and health decision making (Anderson, 1999). As guidelines for their assessment of healthy development, teachers draw on theories of development that describe the emotional skills and cognitive abilities necessary for achieving maturity.

As an example, Erikson (1968) contends that teachers can assess how well young people are developing a sense of autonomy, industry and personal identity during the school years. Concerning intellectual skills, educators use findings outlined by Piaget (Flavell, 1963) to consider the progress of young people as they move towards more abstract ways of thinking. Educators are also taught the levels of moral reasoning that should be attained by young people as a result of schooling (Kohlberg, 1976). All of these approaches involve healthy development. Underlying all of these goals is the concept of literacy.

Health as Absence of Disease

For health care professionals in medical settings, healthy young people are those who are free of physical or mental illness or disorder (US Office of Technology Assessment, 1993). Thinking about health as the absence of illness leads to the implementation of screening programs

within schools for vision and hearing, vaccination programs to protect against contagious diseases and support for health education classes that impart basic information about health and development. This continues to be an important part of health education in schools.

Health as Healthy Lifestyles

Developing healthy lifestyles (Schabas, 1992) is another way of thinking about health. Health and physical education teachers tend to focus on developing awareness, knowledge and skills to attain healthy lifestyles. Family studies teachers develop nutrition awareness, communication skills and problem solving abilities. Career and guidance counselors focus on planning for the work world and forming positive life relationships.

Public health workers often work with teachers to develop and implement health promotion programs that encourage young people to avoid health-threatening situations and provide a foundation for healthy living. These include programs that help young people to avoid tobacco and alcohol, learn to drive safely, be active and eat well, practice safe sex, avoid situations that lead to injury, and prevent illness and diseases like cardiovascular disease and cancer, the main causes of death in adulthood. Almost all health promotion efforts in schools address one or more lifestyle behaviours.

Health as Achieving Good Quality of Life

The World Health Organization (WHO) proposed that health is not an endpoint that is to be achieved. Instead, it is a resource for daily living (WHO, 1986). From this perspective, health is a positive concept that emphasizes the idea that healthy young people are those who can cope with the demands of daily life and manage the many challenges that accompany maturation and puberty, changing cognitive abilities, and the demands of school and employment.

In practice, this view of health can be thought of as attaining a good quality of life.

Figure 2: Quality of Life Domains

<p><i>Physical Being</i> Physical health, nutrition, exercise, fitness and appearance.</p> <p><i>Psychological Being</i> Independence, autonomy, self-acceptance and freedom from stress.</p> <p><i>Spiritual Being</i> Personal values and standards and spiritual beliefs.</p> <p><i>Physical Belonging</i> Aspects of the immediate environment, home, schools and neighbourhoods.</p> <p><i>Social Belonging</i> Relationships with family, friends, teachers and acquaintances.</p> <p><i>Community Belonging</i> Availability of societal resources, activities and services.</p> <p><i>Practical Becoming</i> Home, school and work activities.</p> <p><i>Leisure Becoming</i> Indoor and outdoor activities and recreational resources.</p> <p><i>Growth Becoming</i> Learning, improving skills and relationships and adapting to life.</p>

In other words “the degree to which a young person enjoys the important possibilities of his/her life” (Raphael, 1998). Enjoyment encompasses the personal experience of being satisfied with one's life and achieving goals (academic, employment, etc.)

One Canadian model identifies quality of life as incorporating aspects of physical and mental health, developing healthy lifestyles, growing and developing, and coping and achieving well-being (Raphael, Renwick, Brown, & Rootman, 1996; Brown, Renwick & Rootman, 1997). The specific domains of quality of life are *Being* (“who one is”), *Belonging* (the person's fit with his/her environment) and *Becoming* (purposeful activities carried out to express oneself and to achieve personal goals, hopes and aspirations). Each domain has three sub-domains (Figure 2). For example, in the physical being domain, health is achieved when a person has good physical health and nutrition, is fit, and is happy with their appearance. In the social belonging domain, health is achieved when the young person has satisfactory relationships with family, friends, teachers and acquaintances. In the growth domain, health is achieved when the person is learning new things, improving relationships and coping with life.

The quality of life approach provides helpful ways of thinking about what is needed to support all-round development in young people (Raphael, et al., 1996). They also allow for consideration of how school, community and societal issues influence the health and well-being of young people in each domain of their lives. However, what does health look like when we consider the individual young person?

SECTION 3: WHAT IS A HEALTHY YOUNG PERSON?

To work towards the development of systems that promote health and learning, it is necessary to have a vision of what a healthy person is (Antonovsky, 1987). While there are many ways of thinking about the characteristics of a healthy young person, a useful one for encompassing both health and learning is *resiliency*. The idea of resiliency developed from research with young people who succeeded in spite of overwhelming odds created by family discord, violence, substance abuse, poverty and social alienation (Loser & Bliesener, 1990; Werner, 1982). The characteristics of resiliency appear to be useful outcomes for all young people (Rosenbaum, 1993).

Benard (1991) characterizes resilient young people as socially competent, with life skills such as problem solving, critical thinking and the ability to take initiative. Additionally, resilient young people have a sense of purpose and recognize in themselves the opportunity to participate in the future. In other words, resilient people have hope for themselves.

Resiliency in the above definition overlaps closely with the WHO's definition of health; namely, that health is a resource for everyday living (WHO, 1986). Resiliency also overlaps with the idea of literacy as it includes actively seeking out, interpreting, analyzing and applying reliable information to real-life problems. It also involves engaging in responsible and productive citizenry, having a repertoire of formal and

informal tools of thought, and knowing when to use them.

In many ways, concepts of resiliency seem likely to accrue when the young person shows the characteristics of being an independent as well as life-long learner. The goal in both cases is to provide young people with personal knowledge and skills that allow them to cope in an increasingly complex world. Deep down, resiliency is really about empowerment, equity, involvement and participation.

Developing Resiliency

Schools have a particularly important role to play in developing resiliency (Higgins, 1994). They offer children and youth enormous opportunities to discover their worth and potential. Some characteristics of schools, families, peers and communities that foster resiliency include developing social bonds, encouraging education, promoting supportive relationships, promoting responsibility and providing access to resources for meeting basic needs of housing, health care and recreation (Henderson & Milstein, 1996).

