

# **RATIONALE FOR THE STUDY OF COMPREHENSIVE HEALTH EDUCATION AND PHYSICAL EDUCATION**

*Given sufficient attention and support, young people can have the chance to grow up healthy and whole both in body and in mind. What is at stake are not only the precious individual lives of our young people but our national health and our future as a nation.*

FRED M. HECHINGER



# RATIONALE FOR THE STUDY OF COMPREHENSIVE HEALTH EDUCATION AND PHYSICAL EDUCATION

## EDUCATION IN THE ART OF LIVING

School failure is often a symptom of competing issues and problems that overwhelm a student's life. Poor nutrition, lack of sleep, chronic or untreated illness, pregnancy, a disorganized home, substance abuse, or a threatening environment may all contribute to a student's inability to cope with the rigorous demands of learning. Poor health in all its dimensions clearly interferes with school performance (Hechinger, 1992). Young people from all social and economic levels may experience these problems that compete for their time, energy, and commitment.

While most children and adolescents are considered healthy using traditional health markers such as disease patterns, an even more deadly pattern is emerging. Young males, across all races and age groups, are dying at a consistently higher rate than young females. Why? Most of these needless tragedies are the direct result of poor choices resulting in substance use, homicide, or motor vehicle crashes involving the use of alcohol. These tragedies are preventable (Ozer, Brindis, Millstein, Knopf & Irwin, 1998). Preventing health-threatening behaviors and instituting health-enhancing ones are crucial to the prevention of needless death and despair. Empowering young people to make life-enhancing decisions enables them to engage in the work of youth—**learning**. No longer can we rely on miracle cures or one-shot measures to solve these very serious problems. Collectively, we must focus our energies on the prevention of serious and costly health conditions that impact individuals, their families, the community, and the nation. According to John Seffrin, chief executive officer of the American Cancer Society, human health is both an end and a means to an end. For this reason, Dr. Seffrin defines school health education as **education in the art of living** (1992, p. 393).

Good health is necessary for effective learning. Feeling physically and mentally healthy is essential as students face intense competition, peer and media pressure, and the stresses of daily physical, emotional, social, intellectual, and work-related activities (Marx, Wooley, & Northrup, 1998). Business and community leaders now recognize the need for a healthy, productive workforce armed with critical-thinking skills, problem-solving skills, cooperative and collaborative qualities, self-management skills, and finely-tuned communication skills (Marx et al.). Many businesses offer employee wellness programs including fitness programs, preventive healthcare, and occupational services to ensure the health and productivity of their employees. Comprehensive health education and physical education play important roles in the development of citizens who are able to form healthy relationships, use social skills appropriately, demonstrate a sense of intellectual curiosity, and practice health-enhancing behaviors in preparation for their role as well-educated, productive citizens (Hechinger, 1992).

The *Comprehensive Health Education and Physical Education Core Curriculum Content Standards* address our greatest threats to morbidity and mortality. In adults, three major causes contribute to two-thirds of all mortality and a great amount of morbidity, suffering, and healthcare costs. According to a 1997 report issued by the Centers for Disease Control and Prevention (CDC), the use of tobacco

products, the consumption of an unhealthy diet, and a daily pattern of inactivity contribute to our nation's battle with heart disease, stroke, and cancer (1997). Significantly, adolescents account for one quarter of all new HIV infections, one quarter of all new sexually transmitted diseases (STDs), and approximately one million pregnancies per year. The leading causes of death in our young people involve intentional and unintentional injuries such as motor vehicle crashes (with one half of those being alcohol related), homicide, and suicide. Clearly, our greatest health challenges are critically linked to the health-related behaviors individuals have chosen to adopt (CDC, 1997). While multiple factors (including heredity and environment) account for a percentage of premature illness and death, lifestyle choices contribute to over 50% of such morbidity and mortality (Allensworth, 1993). Complicating this scenario is the simple fact that poor health choices do not generally occur in isolation; that is, these behaviors cluster in predictable ways and follow a developmental progression.

## HISTORICAL BACKGROUND

These facts are not new. Throughout history scientists, physicians, philosophers, and educators have promoted the "laws of health." The ancient Greeks, known for their commitment to preventive medicine and fitness, believed that "Eating alone will not keep a man well; he must also take exercise. For food and exercise, while possessing opposite qualities, yet work together to produce health" (CDC, 1996, p.13). Greek citizens were advised to breathe fresh air, eat proper food, drink the right beverages, get plenty of sleep, and consider their emotions as part of overall well-being. As we approach the 21st century, this continues to be sage advice (CDC, 1996).

After World War I, many states mandated health, safety, and physical education for public school students. The New Jersey mandate, N.J.S.A. 18A: 35-7, was initiated to better prepare young men for the rigors of military service. Since that time, family life education, HIV/AIDS prevention education, and substance abuse education have been added to the original requirement. In addition, numerous statutes require instruction in specific issues such as Lyme disease, sexual assault prevention, fire safety, or cancer awareness. The content of physical education programs has not been so clearly delineated in New Jersey statutes or regulations.

Comprehensive health education and physical education are complementary disciplines, sharing a similar yet distinct body of knowledge. The *Comprehensive Health Education and Physical Education Standards* provide a consolidated approach to instruction with **wellness** as the common theme. The aim of the *Standards* is to enable students to take responsibility for their actions using sound, informed judgment while considering the impact of those actions for themselves, for their family, and for society at large.

For every dollar spent on high-quality, multicomponent school health education, society saves \$13 in direct costs (e.g., medical treatment for preventable disease, addiction counseling, alcohol-related motor vehicle crashes, drug-related crime). This includes the indirect costs of lost productivity due to premature death and the social welfare expenditures associated with adolescent pregnancy (Marx et al., 1998). Comprehensive health education and physical education aim to address these serious impediments to school completion, self-efficacy, and wellness. If the purpose of education is to prepare young people for their place in our complex and fast-paced world, then comprehensive

health education and physical education—*education in the art of living*—are significant parts of that preparation. According to Maurice Elias, Ph.D, professor of psychology at Rutgers University and colleagues, schools and communities need to do more to prepare young people for the challenges and demands of life. Their research supports school-based programs that promote social and emotional health as well as physical health. We must teach our children in ways that give them a realistic chance of successfully managing the challenges of learning, growing, and developing (Elias, et al. 1997). Comprehensive health education and physical education aim to provide students with the knowledge and skills to meet those demands.

## BENEFITS OF COMPREHENSIVE HEALTH EDUCATION AND PHYSICAL EDUCATION

Comprehensive health education and physical education:

- **Empower** students to make informed decisions about issues that impact their present health, the health of their family and friends, and the health of society at-large.
- **Enable** students to enact health-enhancing behaviors before damaging patterns are firmly established.
- **Enhance** students' ability to become cautious and competent consumers.
- **Strengthen** students' ability to recognize, analyze, and react to unhealthy or dangerous situations in a safe and appropriate manner.
- **Strengthen** students' ability to focus on learning, academic achievement, and preparation for the world of work.
- **Empower** students to navigate through and around conflicting messages, risky behaviors, and mounting pressures and to develop dependable support systems.
- **Assist** students to recognize, understand, and address immediate or chronic health problems in order to prevent long-term health problems.
- **Empower** students to choose lifetime physical activities that they enjoy and have confidence in.
- **Enable** students to participate in lifetime activities that promote, support, and maintain wellness.