Through high quality teaching, schools can assist students in their development of intellectual resources that enable them to participate in the major domains of human thought and inquiry. Understanding is being able to use intellectual ideas and skills as tools to gain control over everyday, real-world problems. Educators reflect commitment to this goal in the way that they teach, structure learning environments, foster student involvement in school and classroom governance, and promote opportunities for students to become fully engaged in their own learning.

Resiliency is a process that develops in everyone because we live in a world where things happen that are hurtful, disappointing, distressing and degrading. Learning to deal with and overcome adversity does not have to be by chance, nor does it have to be a do-it-yourself project. Together, schools, families and communities can help children and youth cultivate the strengths to positively meet the challenges of life. The ideas presented within this monograph should lead to such outcomes. To consider how resiliency can be fostered requires that we consider the factors that influence the health and well-being of young people.

SECTION 4: WHAT CONDITIONS AFFECT YOUNG PEOPLE'S HEALTH?

While schools and teachers can influence the development of resiliency, it should not be forgotten that there are many factors that may remain outside of the school's day-to-day control. These factors, known as the determinants of health, refer to the characteristics of individuals and environments that affect young people's health. Health Canada (1994) outlines a variety of such factors: income and social status, employment and working conditions, education, social environments and social support networks, physical environments, individual capacity and coping skills, health and social services, and healthy child development. While schools can influence some of these factors, others require the influence of families and communities. And others may even require activities directed towards modifying governmental decisions.

The social and economic environments in which young people live have changed dramatically over the last few decades. These trends require a rethinking of how we help young people to become resilient, and achieve good quality of life. Their presence calls for school-related and health professional responses that transcend day-to-day instruction and service provision. A few of the important trends include:

The determinants of illness are changing. A century ago, infectious diseases and untreated physical defects placed students at risk of poor health and school failure. Today, these problems have been replaced by special care needs, chronic diseases and problems associated with lifestyle behaviour.

Lifestyle behaviours includes those that lead to injury, alcohol abuse, sexual behaviour leading to unplanned pregnancies and sexually transmitted disease, and inadequate physical activity and dietary patterns that can cause illness. Each of these is not a simple matter of young people choosing to engage in behaviours that place their health and learning at risk. Rather, they are behaviours that are greatly influenced by social structures that include advertising and marketing at global levels.

Families are changing. The structure of the family has changed considerably. Three decades ago, two thirds of all Canadian families consisted of a male wage earner and a stay-at-home spouse. By 1990, this family structure accounted for only 15% of all Canadian families. Over 60% of women are in the paid work force. Approximately one-third of all marriages end in divorce that may place children at

risk for living in poverty. The rate of poverty among single-mother households is 81% for children under 7 years of age and 57% for children between 7 and 17 years of age. Many families are blended or reconstituted with children from a previous marriage. Families move around more, children may have to change schools, lose friends and they may no longer have the support of relatives (Hanvey et al., 1994).

Loving and caring as well as competent parents support young people's general cognitive and emotional development, their ability to cope with problems, lifestyle choices, and their involvement in delinquency and anti-social behaviours (Jessor, 1993). How the family deals with crises such as unemployment and illness affects young people (McLoyd, 1989). Family members are also models for lifestyle behaviours such as diet, smoking and alcohol behaviour (Hansell & Mechanic, 1990). Indeed, in most studies of how young people cope, family factors are the best predictors of health outcomes (Patterson, DeBarsyshe, & Ramsey 1989).

Poverty is increasing. Economic circumstances are having a serious impact on young people's lives. In 1987, in comparison with the United States and industrialized countries in Europe, Canada had the third highest rate of poverty for all households with children (Centre for International Statistics on Economic and Social Welfare, 1993). The incomes of young families (under age 35) are in dramatic decline and poverty is increasing. The rate of child poverty under 7 years of age has increased from 13% in 1981, to a staggering 21% in 1996 (Centre for International Statistics, 1998). As a result, a

growing number of families have become dependent on social assistance and food banks, and are homeless (Hanvey, et al., 1994; Tarasuk, 1996; Tarasuk & Woolcott, 1994).

Poverty is strongly correlated with increased risk of ill health, both physical and emotional (Townsend, Davidson, & Whitehead, 1992; US Department of Health and Human Development, 1998). The Health of Canada's Children Report (Hanvey et al., 1994) documents the profound variation in health between poor and not-poor children in incidence of illness and death, hospital stays, accidental injuries, mental health and well-being, school achievement and drop-out, family violence and child abuse, and so on. Poverty contributes to young people's poor health by adversely affecting their families and reducing cultural, learning and leisure opportunities through both material and psychological deprivation (Bartley, Blane, & Montgomery, 1997; Raphael, 1999). Poverty threatens young people's health and limits their chances to benefit from the opportunities provided by schools.

Neighbourhoods and Communities Are Changing. Traditionally, the family, school and church were the dominant influences in young people's lives (Cooper, Grotevant, & Condon, 1983; Grotevant & Cooper, 1985; Krohne, 1990). Today, role models may come from peers and the media (Hansell & Mechanic, 1990). In a fast changing world, it is more difficult to achieve a real sense of community belonging, sharing and participation (Bo, 1990). While increasing involvement with peers is a natural part of development, excessive influence of peers can be

problematic and associated with poor school performance and delinquency (Holler & Hurrelman, 1990). This process may reflect the absence of positive family relations that forces the child to turn to peers for support and involvement. Excessive peer influence is also associated with alcohol, tobacco and marijuana use, and inadequate exercise and nutrition (Conger, 1991).

Groups experiencing inequality due to race, gender or disability are often excluded from the broader benefits of community. As the gap between the rich and the poor widens, disadvantaged groups feel increasingly disconnected from the mainstream (British Medical Journal, 1996; Campaign, 2000; Hanvey et al., 1994; Kawachi & Kennedy, 1997; Jessor, Donovan, & Costa, 1990).

The ecology of neighbourhoods has long been implicated in mental disorder, poor social behaviour, and deficient academic performance among young people (Bronfenbrenner, 1974, 1979; Coleman, 1974). In the US, decaying neighbourhoods are related to delinquency, drug use, and pregnancy (Hechinger, 1992; National Research Council, 1993). In Canada, the Ontario Child Health Survey found that low family income, unemployment and overcrowded housing predicted problems among young people (Ontario Children's Health Survey, 1989).

There is a need to provide opportunities for satisfying and fulfilling experiences for young people. Schools are in an excellent position to fulfill this role since much of young people's time involves attendance at school and schools have a repertoire of activities that can provide opportunities for growth

(music, drama, athletics, environmental clubs, cultural exchanges, peer mediation programs, Students Against Drunk Driving). Satisfying activities and opportunities for growth reduce the likelihood of problem behaviour, such as drop-out and unemployment, pregnancy and childbirth, delinquency, drug abuse, drinking and smoking (Conger, 1991; Hechinger, 1992; U.S. Office of Technology Assessment, 1991).

The Economy is Changing. Health and education are affected by rapid economic globalization. There is a heightened sense of economic anxiety related to unstable, short-term work contracts or unemployment. Driven by technological innovation, global competition and new trade arrangements, the economy is undergoing a fundamental restructuring. Although restructuring creates many highly paid stable jobs, these require a high level of education and special skills that include the ability to work in teams, high literacy, numeracy and computing skills, critical, creative and problem-solving skills, and the ability to engage in life-long learning. For many lower-skilled workers the choices are becoming more limited and characterized by cycles of low-skilled, low-paid, insecure and often part-time jobs (Hanvey et al, 1993).

The economic restructuring has meant an increasing focus on defining education and employment goals in terms of being able to compete economically. Schools are urged to support young people in achieving higher levels of literacy and technological skills associated with opportunities to participate in higher learning activities and career enhancement.

At the same time that all these changes are happening, the systems designed for young people, their families and the schools continue to operate as if these changes had not occurred. For example, many of our systems still operate as if every family has a stay-at-home parent who provides loving childcare and can visit the teacher or the doctor during the day. Service systems remain locked in their traditional boundaries (Hanvey et al., 1993).

Difficulties are exacerbated as governments at all levels (federal, provincial and municipal) are tightening up on spending. Thus, community services that support communities are being reduced (Raphael, Renwick, & Steinmetz, 1999). Spending on education and public health services is being frozen or reduced, leading educators and health workers to reconsider the areas in which to concentrate their activities. Attention devoted to health and well-being of students receives little attention when scarce resources and rewards are restricted to delivering basic instruction.

The Cumulative Effect of Change

Each of the changes described can have a major effect on young people's quality of life and chances of developing into resilient, competent individuals who can realize their full potential. This is because the effects of the changes are interdependent and cumulative. From a quality of life perspective (see Figure 2), each domain bears an explicit relationship to health. For example, the domain of *Leisure Becoming* consists of the young person's ability to enjoy indoor and outdoor activities and access recreational resources. A young

person living in poverty cannot access activities that require payment, such as movies, games and toys. Similarly, the young person whose school has reduced extra-curricular activities or whose municipality now requires fees for recreation can be expected to have poorer quality of life.

Within the area of *Community Belonging*, being able to access medical/social services as well as having money and a job while still in school will be affected by community environments. In essence, quality of life provides a human face to the determinants of health discussion by focusing attention on the day-to-day activities that constitute the health and well-being of young people (Raphael, et al., 1999).

The enhancement of health and learning against the backdrop of special needs and changing social conditions is not amenable to simple well-defined solutions based on the transmission of health knowledge that has traditionally formed the basis of health education. Today, advances in knowledge about what constitutes health, the determinants of health and health promotion show that positive outcomes can only be achieved by a comprehensive approach that involves families, schools and communities working together using modern approaches to health promotion.

SECTION 5: WHAT IS MODERN DAY HEALTH PROMOTION?

Modern day health promotion is defined as a process that enables people to increase

their control over the conditions that affect their health. The Ottawa Charter for Health Promotion (WHO, 1986), grounded in the World Health Organization definition of health as a resource for daily living, outlines five key activities that make up the foundations of health promotion:

1. Reorienting health services;
2. Developing personal skills;
3. Creating supportive environments;
4. Strengthening community action; and
5. Building public health policy.

Responsibility for health involves many sectors and occurs by reorienting health services, developing personal skills, creating supportive environments, strengthening community action and building healthy public policy. In this section, we describe the principles of the charter and illustrate how these principles relate to schools.

Reorienting Health Services

Health services have been dominated by a bio-medical approach that focuses on the cure of sickness. The new view of health promotion proposes that serious attention be paid to prevention efforts that can have a major impact on the population as a whole. Prevention can be aimed at environmental protection, community services, family support payments, and so on. Reorienting health services emphasizes the importance of a broad spectrum of resources being applied to the promotion of health.

Schools already provide numerous services that reflect preventive approaches. These include immunization, health education instruction about nutrition, healthy lifestyles and mental health. In addition, schools may be involved in social service systems that

assist children with emotional, social or learning difficulties. To a lesser extent, schools are involved with children whose learning is compromised through social conditions such as inadequate housing, clothing, or income. To deal with the many levels of services required, schools must effectively link with other agencies and institutions such as public health, child welfare and recreation centres.

Developing Personal Skills

Health promotion supports personal and social development with information and education for health and enhancing life skills. It allows young people to exercise more control over their own health and their environments, and to make choices conducive to health.

The school is an important setting which teaches young people the fundamental skills of information collection, critical review, analysis, synthesis and application to specific situations or problems that are integral to effective personal and societal health decision making and the development of positive health practices. In turn, these general literacy skills promote coping, well-being and health.

Creating Supportive Environments

Rather than exhorting individuals to change or cope individually, health professionals should have an equal responsibility to act upon the environmental conditions that shape behaviour. Individuals, to a certain extent, should not be blamed for making unhealthy choices because these choices may have been made in light of the structural conditions in which they find themselves.

For young people, school is one of the most important environments in their lives as it is where they spend much of their everyday life. Thus, it is important that the school environment be safe, stimulating, satisfying and enjoyable. Schools can be organized in ways that are health promoting or not health promoting. The specific climates and cultures of the school setting influence the health and well being of those within it.

The World Health Organization outlines three ways that the school environment should be organized to promote health. First, schools should be developmentally and culturally appropriate in order to enable students to reach their potential. Second, schools should have a healthy organizational structure. And third, there should be productive interaction between the school and the local community.

Strengthening Community Action

Effective health promotion must involve concrete and effective community action to achieve better health. Such collaboration assists in the identification of problems that are of concern to those affected, and augments the resources that can be brought to bear on a problem. Collaboration supports the creation of supportive environments that can more effectively respond to the complex needs of young people.