## COORDINATED SCHOOL HEALTH PROGRAMS

Comprehensive health education and physical education are two components of a nationally recognized model, endorsed by the CDC, that supports and promotes student, school, family, and community wellness. Coordinated school health programs (formerly called comprehensive school health programs) feature eight components that provide a framework for the requisite programs and services shown to promote healthy behavior, promote school attendance and student achievement, and foster environments conducive to school completion (Figure 1). Comprehensive health education and

physical education are best delivered within the context of a coordinated program that includes all eight elements, linked by a common network and philosophy. Schools with coordinated and comprehensive programs in place are considered *health-promoting* environments. Coordinated school health programs include:

- Policies and procedures that support and reinforce classroom instruction. Health messages are clear and consistent.
- Access to health services and referrals to community healthcare providers. Classroom instructors, school nurses, parents, and community healthcare providers work as a team to support student health.
- In-school support and referral for those needing counseling services. Classroom instructors and school counselors work in concert with social workers and mental health specialists to provide immediate care in time of crisis and to facilitate long-term care for those who need it.
- A safe school environment. School staff work to provide a clean, safe, drug-free and weapon-free environment.
- Nutritious and appealing food choices. The food services staff provides meals that reflect the tenets of sound nutrition yet are appealing to young people.
- School staff that promote and support wellness. School staff members are supported in their own efforts to achieve health and well-being.
- Parental and community support. Schools involve parents and community members in health promotion efforts and policy making.

Coordinated school health programs are an integral part of school reform efforts. These programs reflect a collaborative school community seeking to enhance the health and well-being of its members. Instructional programs grounded in a health-promoting environment tend to be more successful, more consistent, and more effective. According to the CDC, (Online, HYPERLINK <http://www.cdc.gov/nccdphp/dash/cshpdef.htm>, 8/14/98) a coordinated school health program includes:

**Health Education:** A planned, sequential, K-12 curriculum that addresses the physical, mental, emotional, and social dimensions of health. The curriculum is designed to motivate and assist students to maintain and improve their health, prevent disease, and reduce health-related risk behaviors. It allows students to develop and demonstrate increasingly sophisticated health-related knowledge, attitudes, skills, and practices. The comprehensive curriculum includes a variety of topics such as personal health, family health, community health, consumer health, environmental health, sexuality education, mental and emotional health, injury prevention and safety, nutrition, prevention and control of disease, and substance use and abuse. Qualified, trained teachers provide health education.

**Physical Education:** A planned, sequential K-12 curriculum that provides cognitive content and learning experiences in a variety of activity areas such as basic movement skills; physical fitness; rhythm and dance; games; team, dual, and individual sports; tumbling and gymnastics; and aquatics. Quality physical education should promote, through a variety of planned physical activities, each student's optimum physical, mental, emotional, and social development and should promote activities and sports that all students enjoy and can pursue throughout their lives. Qualified, trained teachers teach physical education.

**Health Services: Services provided for students to appraise, protect, and promote health.** These services are designed to ensure access and referral to primary health care services; foster the appropriate use of primary health care services; prevent and control communicable disease and other health problems; provide emergency care for illness or injury; promote and provide optimal sanitary conditions for a safe school facility and school environment; and provide educational and counseling opportunities for promoting and maintaining individual, family, and community health. Qualified professionals such as physicians, certified school nurses, dentists, health educators, and other allied health personnel provide these services.

**Nutrition Services: Access to a variety of nutritious and appealing meals that accommodate the health and nutrition needs of all students.** School nutrition programs reflect the federal government's *Dietary Guidelines for Americans* and other criteria to achieve nutrition integrity. The school nutrition service offers students a learning laboratory for classroom nutrition and health education, and serves as a resource for linkage with nutrition-related community services. Qualified child nutrition professionals provide these services.

**Counseling, Psychological, and Social Services: Services provided to improve students' mental, emotional, and social health.** These services include individual and group assessments, interventions, and referrals. Organizational assessment and consultation skills of counselors and psychologists contribute not only to the health of students but also to the health of the school environment. Professionals such as certified school counselors, psychologists, and social workers provide these services.

**Healthy School Environment: The physical and aesthetic surroundings and the psychological climate and culture of the school.** Factors that influence the physical environment include the school building and the area surrounding it; any biological or chemical agents that are detrimental to health; and physical conditions such as temperature, noise, and lighting. The psychological environment includes the physical, emotional, and social conditions that affect the well-being of students and staff.

**Health Promotion for Staff: Opportunities for school staff to improve their health status through activities such as health assessments, health education, and health-related fitness activities.** These opportunities encourage school staff to pursue a healthy lifestyle that contributes to their improved health status, improved morale, and a greater personal commitment to the school's overall coordinated health program. This personal commitment often transfers into greater commitment to the health of students and creates positive role modeling. Health promotion activities have improved productivity, decreased absenteeism, and reduced health insurance costs.

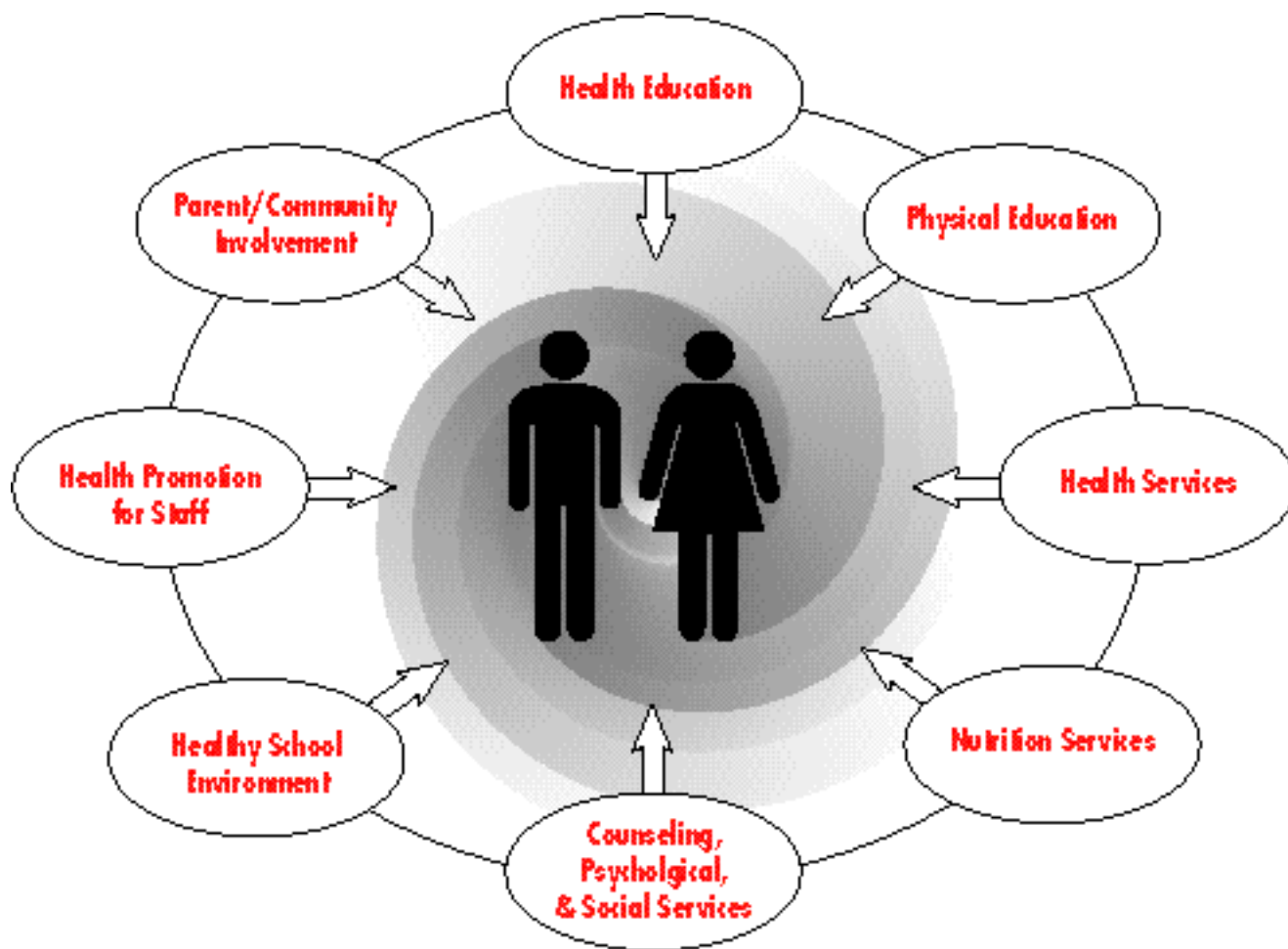
**Parent/Community Involvement: An integrated school, parent, and community approach for enhancing the health and well being of students.** School health advisory councils, coalitions, and broadly based constituencies for school health can build support for school health program efforts. Schools actively solicit parent involvement and engage community resources and services to respond more effectively to the health-related needs of students.