Schools play important roles within their communities. Schools work with public health authorities to assess community needs, and work to address community problems. School staff work with community members to provide mutual

support. In as much as community services are used for school health programs and promotion, schools also link young people and their parents, with health and community services, and work on social development issues within communities.

Building Healthy Public Policy

Promoting health means more than providing health care. It makes the health of communities and individuals part of the work of policy makers in all sectors. It points out the effects of their policy work, and makes them responsible for the effects of their actions. These policies include fiscal measures, taxation and organizational change.

There are many policies that impact on young people. These include policies related to the funding and mandate of schools, the presence of community resources (community centres and summer jobs), and policies that affect the well-being of their parents. Those concerned with the health of young people are aware of the impact of policies upon young people and should be prepared to respond when inappropriate policies are developed and implemented.

For schools, building healthy public policy means advocating services and resources that support the well-being of young people and their families. It means calling for adequate funding for education and the support services located within schools. Since government policies affect the ability of schools to provide health supporting environments and activities, advocacy is especially relevant.

The principles of modern health promotion and the activities required to implement them are not unfamiliar to schools and teachers. What is different is the emphasis on collaboration between schools, families, communities and young people themselves. The new conceptions of health and health promotion, as well as the complex nature of the determinants of health, well-being and learning, require that no one group, setting or system be totally responsible for the health of young people. Society as a whole, the communities and settings in which our children develop, including schools, must work together to help young people develop to their maximum potential.

In Canada, attempts to address young people's health in the school setting in ways that reflect these ideas resulted in the development of the *Comprehensive School Health* approach. In Europe, the approach is known as the *Health Promoting School* (WHO, 1993, 1997). These new approaches no longer focus efforts on a single program, policy, service, or activity. Instead, they are defined by a broad spectrum of actions that are brought together in the school and are designed to affect students' health and well-being.

By linking **multiple components** such as curriculum, a supportive school environment, the family and the community, there is a better chance that a greater range of factors influencing young people's health will be addressed (Allensworth, 1994; Kolbe, 1993; Rowling & Ritchie, 1996; St. Leger, 1999). The next section describes and evaluates this approach to promoting health and learning in schools.

SECTION 6: PROMOTING HEALTH AND LEARNING IN THE SCHOOL

Although the multiple component approach bears different labels in different countries, the subsequent discussion will specifically address Comprehensive School Health and the Health Promoting School.

Comprehensive School Health

Comprehensive School Health (CSH) addresses not only individual behaviours, but also the environments in which young people and school staff learn, work and live (Canadian Association for School Health, 1991, 1992, 1993). The goals of CSH are:

1. To promote health;
2. To prevent disease, disorders and injury; and
3. To assist and support those who are at risk of or who are experiencing poor health.

CSH accepts as its basic premise that the promotion of health, well-being and learning is different from the prevention of health problems or assisting those children who have identified health problems. Within CSH, health promotion involves attention to the routine activities, situations and roles of daily life in the family, the school and the community. It means seeing the potential of young people in contrast to their shortcomings, and seeks to create conditions that enable all young people to learn and demonstrate their skills.

From this perspective, the promotion of young people's health requires inclusive and diffuse strategies that include the individual

and the social contexts of family, peers, school and community (Levin, 1993). To achieve its goals, CSH uses four basic means:

1. Instruction to provide students with information about health and wellness, health risks and health problems;
2. Support services for students, families and school employees that include guidance services and social services;
3. Social support from parents, peers, policy makers, staff, local media and the community; and
4. A healthy physical environment within the school and community.

Instruction is meant to include a high quality health education curriculum from kindergarten to grade 12, coupled with a physical education curriculum that promotes participation in a wide variety of sport, recreation and leisure pursuits. Included are opportunities to study health topics across the curriculum (e.g., health can be studied as part of biology, sociology, family studies or history). Support services are meant to include school guidance services, as well as an integrated web of health and social services offering appraisals, early identification, referrals, treatment and follow-up.

Social support can include a broad spectrum of activities and programs including peer helper and support programs, adult mentoring, parent and community involvement in the school, and healthy public policy within the school and community. Healthy environments address safety and accident prevention measures in the school and playgrounds, healthy food services, policies to ban tobacco, drugs and

alcohol in the school, policies to eliminate discrimination, harassment and violence, as well as adherence to building codes for sanitation, lighting and other environmental hazards.

CSH approaches to health promotion are significant as they represent a coordinated system of primary and secondary prevention and can form a logical foundation for supporting healthful change. Within the CSH concept, health is positioned as a central part of the core of the educational mission, drawing together administrative goals, addressing teacher and student needs, and generating support resources and services involving staff, parents and students in decision making.

For students, CSH provides knowledge, guidance and support in making healthy lifestyle decisions, avoiding health risks and overcoming health problems. It creates a healthy, positive and supportive environment for learning that extends beyond the school into the surrounding community.

For families, volunteers and community groups, CSH offers partnerships in programs and activities, and recognition of their knowledge and experience.

For educators, CSH reinforces the knowledge and skills they provide to students.

For professionals, CSH removes the isolating barriers of specialization and frees them to join forces with other professionals.

For administrators, CSH represents a co-ordination of effort that makes it easier

to tailor programs to meet specific goals or needs.

For government officials, CSH provides a framework for planning and policy development that enables them to consider both the “big picture” and local needs or concerns. CSH principles clearly reflect the perspective that health is a resource for daily living and take into account all the factors that contribute to psychological, social, cultural and physical well-being.

Canada has made excellent progress in adopting the CSH model. In 1990, only 3% of a sample of 2000 schools and health leaders across the country had heard of the term, let alone actively engaged in the approach (CASH, 1992). Today, CSH receives explicit support from 10 out of 12 education ministries, 5 of 12 health ministries, 40% of school boards, and 53% of Public Health Units (McCall, 1999).

The Health Promoting School

In Europe, the multiple component approach to school-based health promotion is known as the Health Promoting School (HPS). While it shares many principles with the Canadian and American Comprehensive School Health approaches, HPS places greater emphasis on changing the school environment rather than student behaviour. It explicitly stresses democracy, equity and empowerment, and is formally organized and implemented across most countries in the WHO European region.

The idea of HPS was pilot-tested in 1991 in Hungary, the Czech Republic, Slovakia and Poland. The European Network of

Health Promoting Schools (ENHPS) was formally inaugurated in 1992 as a collaborative project of the European Commission, the Council of Europe, and the World Health Organization Regional Office for Europe; and it has since rapidly expanded. By 1997, 37 countries were participating in the network with health promoting school projects affecting the health and well-being of about 400,000 young people in over 5,000 schools.

Countries wishing to join the network are required to have support from both the Ministry of Education and the Ministry of Health. A national coordinator must be appointed and ten schools must be designated as Health Promoting Schools that are willing and able to collaborate. Once the principles of HPS have been established, it is expected that more schools will be added until all schools in the country are part of the network. The expectations of participating schools and countries are:

1. To develop a three-year project plan;
2. To form a school project team and prioritize project initiatives;
3. To implement projects to tackle issues of both local and European relevance, which can then be used as models of good practice; and
4. To implement activities that promote the health of young people and foster a spirit of collective responsibility for personal and community health, as well as maximize the project's visibility and credibility, and facilitate the evaluation and dissemination of results.

The health promoting school is described by WHO as, “a school that is constantly strengthening its capacity as a healthy

setting for living, learning and working". Anderson and Piran (1999) have summarized the guiding principles of HPS as follows:

Democracy. The health promoting school is founded on democratic principles conducive to the promotion of learning, personal and social development and health.

Equity. Healthy schools ensure that the principle of equity is enshrined within the educational experience. This guarantees that schools are free from oppression, fear and ridicule. Healthy schools provide equal access for all to the full range of educational opportunities. The aim of healthy schools is to foster the emotional and social development of every individual, enabling each to attain his or her full potential free from discrimination.

Empowerment and Action Competence. Health promoting schools improve young people's abilities to take action, cope and generate change. They provide a setting within which young people, working with their teachers and others, can gain a sense of achievement. Young people's empowerment, linked to their visions and ideas, enables them to influence their lives and living conditions. This is achieved through quality educational policies and practices that provide opportunities for participation and critical decision-making.

School Environment. Health promoting schools place an emphasis on the school environment, both physical and social, as a crucial factor in promoting and sustaining

health. The environment becomes an invaluable resource for effective health promotion, through the nurturing of policies and practices that promote well-being. This includes the formulation and monitoring of health and safety measures and the introduction of appropriate management structures.

Curriculum. A healthy school's curriculum provides opportunities for young people to gain knowledge and insight, and to acquire essential life skills. The curriculum must be relevant to the needs of young people, both now and in the future, as well as stimulating their creativity, encouraging them to learn and providing them with necessary learning skills. The curriculum of a healthy school is also an inspiration to teachers and others working in the school. It acts as a stimulus for personal and professional development.

Teacher Training. Teacher education (pre-service and in-service) is an investment in health as well as education. Legislation, together with appropriate incentives, must guide the structures of teacher learning using the conceptual framework of the health promoting school.

Measuring Success. Health promoting schools assess the effectiveness of their actions upon the school and the community. Measuring success is viewed as a means of support and empowerment, and as a process through which health promoting school principles can be applied to their most effective ends. In other words, assessment and evaluation are an integral part of instruction and planning.

Collaboration. Shared responsibility and close collaboration between schools, parents and communities is a central requirement in the strategic planning of healthy schools. Roles, responsibilities and lines of accountability must be established and clarified for all parties.

Communities. Parents and the school community have a vital role to play in leading, supporting and reinforcing the concept of school health promotion. Working in partnership, schools, parents, non-government organizations and the local community represent a powerful force for positive change. Similarly, young people themselves are more likely to become active citizens in their local communities. Jointly, the school and the community will have a positive impact in creating a social and physical environment conducive to better health.

Sustainability. All levels of government must commit financial and human resources to health promotion. This commitment will contribute to the long-term sustainable development of the wider community.

These principles propose that schools must engage in health promotion that goes beyond the individual and the classroom to encompass the whole school and its surrounding community. The formal classroom instruction must be shifted from the didactic transmission of health information, to health attitude and value clarification and to the teaching of generic skills that include media analysis, assertiveness, coping and problem solving. From an emphasis on school as the major health resource, there is an emphasis on involving the community and its agencies.

At a practical level, the implementation of HPS has meant that children engage in a community development process that includes identifying the conditions in their school that affect their health, choosing one or more priority concerns, gathering information about the issue, designing and implementing plans to deal with the problem issue identified, and evaluating their efforts. Furthermore, the process is based on cooperation among students, teachers, parents and other adults in the community as needed. Overviews of projects undertaken by students show that they tend to address relationships among students, relationships among students and teachers, environmental issues including recycling and nutrition, especially the quality of food served in the school cafeteria.

SECTION 7: EFFECTIVENESS

While the ideas about health, the healthy young person, and health promotion described in the preceding sections are exciting, the translation of these ideas into models of health promotion in schools such as Comprehensive School Health or the Health Promoting School are developed more conceptually rather than practically. A great deal of work remains to be done in order to understand which components are useful and which are not, as well as how best to incorporate the CSH and HPS approaches into health and education curricula, and into the training of teachers and health professionals. However, there is evidence that CSH and HPS approaches can be implemented and have broad benefits.

An extensive evaluation of 24 schools with CSH programs in Calgary (Learning Through Health Partnership, 1997) that assessed the views of students, parents, staff and community regarding both implementation and impact of a CSH approach showed that:

It had an impact on the curriculum.

Teachers perceived that more health projects had been developed in the school and that the health curriculum had been strengthened.

It had an impact on student knowledge.

Students reported significant improvements in knowledge of health topics and activities chosen by the school. The effect was greatest at the elementary and high school levels, less so for junior high. Students also reported that the project had some impact on their behaviour outside of school.

It had an impact on the school environment.

Teachers believed that the health climate of the school had improved. This was evident in the heightened visibility of health in the school through displays, posters on health topics, articles in newsletters and the involvement of School Councils.

It had an impact on school staff.

The project had a relatively strong effect on staff knowledge about school health issues and knowledge about where to get information and resources about health issues.

It had an impact on parents. Parents indicated that they had become more aware

of health issues and more involved with the school. There was no effect, however, on improvement in home-school communication or in parents' beliefs that they had obtained a greater understanding of how to prevent future health problems.

It had an impact on community involvement.

Outside agencies became active in the school. They participated in numerous activities and provided in-kind contributions to support activities.