## SUMMARY

Poor health in all its dimensions interferes with a student's ability to learn. Comprehensive health education and physical education aim to assist students to enact health-enhancing behaviors to reduce or eliminate the likelihood of health problems that impede learning and productivity. *The Core Curriculum Content Standards for Comprehensive Health Education and Physical Education* address the major causes of mortality and morbidity, empowering students to make sound health choices. Comprehensive health education and physical education are two elements of a coordinated school health program designed to foster wellness for students, staff, and community.

Figure 1

### A COORDINATED SCHOOL HEALTH PROGRAM



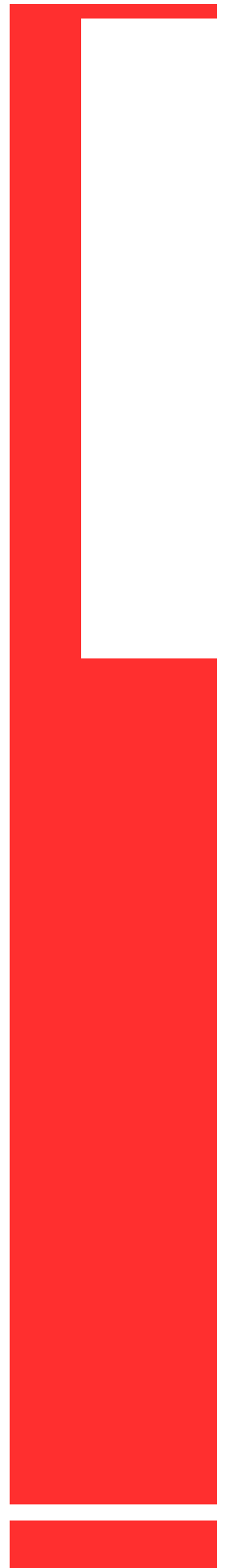


Chapter 2

# PROGRAM IMPLEMENTATION

*Coming together is a beginning;  
keeping together is progress;  
working together is success.*

HENRY FORD



## PROGRAM IMPLEMENTATION

The Comprehensive Health Education and Physical Education Task Force, convened to develop this *Framework*, spent many hours discussing how New Jersey school districts structure the delivery of health and physical education instruction. New Jersey school districts continue to have a tremendous amount of discretionary power to determine how curricular content will be taught, who will teach it (within the scope of existing licensure regulations) and what materials will be used to support instruction. However, for the first time, the *Core Curriculum Content Standards* provide New Jersey school districts with more specific direction, outlining the content that every student in our public schools must experience.

Instructional program delivery varies at the elementary and secondary levels. Many factors contribute to this variation. At the secondary level, programs tend to be implemented by departmentalized content specialists. At the elementary level, the comprehensive health and physical education program may be implemented by the classroom teacher, with the assistance of a content specialist. Additionally, school facilities may impact the delivery of instruction. Most high schools have dedicated gymnasiums with separate food service facilities. Many elementary schools provide physical education instruction in an “all-purpose” room that serves as the hub for lunch, school assemblies, and special exhibits such as science fairs. This practice may limit the number of hours per day the facility can be used for physical education instruction. Teachers in rural or suburban schools may be able to compensate by taking students outside for structured activities. Their counterparts in urban areas may not have access to safe playgrounds, open play areas, and athletic fields.

The following review of program models may help school districts as they examine their existing health and physical education program and consider possible changes to accommodate meeting the *Standards*. The models presented should not be viewed as an endorsement of a particular model; rather, they illustrate various modes of instruction already in place in New Jersey schools.

### AT THE ELEMENTARY LEVEL (K-6)

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***The classroom teacher instructs all “special” subjects (e.g., art, health, physical education).***

#### **Advantages**

The classroom teacher can integrate instruction in all content areas. It provides for flexible scheduling and enables the teacher to relate content to actual classroom activity (e.g., address conflict management when fights occur, reinforce hand washing).

#### **Disadvantages**

The classroom teacher has minimal preparation in health and physical education. This lack of professional preparation translates into less emphasis on content and skills, especially in areas considered sensitive or controversial. The teacher is more likely to concentrate on what “gets tested” rather than on important concepts and skills. Due to a lack of knowledge and skills in physical education,

the classroom teacher may focus on games and unstructured play instead of developmentally appropriate movement and fitness activities. In addition, classroom teachers may not be familiar with the safe use of equipment used in physical education activities.

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***The classroom teacher is responsible for health instruction.  
The content specialist teaches physical education.***

**Advantages**

Once again, this approach supports interdisciplinary instruction and links instruction to classroom life. It allows the physical education specialist to focus on specialized movement and fitness content and skills.

**Disadvantages**

The classroom teacher and the physical education specialist must collaborate to support related instruction. This may be difficult to accomplish if the specialist teaches at several schools. Unless the classroom teacher is committed to health instruction, the subject may not be taught in sufficient depth to meet the *Standards*.

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***The classroom teacher and the certified school nurse share health instructional responsibilities. The content specialist teaches physical education.***

**Advantages**

The certified school nurse has a strong background in health content and can be most helpful to the classroom teacher. The school nurse is able to connect classroom behavior and health room behavior and adjust instruction accordingly. Additionally, the school nurse is more comfortable addressing sensitive issues.

**Disadvantages**

The school nurse's schedule may preclude regular instruction or may interrupt instruction if emergencies arise. Because of the classroom teacher's discomfort or lack of professional preparation, the school nurse may be assigned to deliver instruction in family life education. This creates a fragmented approach to instruction rather than an integrated one. This approach requires both parties to jointly plan instruction; this may be difficult if the school nurse serves more than one school.

***The certified school nurse teaches health.  
The content specialist teaches physical education.***

**Advantages**

This approach uses professionally prepared staff to deliver health and physical education instruction. Instruction can be delivered in an integrated manner, using a wellness approach. The school nurse can use his/her expertise in healthcare to bridge the gap between knowledge and application. The physical educator can focus on developmentally appropriate practices in movement and fitness.