The evaluation also noted that the implementation of CSH requires considerable preparation and commitment. The CSH model was generally well received by the schools and was viewed as sufficiently flexible to be effective in the school environment. The major difficulty for schools with respect to the model was achieving all of the objectives associated with it, particularly those related to parent and community involvement.

Health Behaviour Benefits

Rigorous evaluations of CSH approaches focusing on risk behaviours have been effective in changing student behaviour. Impressive gains from multi-component interventions using strong behavioural intervention strategies and sustained multi-year efforts have been demonstrated for smoking prevention (Perry, Kelder, Murray & Klepp, 1992), dietary changes (Luepker et al., 1996), physical activity (Kelder, Perry & Klepp, 1993), unprotected sexual behaviour (Kirby, 1992), and alcohol and drug use prevention (Botvin et al., 1990; Perry, et al., 1996).

Excellent multiple component programs developed for risk behaviours have been

developed in the United States and Canada. The Adolescent Trial for Cardiovascular Health (CATCH) in Minnesota (Perry et al., 1990), one of the most widely known programs, was based on the principles of CSH. The program was designed to assess the effects of a school and family based intervention to reduce the risk of cardiovascular disease among elementary school students. The intervention included classroom curriculum that emphasized healthy eating, actual preparation of healthy snack foods, menu analysis and evaluation of the healthfulness of prepared foods. This learning was augmented by changes in the school food services designed to provide children with lower fat and lower sodium meals. The program also increased the amount of moderate to vigorous physical activity that children obtained during physical education classes at school.

Finally, participating schools adopted a policy of non-tobacco use for students and staff alike. The school program was introduced to families through regular information packets and requests for parents to participate in a number of home activities.

The results of this trial that was carried out in 14 schools, with 10 schools as controls, showed that the intervention successfully improved the school lunches to meet federal guideline. These guidelines recommend that no more than 30 percent of each day's calories come from fat and 10 percent from saturated fat. The changes in the school also carried over to the students' home eating patterns. The result was that students in the CATCH intervention had a lower daily caloric intake from total fat and saturated

fat than students in the control schools. Blood cholesterol measures, however, did not differ significantly between students in the intervention and control schools (Luepker, et al., 1996). The intervention also successfully increased to 50 percent the amount of time that students spent in moderate to vigorous activity in their physical education classes. This improvement also extended to leisure time outside of school hours.

Another CSH program, Project Northland, carried out by the same group of researchers, adopted a similar multi-component, community-wide approach in a 3-year intervention effort to prevent or delay the onset of alcohol use. Designed for students in grades six to eight, it included parental involvement, a classroom curriculum and community-wide policy changes. The parental involvement component included activities for parents and their children related to how to communicate about alcohol use, facts and myths about alcohol use, the consequences of drinking, and suggestions for establishing family guidelines about drinking. The classroom curriculum included eight 45-minute classroom sessions taught by teachers and classroom peer leaders that focused on skills to remain a non-drinker. The community component focused on the establishment of networks of merchants, law enforcement officials and policy makers to create conditions restricting accessibility to alcohol and thus, supporting students' decisions not to drink.

After 3 years, the students in the intervention communities reported significantly less use of alcohol in the past week and the past month. In addition, students reported both an increase in skills

to resist peer influences to drink and an increase in communication with their parents around the consequences of drinking (Perry et al., 1996).

The two programs described above provide examples of how CSH approaches to health and well-being can be implemented, and of the benefits that can be achieved. Although the focus on evaluation is typically on the behavioural outcomes, the benefits of the process of involving parents and the community should not be overlooked. Within health promotion, building a capacity for action on a health problem is considered an important outcome.

School Satisfaction Benefits

Supportive social and psychological environments in the school, and feelings of satisfaction with school protect young people from adopting poor health behaviours. Students who dislike school and have negative school experiences are more likely to start smoking and drinking earlier and more often (Battische & Hom, 1997; Nutbeam, Smith, Moore & Bauman, 1993; Nutbeam & Aaro, 1991.) Students who dislike school are also likely to have poor dietary and exercise habits, and report more health complaints, lower self-esteem and various mental health problems (Perry, et al., 1990).

Research on school environments shows that a key feature of satisfaction with the school experience is student involvement in the school and good relationships with teachers (Cabello & Terrel, 1994; Epstein, 1981; Fraser, Docker & Fisher, 1988; Good & Brophy, 1986; Kottkamp & Mulhern, 1987; Millstein et al. 1993;

Samdal, Nutbeam, Wold & Kannas, 1998; Samdal, Wold & Bronis, in press; Sharp & Thompson, 1992; Voelkl, 1995). Other important aspects of the school environment include value dimensions, such as the clarity, aims and ethos of the school, as well as a focus on learning, achievement and high expectations coupled with strong leadership, monitoring of progress, participatory decision making and parental involvement (King & Peart, 1990; Mortimore, 1998). All of these dimensions correspond closely with what is proposed in the CSH and HPS models.

Economic Benefits

Preventing health compromising behaviours and dealing with threats to health that are primarily social in nature (i.e., the 'social morbidities' such as abuse, suicide, stress, teenage pregnancy, accidents, poverty and drug abuse) have both immediate and long-term economic benefits. The school is an efficient site in the community to reach virtually all children. Numerous studies have argued that prevention of health problems is less costly than their eventual treatment. For example, the U.S. National Center for Health Statistics estimated that 400,000 lives and 20 billion dollars could be saved from changes to diets, smoking, exercise, alcohol and medication use (O'Rourke, 1985). CSH programs, have been shown to reduce such behaviours (Botvin et al., 1990; Kelder, Perry & Klepp, 1993; Luepker et al., 1996; Perry, Elder, Murray & Klepp, 1992; Perry, et al., 1996). O'Rourke (1985) further noted that if school health education programs were only 2% successful in dealing with smoking, sexually transmitted diseases, teen-age pregnancy, child and drug abuse, there would be a saving of over 480 billion dollars in the U.S.

The American Medical Association (AMA, 1989) concluded that screening services provided in the schools by nurses can resolve more than 95% of medical problems, such as respiratory difficulties, proper administration of medications, vision and hearing problems, dental checks, headaches and allergies. Roos et al. (1984) showed that delivery through nurses in the schools was less costly than delivery through physicians.