**Disadvantages**

The school nurse may be required to “travel”—that is, move from classroom to classroom with no home base. This limits the use of some materials and classroom strategies. The school nurse, the physical educator, and the classroom teacher need to schedule planning meetings to discuss issues and concerns that require reinforcement by the classroom teacher. This may be difficult to accomplish due to scheduling and school building assignments. When the school nurse teaches, emergencies may interrupt instruction. For such instances, contingency plans must be developed to provide classroom coverage and instruction.

**AT THE SECONDARY LEVEL (7-12)**

***The certified school nurse teaches health.  
The content specialist teaches physical education.***

**Advantages**

As movement and fitness instruction becomes more complex, the physical educator can address management issues and focus on more difficult content and skills. The school nurse can use his/her background to address the myriad of sensitive and complex issues presented by adolescents. This team approach can provide students with instruction that is accurate, wellness-focused and sensitive to their developing needs.



**Disadvantages**

Instruction may be fragmented; a team approach is needed to avoid this pitfall. The physical educator and school nurse may not be supervised by the same administrator, making collaboration more difficult. The school nurse may have additional responsibilities at this level (e.g., core team) that preclude a regular instructional commitment. Additionally, secondary school physical education teachers often focus on interscholastic athletics rather than classroom instruction.

***A variety of subject area teachers (e.g., science, family and consumer science, social studies) provide health instruction.  
The content specialist teaches physical education.***

**Advantages**

The science teacher has a strong background in the life sciences. The family and consumer science teacher has strong preparation in nutrition, family health issues, and parenting. The social studies teacher has a strong background in sociological and psychological principles that impact relationships. This approach provides for a natural integration of related areas and increases interdisciplinary opportunities. The physical educator focuses on developmental movement and fitness applications and can work with the other instructors to reinforce movement theory.



**Disadvantages**

The science teacher may focus on life science approaches to the exclusion of skill-based instruction (e.g., refusal skills, negotiation skills). All teachers have a responsibility to teach critical inquiry and problem solving; however, subject area teachers are less likely to teach these strategies from a health perspective. It is important that these skills be taught within a situational context so students can readily apply them when needed. Collaboration with the physical educator may be difficult.

***The health and physical education specialist teaches one semester of health and one semester of physical education or teaches a combined program 3-5 days per week.***

**Advantages**

This approach enables the teacher to coordinate instruction during the entire school year. If facilities allow, the program can be structured to provide content and skill instruction on separate days.

**Disadvantages**

This approach may provide only one-half year of physical activity. Students tend to lose skills over time. If the content is organized as separate courses, it may be difficult to facilitate the mastery of important interpersonal skills (e.g., refusal skills) that need constant practice and reinforcement. In some schools, more time is devoted to games and sports in physical education than to important health and fitness concepts.

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***The health and physical education specialist teaches both areas in a concentrated block (e.g. 90-minute classes for one-half year).***

**Advantages**

The extended class period allows the teacher to implement a conceptual physical education program, one that emphasizes the skills and concepts to become an intelligent consumer of physical activity. This approach links health and physical education and allows more time for discussion, project work, technological approaches, and critique.

**Disadvantages**

Students participate in physical activity for only one-half year. This approach may have a minimal impact on fitness and skill development. Because the course is limited to one-half year, it does not allow the teacher to address relevant health issues that arise during the school year.

## INTERDISCIPLINARY OR THEMATIC INSTRUCTION

For the purpose of this *Framework*, ***interdisciplinary instruction*** occurring within the context of health education and physical education means that the central theme and content of instruction is determined by the content specialist (e.g., the physical education teacher or health educator). Various aspects of that content are taught within the context of other subject areas. The health and physical education content specialist(s) retains accountability to ensure that all students receive adequate preparation to meet the *Standards*. Collaboration is the key to this kind of instructional program. Examples of interdisciplinary approaches for health education are listed in the following chart (Figure 2). Figure 3 illustrates how a specific health topic, HIV/AIDS, can be integrated into a number of content areas.

Figure 2

**INTERDISCIPLINARY ACTIVITIES FOR HEALTH EDUCATION**

<b>Discipline</b>	<b>Growth and Development</b>	<b>Mental Health</b>	<b>Nutrition</b>
<b>Visual and Performing Arts</b>	Study the impact of music on learning	Express feelings through dance.	Compose song jingles that encourage eating breakfast.
<b>Language Arts Literacy</b>	Research advances in growth technology.	Role-play emotions.	Read and interpret food labels.
<b>World Languages</b>	Learn roots used in medical terminology.	Learn three complimentary phrases in another language.	Identify non-English food names.
<b>Mathematics</b>	Chart growth patterns.	Make a pie graph of moods.	Calculate caloric needs and intake.
<b>Physical Education</b>	Understand the effects of exercise on cardiovascular system.	Describe emotions experienced when winning a game.	Cite relationships between fitness and diet.
<b>Science</b>	Describe the physiology of body systems.	Describe influence of hormones on emotions.	Identify essential nutrients and their effects on body systems.
<b>Social Studies</b>	Describe important medical inventions.	Contrast institutional vs. home care for persons with mental health disabilities.	Identify cultural influences on dietary patterns.
<b>Technology</b>	Measure heart rate and blood pressure.	Describe the impact of video games on violent behavior.	Analyze diet using nutrition software.

**Figure 2** (continued)

<b>Discipline</b>	<b>Environmental Health</b>	<b>Family Life/Sexuality</b>	<b>Diseases/Disorders</b>
<b>Visual and Performing Arts</b>	Develop an environmental calendar using photos.	Analyze song lyrics for sexual messages.	Select artwork for residents of a nursing home.
<b>Language Arts Literacy</b>	Prepare a speech on an environmental issue.	Read about families.	Write a story about what it means to be ill.
<b>World Languages</b>	Research how to deal with health problems when in another country.	Write to a pen pal about family traditions.	Describe, in another language, the signs & symptoms of the common cold.
<b>Mathematics</b>	Calculate levels of air or water pollution.	Calculate the costs of raising a child.	Graph the national death rates from cancer and heart disease and discuss their significance.
<b>Physical Education</b>	Design an environmentally sensitive playground.	Plan and take a family outing.	Demonstrate exercises that tone muscles and describe how the exercises might be used after a stroke or injury.
<b>Science</b>	Compare the health hazards of pesticides.	Trace fetal development.	Examine pathogens under a microscope and relate to disease conditions.
<b>Social Studies</b>	Produce videos showing environmental hazards in the community.	Discuss government regulations that impact families.	Discuss the long-term effects of diseases on society.
<b>Technology</b>	Analyze environmental data for a presentation.	Discuss how technology impacts family life.	Describe ways technology is used to diagnose and treat diseases.



**Figure 2** (continued)

<b>Discipline</b>	<b>Consumer Health</b>	<b>Alcohol, Tobacco, and Other Drugs</b>	<b>Injury Prevention and Safety</b>
<b>Visual and Performing Arts</b>	Identify music used to sell products.	Describe the influence of substance use on music.	Develop an injury prevention program for dancers.
<b>Language Arts Literacy</b>	Read product labels and warnings.	Debate the legalization of marijuana.	Outline first aid techniques.
<b>World Languages</b>	Read menus in another language.	Read alcohol ads from non-English magazines.	Practice asking for help in other languages.
<b>Mathematics</b>	Calculate an annual budget for healthcare products.	Calculate the rate at which an individual metabolizes alcohol.	Calculate the costs of ambulance services for one year.
<b>Physical Education</b>	Evaluate fitness equipment.	Describe the effects of substance use on performance.	Demonstrate first aid for common injuries.
<b>Science</b>	Know the chemical names for common ingredients in medicines.	Describe the effects of volatile chemicals.	List hazards and safety procedures when performing classroom science experiments.
<b>Social Studies</b>	Cite lobbying techniques to change consumer laws.	Explain the effects of substance use/abuse on society.	Describe a major disaster and the government's response.
<b>Technology</b>	Analyze constraints when purchasing a computer.	Graph the use of alcohol by age group.	Identify safe procedures for using technology.

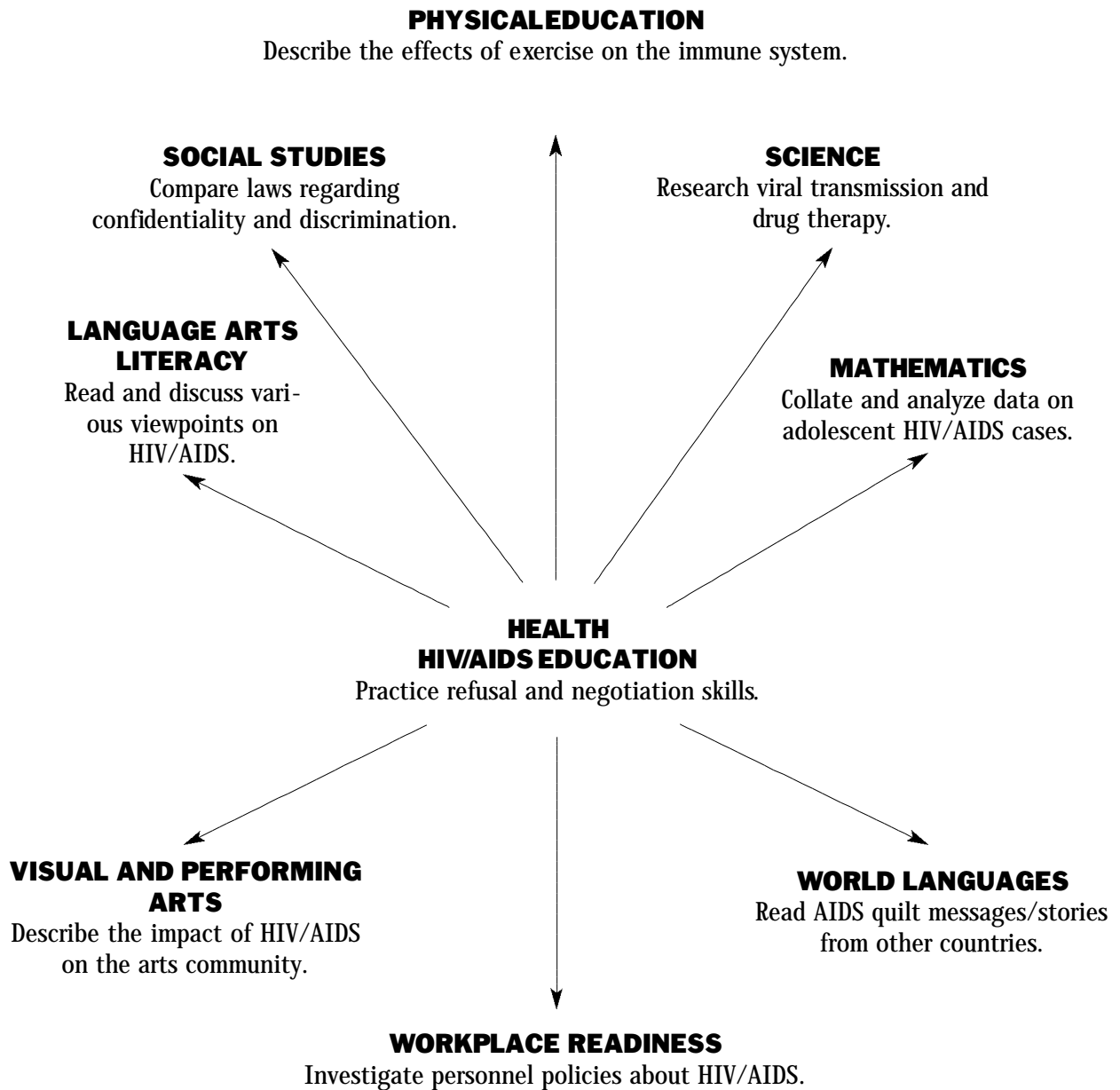
**Figure 2** (continued)

<b>Discipline</b>	<b>Community Health</b>	<b>Health Promotion</b>
<b>Visual and Performing Arts</b>	Create a logo for a health organization.	Describe how music can be relaxing.
<b>Language Arts Literacy</b>	Create a health brochure.	Write a poem about a positive health behavior.
<b>World Languages</b>	Study the healthcare system in another country.	Describe health practices in another country.
<b>Mathematics</b>	Determine the ratio of services provided by a given agency to a target population.	Graph personal improvement in a fitness program.
<b>Physical Education</b>	Evaluate recreational facilities in the community.	Develop a personal fitness plan.
<b>Science</b>	Discuss science organizations that support community health.	Explain how stress affects the body.
<b>Social Studies</b>	List community resources for health information.	Analyze the impact of disease prevention efforts on society.
<b>Technology</b>	Catalog and advertise volunteer opportunities in the community.	Develop a risk assessment program.

Figure 3

**INTERDISCIPLINARY UNIT: HIV/AIDS**

**GRADE LEVEL: 10**



## KEY ELEMENTS OF EFFECTIVE PROGRAMS

The implementation of the *Core Curriculum Content Standards* requires an understanding of the elements that comprise an effective health education and physical education program. For the most part, the professional literature considers health education and physical education as separate entities. This distinction is clearly evident at the national level, where two separate standards documents were developed and sponsored by different professional organizations.

The *National Health Education Standards: Achieving Health Literacy* was developed by a committee of health education professionals from higher education, non-profit organizations, school districts, and state agencies. The national document was supported by the Association for the Advancement of Health Education (AAHE, now known as the American Association for Health Education), the American School Health Association (ASHA), and the American Public Health Association (APHA) and sponsored by the American Cancer Society (ACS). There are seven national standards, each supported by a rationale and numerous performance indicators. The standards focus on knowledge of health content as well as the application of health skills.

*Moving into the Future: The National Physical Education Standards* was developed by the National Association for Sport and Physical Education (NASPE). A book of voluntary national standards for students in grades K-12, the document is based on the *Outcomes of Quality Physical Education Programs* developed in 1992 by a task force of content experts convened by NASPE. The document presents both content standards and performance standards to address what a physically educated person should know and be able to do.

Both documents were used as references by the *New Jersey Core Curriculum Content Standards* development committee. New Jersey educators should become familiar with the national standards in an effort to better understand the origins of our state *Standards*. A more detailed summary of both documents appears in Appendix D. In this section of the *Framework*, the critical elements of each discipline are discussed separately.

### Comprehensive Health Education

According to the Centers for Disease Control and Prevention (CDC), Division of Adolescent and School Health (DASH), *school health education* is a documented, planned, and sequential instructional program for students in Grades K-12 that:

- Addresses and integrates the full range of categorical health problems and issues;
- Is age and developmentally appropriate and is taught at each grade level;
- Focuses on the acquisition of important personal, interpersonal, and life skills;
- Is taught by a trained teacher;
- Is coordinated and managed by an education professional;
- Engages parents and community members; and
- Is periodically reviewed, evaluated, updated, and improved.