Rothman, Ehreth, Palmer, Collins, Reblando and Luce (1994), in a review of exemplary CSH programs, claim that the benefits accrued with respect to the prevention of future morbidity were 13.8 times the cost of the program. This compares favourably with 14.0 for vaccination programs for measles, mumps and rubella and 3.4 for comprehensive worksite health promotion programs. However, as St Leger (1999) points out, these figures pertain only to exemplary programs. Furthermore, the programs addressed only included programs for youth. No similar studies have been carried out for primary school children.

While the foregoing discussion has focused on the economic savings to health, it is important to remember that good health is the foundation for learning. Thus, the benefits that accrue from prevention of health problems also contribute directly to academic success.

The Need for Further Work on CHS and HPS Models

A great deal more work is needed to understand the various components of CSH

and HPS. St Leger (1999) notes that key areas in which more understanding and applied work are needed include: school policies, relationships with the community, the role of health services, cost effectiveness and professional development for teachers.

School Policies. Although healthy public policy is touted as one of the cornerstones of modern health promotion, little is known about health gains for students when schools have adopted and enforced specific health policy. In part, this is because survey research on children's health conducted through the school system does not include questions about policy. Attempts to study specific policies in schools are marred by lack of available 'control schools'. This might indicate that health gains are at the same level as the general population.

Relationships with the Community. Building relationships with the local community is a key aspect of CSH. While accepted in principle, building such relationships is difficult because they are labour intensive and involve a great deal of understanding of the work site, customs and institutional requirements of each partner (Minkler, 1991; Goltz, 1992; O'Neill, 1992; Kalnins et al., 1994). Teachers feel that they don't have the time, resources or skills to engage in building such collaborative networks.

Role of Health Services. The literature suggests that better partnerships need to be established (Shilton, 1993; Brellocks, 1995). In particular, it is suggested that the school might become the hub for the provision of health and social services.

Professional Development.

Professional development for teachers and health professionals working in school settings to implement comprehensive approaches to school health is another area about which little is known. In Europe, countries involved in CSH approaches have national coordinators and commitment from the Ministries of Health and Education. Part of the European Network of Health Promoting Schools (ENHPS), they also have explicit commitment from the schools involved. In Canada and the United States, there may be provincial or state coordinators. Yet, it is the classroom teacher who is the front line worker and who must implement the principles of this health promotion strategy. It appears that professional development for teachers in this work is minimal. As St Leger (1999) points out, the multi-component, collaborative model underlying CSH has been designed by the health sector to facilitate health gains in the school. However, there is a long way to go before the eclectic nature of the intervention can be used as a planned strategy by individual schools and teachers.

SECTION 8: CONCLUSIONS

In closing, this monograph clearly demonstrates the interdependence between health and learning. Health affects learning, learning affects health, and the way that schools are operated affects both. Next to the family, schools are the most significant influence in young people's lives, and as such, provide unique and exciting opportunities for educators and their community partners to help young people enjoy the important possibilities in their

lives. The multiple component approach to school-based health promotion (e.g., Comprehensive School Health and the Health Promoting School) draws from these opportunities by linking curriculum, a supportive school environment, the community and the family on a broad array of health promotion activities. When all these elements are brought together, many positive outcomes can develop for young people's health, well-being and learning.

Specifically, **within the child**, a range of personal characteristics can be developed that assist in personal coping. Typically referred to as resiliency, this reservoir of abilities includes specific knowledge, skills, attitudes, beliefs and means of accessing social support. Some of the components of resiliency involve what educators have termed literacy skills and consist of "actively seeking out, interpreting, analyzing, and applying reliable information to real-life problems." Literacy also includes engaging in responsible and productive citizenry, having a repertoire of formal and informal tools of thought, and knowing when to use them.

The gains of the school and community when young people's health is made a priority are also numerous. **Within the school**, they include increased accessibility and quality of health services, delivery of quality health and physical education, family studies and guidance, and improved school environments. Within the community, they include improved sensitivity by school board and public health officials to the importance of promoting young people's health, reflected in school board and board of health policies; as well as increased support for schools and their role in young

people's health by the community and local media. Finally, within the school and community, there will be improved student and parent satisfaction with education and health services.

In summary, there are essential benefits to society when young people's health is emphasized. On the positive side, health is a resource for the society that assists in economic, cultural and social development. When health is neglected, each of these aspects suffers. Costs to society of ignoring children's health are numerous and include alienation, increased crime and mounting social service and health care costs. The choice to support young people's health through school-based health promotion seems to be an easy decision to make. Implementing such an approach, however, requires ongoing commitment of all partners for health – schools, communities and young people working together.

ADDENDUM: FURTHER CONSIDERATIONS FOR THE TRAINING OF TEACHERS AND HEALTH PROFESSIONALS

Much of the preceding monograph has demonstrated the connection between health and learning, and the dimensions of their interdependence. It is appropriate, therefore, that other concepts related to thinking about health and learning be considered as if they were part of the **same system**.

The literature on **systems thinking** is a burgeoning body of leading edge knowledge that has emerged from the study of exemplary management and

organizational development practices. Senge's *Fifth Discipline* (1990) is a widely cited piece of work that examines the nature of systems thinking. His work is rooted in the belief that in the present "knowledge economy", in which we are encountering unprecedented rates of change, bureaucratic organizational models of the industrial era do not work very well.

The organizations that have the best chance of surviving and thriving are those that actively develop their people's ability to think "systemically" and together become a "learning organization" that has the capacity to continually adapt to its changing surroundings. By "systems thinking", Senge (1990) means a discipline for seeing wholes or systems as opposed to fragmented, isolated parts of systems. He believes that people can practise and improve their ability to seek, recognize and understand the systemic causes that underpin problems, and that when groups collectively problem solve and plan with this discipline, they can become a high performing team that achieves extraordinary performance outcomes. The extensive range of inquiry and organizational tools that have emerged in this field may offer health promoting schools the best opportunities to fully engage in enhancing the health of their organizations and the learning potential of both the students and teachers who work within the school community.

Systems thinking ideas are rooted in the evolving view of the universe as a "quantum" universe rather than a Newtonian mechanical universe. With the understanding of "quantum physics" the world is no longer seen as a "giant clock" with isolated parts connected by simple

cause and effect relationships. Rather the behaviour of subatomic particles suggests a world of “waves of probability”, webs of relationships and interconnections based on energy (quantum) in motion (mechanics). In their paper, *Adaptive Schools in a Quantum Universe*, Garmston and Wellman (1995) write that:

In Quantum schools, leaders pay attention to the flow and interchange of energy. Energy, not things, becomes the avenue to attainment. Marshalling, focusing, and developing energy, information, and relationships become the roles of leaders.