Additionally, comprehensive school health education focuses on priority factors that interfere with learning and well-being (Allensworth, Symons, & Olds, 1994). An effective program arms students with the knowledge and skills to avoid the use of alcohol, tobacco, and other drugs; establish healthy

dietary and exercise patterns; employ strategies to prevent intentional and unintentional injuries; and refrain from sexual behaviors that place one at risk for HIV infection, STDs, and unintended pregnancy. Comprehensive school health education is a primary prevention strategy, grounded in both public health and education. It is driven by the needs of students and the community in which they live, play, learn, and work (Marx & Northrup, 1995).

An ever-growing body of research supports comprehensive school health education. Health education programs are constantly reviewed as part of the CDC's Research to Classroom Project. Consistent with CDC's practice of applying research findings to prevent disease and injuries, DASH identifies curricula that show credible evidence of supporting health-enhancing behaviors in our nation's youth. Once programs are identified, CDC provides resources and training for interested states, agencies, and school districts. CDC does not endorse curricula; rather, the **Programs That Work** research project provides school districts with research-based information to use when making curricular decisions (CDC, 1998). The criteria used by the CDC to evaluate school health education programs are outlined in Figure 4.

**Figure 4**

**Programs That Work: Effective School Health Education Programs**

- Are student centered;
- Utilize multiple learning theories and models to support and promote health-enhancing behaviors;
- Focus on the six priority behaviors identified by the CDC;
- Clearly relate to educational outcomes such as school attendance and completion;
- Promote social skills to address a variety of issues and problems;
- Involve peers in mentoring and cross-age teaching;
- Reinforce and recognize positive behaviors;
- Incorporate reading, writing, speaking, listening, and viewing;
- Use discovery and hands-on learning strategies;
- Build self-esteem and self-efficacy;
- Emphasize the intrinsic value of wellness;
- Offer repeated chances to develop, demonstrate, practice, and master social skills;
- Are culturally, ethnically, and gender sensitive;
- Use cooperative learning and team-building strategies;
- Link to the other elements of a coordinated school health program;
- Are supported and reinforced by health-promoting school policies (e.g., substance abuse policies), environmental changes (e.g., lighting, safety), intervention services (e.g., substance awareness coordinator, school nurse), and appropriate role models; and
- Are current, relevant, and accurate.

Comprehensive school health education “bridges the gap” between what students need and what students want. To ignore the personal needs of our students and social needs of our society is to abdi-

cate our responsibility. Schools are ideally positioned to effect change, to observe emerging health and social problems and to serve as the student’s primary source of accurate information (Marx & Northrup, 1995). Effective comprehensive school health education can have a positive effect on the school’s ability to teach and the student’s ability to learn.

### Physical Education

The relationship between physical activity and health has never been more clearly outlined. In 1996, the Surgeon General of the United States issued a major report entitled *Physical Activity and Health: A Passport to Good Health for All Americans*. This document serves as a significant contribution to our body of knowledge about activity and wellness. In the introduction, Donna E. Shalala, Secretary of Health and Human Services, urges families to “...weave physical activity into the fabric of their daily lives” (CDC, 1996). New Jersey schools are well positioned in this regard. *The Comprehensive Health Education and Physical Education Curriculum Content Standards* require New Jersey schools to develop a planned and sequential physical education program that fosters lifelong commitment to physical activity.

Regular physical activity greatly reduces the risk of coronary heart disease, which is the leading cause of death in the United States. Physical activity enhances one’s mental health by reducing stress as it fosters the development of healthy bones and joints. Unfortunately, here is a description of the current state of physical activity, taken from the Surgeon General’s Report (CDC, 1996).

Most Americans today are spared the burden of excessive physical labor. Few occupations today require significant physical activity and most people use motorized transportation to get to work and to perform routine errands and tasks. Even leisure time is filled with sedentary behaviors such as watching television, “surfing the Internet,” and playing video games.

Physical education programs are one means to reduce the incidence of life-threatening disease—an educational response to a public health challenge. Supervised physical activity, such as that occurring in school physical education programs, provides students with opportunities to explore and refine a wide range of life-enhancing physical activities that can become part of the student’s daily routine. School-based physical education is the most widely available resource for promoting physical activity among New Jersey’s young people.

The *Standards* support the notion that physical education is an academic core subject. With this belief comes accountability. The *Standards* clearly establish levels of achievement and affirm that mere participation in physical activity is not the same as education. We must embrace a new philosophy of physical education, one that emphasizes the principles of movement, fitness, and wellness and empowers students to incorporate physical activity into the fabric of their daily lives. Recent research by Dale, Corbin and Cuddihy (1998) demonstrates that *conceptual physical education*, a program that combines a cognitive, theory-based approach with a sport-based approach, enhances participation in physical activity. Although the research is limited, this methodology seems compatible with the demands set forth by the *Standards*. Figure 5 summarizes the key elements of effective physical education programs (CDC, 1996).

*Figure 5*

### **Effective Physical Education Programs**

- Develop basic movement and sport skills;
- Focus on critical life skills such as goal setting, self-assessment, and self-monitoring;
- Assist students to improve their health-related fitness;
- Improve social interaction;
- Emphasize cooperative activities over competitive ones;
- Enhance problem solving and critical thinking;
- Promote confidence in one's abilities;
- Emphasize and foster participation and enjoyment;
- Include extended periods of activity balanced with periods of rest and recovery;
- Involve parents, community members, healthcare providers, business, and industry;
- Provide adequate time for explanation, demonstration, practice, reinforcement, and feedback;
- Utilize activities and teaching methods that are age and developmentally appropriate;
- Utilize a wide variety of movement and fitness experiences at varying intensity and difficulty levels;
- Include individual and team activities;
- Consider children's changing capacities to move based on developmental status, previous experiences, skill level, body size, body type, and age;
- Distinguish between physical education and free play, recess, and athletics;
- Use fitness testing as one tool for assessment and planning;
- Modify the rules, equipment, and playing space of adult games and sports to match the abilities of students;
- Provide equal program access to males and females;
- Are culturally and ethnically sensitive;
- Are taught by trained/certified physical education specialists;
- Focus on what students can do, not what they cannot do;
- Adapt activities for students with special needs;
- Stress the safe use of equipment and facilities;
- Comply with federal, state, and local health and safety regulations;
- Support the positive benefits of exercise, never using exercise as punishment;
- Use multiple learning theories/strategies;
- Incorporate reading, writing, listening, viewing, and speaking; and
- Emphasize the short-term and long-term health benefits of physical activity.

## SUMMARY

Comprehensive health education and physical education are complementary disciplines with the common goal of promoting wellness. Two national standards documents are used to develop the *New Jersey Comprehensive Health Education and Physical Education Standards* and *Physical Education and Activity Core Curriculum Standards*. The comprehensive health and physical education instructional programs delivered by trained teachers in a health-promoting environment, supported by policies and practices, reflect the vision and goals of the school community. Currently, New Jersey school districts provide instruction in comprehensive health and physical education in a variety of ways. With the implementation of standards-based programs, districts are asked to evaluate their existing instructional programs to determine if the content and skills being delivered will meet the rigorous demands of the *Standards*.



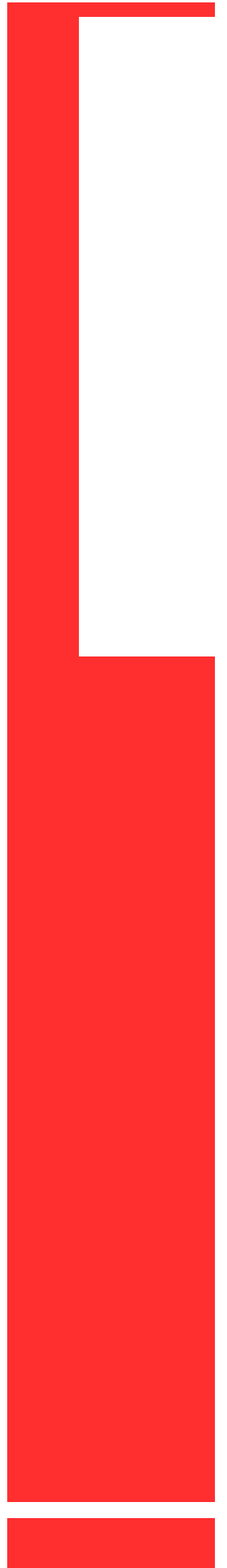


Chapter 3

**LINKING THE STANDARDS  
AND FRAMEWORK  
TO CURRICULUM  
DEVELOPMENT**

*Vision is the art of seeing the invisible.*

JONATHON SWIFT



## LINKING THE STANDARDS AND FRAMEWORK TO CURRICULUM DEVELOPMENT

### UNDERSTANDING THE LANGUAGE OF STANDARDS

In order to best utilize the *Comprehensive Health Education and Physical Education Standards* in curriculum development, teachers and curriculum developers need to understand the language of standards-based instructional programs. Here are a few key terms used in this *Framework*. The *Comprehensive Health Education and Physical Education Standards* and cumulative progress indicators follow.

- A **core curriculum content standard** (or simply **content standard**) describes what students should know and be able to do in a particular discipline. Standards outline the broad concepts and skills deemed an essential part of every student’s instructional program.
- A **cumulative progress indicator** also describes what a student should know and be able to do but in a more specific manner. It illustrates the standard, focusing on specific knowledge and skills necessary at certain benchmark grades (Grades 4, 8, and 11/12). Students at each benchmark level are expected to master all the cumulative progress in their cluster (Grades K-4, 5-8 and 9-12) and continue to maintain that mastery as they move through the more advanced clusters. Each *standard* has numerous cumulative progress indicators.
- A **framework** is a compendium of sample learning strategies, background information, and resources to assist school district staff in the development of an instructional program that will enable all students to meet the *standards*. Activities in the framework are samples; that is, they reflect the creative energy and best practices of teachers from across the State but do not comprise a required curriculum. The *Framework* illuminates the *Comprehensive Health Education and Physical Education Standards* and cumulative progress indicators, giving teachers a better picture of content and expectations.
- There are seven content areas represented as part of the *New Jersey Core Curriculum Content Standards*. In a reference to *Standard 2.1-4*, the number “2” represents the *Comprehensive Health Education and Physical Education Standards*, the number “1” represents the first *Comprehensive Health Education and Physical Education Standard*, and the number “4” represents cumulative progress indicator number 4.

**COMPREHENSIVE HEALTH EDUCATION  
AND PHYSICAL EDUCATION  
LIST OF STANDARDS**

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**HEALTH PROMOTION AND DISEASE PREVENTION**

- 2.1 All students will learn health promotion and disease prevention concepts and health-enhancing behaviors.

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**PERSONAL, INTERPERSONAL, AND LIFE SKILLS**

- 2.2 All students will learn health-enhancing personal, interpersonal, and life skills.

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**ALCOHOL, TOBACCO, AND OTHER DRUGS**

- 2.3 All students will learn the physical, mental, emotional, and social effects of the use and abuse of alcohol, tobacco, and other drugs.

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**HUMAN SEXUALITY AND FAMILY LIFE**

- 2.4 All students will learn the biological, social, cultural, and psychological aspects of human sexuality and family life.

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**MOVEMENT**

- 2.5 All students will learn and apply movement concepts and skills that foster participation in physical activities throughout life.

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**FITNESS**

- 2.6 All students will learn and apply health-related fitness concepts.

## COMPREHENSIVE HEALTH EDUCATION AND PHYSICAL EDUCATION STANDARDS AND CUMULATIVE PROGRESS INDICATORS

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### Standard 2.1

*All students will learn health promotion and disease prevention concepts and health-enhancing behaviors.*

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**Descriptive Statement:** Health-literate and physically educated students seek to improve personal, family, and public health. Using health promotion and disease prevention principles, nutritional concepts, and injury prevention strategies, students modify personal behaviors based on risk factors and adopt health practices to reduce or eliminate preventable health problems. Health-literate and physically educated students recognize the importance of prevention, early detection, and treatment in enhancing personal wellness.

#### Cumulative Progress Indicators

**By the end of Grade 4, students:**

1. Describe a healthy child and identify factors that contribute to good health.
2. Describe the basic structure and function of human body systems.
3. Identify and demonstrate responsible health behaviors for children.
4. Explain how childhood injuries and illnesses can be prevented and treated.
5. Describe potentially dangerous or threatening situations related to childhood activities, develop personal protection strategies, and cite resources for help.
6. Identify common health products and foods found in the home and correctly interpret labels, information, directions, and warnings.

**Building upon knowledge and skills gained in the preceding grades, by the end of Grade 8, students:**

7. Describe a healthy adolescent, discuss injuries and illnesses common to this age group, and identify ways to prevent, reduce, or eliminate these health problems.
8. Explain how health is influenced by the interactions of body systems and nutritional intake.
9. Analyze how family, peers, culture, media, technology, and the environment affect wellness.
10. Identify and demonstrate health practices that support and enhance personal and family physical and mental health.
11. Analyze a health profile to determine strengths and potential health risks resulting from risk factors and health-enhancing behaviors.
12. Describe situations requiring health services and locate community health care providers comparing their services, benefits, and costs.

13. Examine health product and food labels and advertisements comparing accuracy, content, directions, and value.
14. Analyze the influence of peers and the media on risk behaviors, injuries, and violent behavior.

***Building upon knowledge and skills gained in the preceding grades, by the end of Grade 12, students:***

15. Describe a healthy adult, discuss adult physical and mental health problems, and use health assessment data to develop strategies for reducing health problems and related risk factors.
16. Analyze the impact of genetic, nutritional, behavioral, cultural, and environmental factors on the functioning of the body systems and use this information to identify responsible health practices.
17. Analyze situations that require professional health services, analyze the costs and sources of payment, and discuss how these factors influence the accessibility and delivery of healthcare.
18. Discuss and compare the influence of public health policy, government regulations, research, medical advances, and the healthcare industry on current and emerging health problems.
19. Describe the principles of injury prevention and risk management, analyze factors that contribute to the incidence of injuries and violence, and develop strategies for prevention.
20. Analyze the influence of the media on risk behaviors, disease prevention, and the incidence of injuries and violent behavior.

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## **Standard 2.2**

***All students will learn health-enhancing personal, interpersonal, and life skills.***

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**Descriptive Statement:** Health-literate and physically educated students communicate effectively. These students set health goals, solve health-related problems, and resolve conflicts. They use health-enhancing personal, interpersonal, and life skills to initiate and maintain healthy relationships that contribute to wellness.

### **Cumulative Progress Indicators**

***By the end of Grade 4, students:***

1. Describe and demonstrate a variety of ways to access and convey health information and ideas.
2. Demonstrate decision-making and refusal skills in situations affecting health and safety.
3. Define health goals, differentiate between long and short-term goals, and set a personal health goal to track progress.
4. Define conflict and demonstrate appropriate nonviolent strategies to resolve it.