They further argue that:

To use emerging understandings of the quantum world for school improvement, educators must move beyond information provided [to] them by the five senses, and consciously work with that which is not so easily discernible. [They] must learn to embrace complexity in human organization...seek patterns of order beneath the surface chaos and search for structures and patterns of interaction that release and amplify the energies within the system (p. 146).

They offer guidelines that could form an ongoing curriculum for school leadership teams. First with regard to developing organizational capacity, and second, with regard to developing professional capacities. It is around the development of organizational capacity and professional capacities that both health and learning, as well as other fundamental issues such as

student leadership and professional development of teachers, might be activated.

Around, for example, the notion of adaptivity, teachers, students, parents, community partners and human services might find common ground for developing strategies for the improvement of personal lives, school culture, neighbourhoods and social justice. Instead of studying traditional subject matter, students might explore the change process, change management and moral change agency. Subject matter, under these conditions, becomes a vehicle and context for deepening students’ ability to understand the forces that affect being, belonging and becoming.

No subject could be considered well understood without examining its interdisciplinary connects and social, cultural moral implications. Similarly, no consideration of the opportunities to promote student learning could be considered complete without both informing and being informed by the health of the learner.

Unless the organization has the capacity to both nurture and sustain growth, lasting change will not occur. Garmston & Wellman (1992) suggest that developing organizational capacity might involve:

1. ***Initiating and managing adaptivity.*** Adaptivity within schools can be enhanced through a constant effort to clarify and deeply understand core purposes, and gain shared knowledge of the change process and skills for managing change.

2. ***Developing and supporting vision, values and goal focus.***
3. ***Developing and nurturing interdependence.*** Interdependence enhances the capacity to draw strength from one another and to seek clarity and cooperation
4. ***Developing and applying systems thinking.*** This nurtures the ability to see systems as opposed to fragments, and find leveraged actions that positively impact on the health of the whole school.
5. ***Interpreting and applying data.*** Leaders need to support individuals in interpreting, validating and owning data, so groups can enhance their capacity to change their minds as they receive valid data and become more adaptive.
6. ***Gathering and focusing resources.*** The need and value of adult learning, planning and reflecting time is emphasized. Adaptive schools need to allocate time for adult interactions as well as interactions between students.
3. ***Knowledge of the structure of disciplines.*** There is a need to go beyond content to the deeper structure of disciplines, for example, in asking the questions: *What do experts currently believe is the most valid content in a particular field? What is the path from novice to expert thinking in this field?*
4. ***Self-knowledge, values, standards and beliefs.*** It is important in seeking clarity about professional identity to uncover our values and beliefs about living, learning and how to be successful.
5. ***Repertoire of teaching skills.*** Widening our range of teaching methods and skills will enhance adaptability.
6. ***Knowledge about students and how they learn.*** This enhances the capacity to draw multiple approaches to content and process to meet the needs of the range of learning styles teachers meet in their classroom.

Developing professional capacities is also important. These resources are developed through:

1. ***Collegial interaction.*** There is a need to emphasize the importance of collaborative planning and learning.
2. ***The cognitive processes of instruction.*** They state: *A teacher's decision-making and meta-cognitive processes before, during and after teaching may be the most important components of his or her portfolio of skills* (p. 147).

Garmston and Wellman's (1992) guidelines are compelling, but more work needs to be done to assess the degree to which these approaches could be related to thinking about health and learning simultaneously. There is congruence between systems thinking for healthy schools, the goals of education and the emerging Standards of Practice for the Teaching Profession (see Ontario and British Columbia Standards of Practice for the Teaching Profession). Systems thinking is compatible with the desire to promote career long learning, reflection and assessment as an integral part of the teaching and learning process, as well as interdependence of teaching, student

learning and parent involvement, sensitivity and adaptivity to change, the development of learning communities and respect for learner diversity.

Systems thinking for healthy schools can directly inform teachers' work in the classroom. For example, it portrays concepts related to the change process, interrelationships between culture, environment and the dynamics of the marketplace (Social Studies, History and Geography). It provides an understanding of the interconnectedness of structures, systems and processes, applying the different concepts of different disciplines to real world problems (Science and Technology). It searches for patterns, ways of knowing and communicating using various mediums (Mathematics, Arts: drama, music, visual art and dance, and Language). And finally, it develops partnerships with parents, peers, schools, health-care systems, government and the media to promote comprehensive approaches to learning and health (Health and Physical Education).

The Butterfly Garden: An Example of Systems Thinking

Within the health promoting school, how might the systemic relationship between health and learning be demonstrated? The following is an example of how a new school in the Kitchener-Waterloo area is thinking about the design of their playgrounds. The school is planning to set aside an area for children to develop three gardens: a pizza garden for the primary students (peppers, tomatoes), a garden that attracts butterflies for the junior students, and an herb garden for the senior students. Students, teachers and administration, in

consultation and collaboration with local landscapers, plant nurseries, parents, senior citizen groups, the local horticultural society, and community parks and recreation authorities will research, design and develop the project. As funds are raised, the blueprints for the garden will be carefully crafted.

The study of soil, plants, insects, birds and gardens will become topics of study. Children in kindergarten through grade 8 will engage in research about garden types, design and construction, and study butterfly characteristics, habitats and flower preferences. An assortment of plants will be grown from samples donated by local nurseries. In the spring, as the ground is worked up and the garden takes shape, children, parents and older adults will be involved collectively in excavation, planting, making sandwiches and cheering on the workers. Upon completion, the garden will become a place of quiet and repose for people to sit and talk quietly with friends, teachers and their families, and a place for members of the community to gather and enjoy year round.

Other parts of the playground include friendship circles, soccer and baseball diamonds and tree covered walking areas for students to enjoy the outdoors in a sun-protected environment. As a legacy to the school, children will reflect with pride on the contributions they will have made to the social environment, education and mental health of the school and *their* community. The spirit of cooperation and collaboration experienced by working with the many partners in the community might also demonstrate to children how shared experiences bring people together and how

working together means accomplishing more than by working in isolation. Many hands make light work.

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