5. Describe how culture and the media affect the ways individuals communicate, show emotions, and cope with stress.

***Building upon knowledge and skills gained in the preceding grades, by the end of Grade 8, students:***

6. Describe and demonstrate ways to access and present health information and ideas, and analyze the information for accuracy and reliability.
7. Describe and demonstrate effective communication skills, decision-making skills, refusal skills, negotiation skills, and assertiveness in situations that influence adolescent health and safety.
8. Analyze how health decisions and behaviors are influenced by family, peers, culture, and the media, and develop strategies that support effective decision making and safe behavior.
9. Describe how health goals are influenced by changes that occur throughout the life cycle.
10. Analyze the causes of conflict and violent behavior in youth and adults, and describe nonviolent strategies for individuals and groups to prevent and resolve conflict.
11. Describe the impact of crisis, stress, rejection, separation, and loss, and develop coping strategies for each.

***Building upon knowledge and skills gained in the preceding grades, by the end of Grade 12, students:***

12. Synthesize, interpret, and express information about health issues using valid resources, and adapt the information for different audiences.
13. Analyze social situations and conditions that affect health and safety, and select and evaluate the appropriate skills for each situation.
14. Analyze the causes of conflict in groups, families, and within the community, and demonstrate and evaluate nonviolent strategies to prevent, mediate, and resolve conflict.
15. Analyze the impact of crisis, stress, rejection, separation, and loss on physical and emotional health, and develop coping strategies that consider the influence of family, culture, and personal experience.
16. Develop a plan for lifelong wellness using data from health assessments, family history, nutritional information, and current health practices, and evaluate progress towards meeting health goals in the plan.
17. Predict adult daily needs to maintain a healthy lifestyle, design a plan and budget based on those needs, and justify the plan.

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**Standard 2.3**

*All students will learn the physical, mental, emotional, and social effects of the use and abuse of alcohol, tobacco, and other drugs.*

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**Descriptive Statement:** Health-literate and physically educated students know the short- and long-term effects of alcohol, tobacco, and other drugs on the body, behavior, performance, and personal relationships. These students use medicines correctly and refrain from the harmful or illicit use of chemical substances. Health-literate and physically educated students identify and use resources for information about chemical dependency, and know how to seek support, assistance, and treatment for problems associated with the abuse of alcohol, tobacco, and other drugs.

**Cumulative Progress Indicators**

*By the end of Grade 4, students:*

1. Define drugs and medicines, describe the purposes and correct use of medicines, and describe the role they play in the maintenance or achievement of wellness.
2. Recognize the physical and behavioral effects of alcohol, marijuana, tobacco products, inhalants, anabolic steroids, and household substances that may be misused for mood-altering effects.
3. Recognize the signs and symptoms of chemical misuse, abuse, and dependency, discuss their impact on personal and family health, and identify resources for help and information.
4. Identify laws related to the sale and use of alcohol, tobacco, and other drugs.
5. Describe how the use, misuse, and abuse of alcohol, tobacco, and other drugs contribute to the incidence of illness and injury.

*Building upon knowledge and skills gained in the preceding grades, by the end of Grade 8, students:*

6. Classify chemical substances by their actions on the body, and describe the short- and long-term effects of their use.
7. Discuss the appropriate use of medicines and the dangers of drug interactions.
8. Analyze the impact of chemical substances on development, behavior, and activities.
9. Describe the signs and progression of chemical use, abuse, and dependency throughout the life cycle.
10. Identify and explain how to access resources for information, support, and treatment of problems related to the use and abuse of chemical substances.
11. Discuss laws pertaining to the use, sale, and possession of alcohol, tobacco, and other drugs.

***Building upon knowledge and skills gained in the preceding grades, by the end of Grade 12, students:***

12. Discuss chemical substances according to their uses, actions, and effects on the body.
13. Discuss the influence of the media on the choice, use, and misuse of medicines.
14. Discuss alternative actions for relief or treatment of common health problems.
15. Analyze the short- and long-term effects of chemical use, abuse, and dependency on the body, behavior, work and school performance, and personal relationships.
16. Describe intervention and treatment strategies for chemically dependent individuals, and locate community resources for information, support, and treatment.
17. Interpret laws pertaining to the use, sale, and possession of chemical substances, with an emphasis on laws relating to driving under the influence.
18. Describe how chemical substances used during pregnancy can affect prenatal and early childhood growth and development.

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### **Standard 2.4**

***All students will learn the biological, social, cultural, and psychological aspects of human sexuality and family life.***

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**Descriptive Statement:** Health-literate and physically educated students consider the biological, social, psychological, and cultural implications of sexual behavior when making health-enhancing choices. Health-literate and physically educated individuals take personal responsibility for their sexual health and the health of their relationships, and recognize the impact that sexual decisions may have on the well-being of others.

#### **Cumulative Progress Indicators**

***By the end of Grade 4, students:***

1. Identify the stages of human development from conception to death.
2. Identify ways to show affection and caring that are appropriate for children.
3. Discuss how family and friends are important throughout life and that relationships require respect for others.
4. Explain different kinds of families and that all family members have rights, privileges, and responsibilities.
5. Discuss the influence of the media on the development of gender stereotypes.



***Building upon knowledge and skills gained in the preceding grades,  
by the end of Grade 8, students:***

6. Describe the significant developmental milestones of each stage of human development, with an emphasis on the physical, emotional, and social changes of adolescence.
7. Describe the functioning of the human reproductive system and the physical and emotional changes that occur at puberty.
8. Describe and discuss affection, love, commitment, and sexual attraction and the difference between having sexual feelings and acting on them.
9. Discuss factors that support and sustain relationships such as friendships and marriage.
10. Describe the responsibilities of parenthood, with an emphasis on teen parenthood, and discuss the impact of parenthood on parents, family members, and the child.
11. Discuss the impact of early sexual activity on physical, emotional, and social health.
12. Develop strategies to support sexual abstinence, and compare and contrast methods of contraception used to reduce the risk of sexually transmitted diseases, HIV, and unintended pregnancy.
13. Analyze sexual messages, images, and stereotypes presented in the media and discuss their impact on sexual behavior.

***Building upon knowledge and skills gained in the preceding grades,  
by the end of Grade 12, students:***

14. Discuss theoretical models of human personality development.
15. Describe the physical, emotional, and social changes that occur at each stage of human development, and the role of human sexuality throughout the life cycle.
16. Describe how personal relationships evolve over time, focusing on changes in friendships, family, dating relationships, and marriage.
17. Analyze the responsibilities, joys, demands, and challenges of parenthood.
18. Describe safe and effective parenting skills, and identify resources for information and help with parenting.
19. Discuss issues regarding sexual orientation, sexual harassment, sexual assault, and domestic violence.
20. Compare and contrast risk reduction and prevention strategies, including sexual abstinence, monogamy, and methods of contraception.
21. Identify resources that provide information, assistance, and care in addressing sexual and reproductive health and legal issues.

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**Standard 2.5**

***All students will learn and apply movement concepts and skills that foster participation in physical activities throughout life.***

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**Descriptive Statement:** Health-literate and physically educated students understand movement concepts and principles and apply them as they practice, assess, and refine movement skills in a variety of physical activities including games, sports, and lifetime recreational pursuits. Knowledge of movement concepts and practice of skills enhance the likelihood of independent learning and participation in physical activity throughout life.

**Cumulative Progress Indicators*****By the end of Grade 4, students:***

1. Perform locomotor (walk, run, jump), non-locomotor (bend, reach, turn), and manipulative (throw, strike, kick) movement skills.
2. Modify basic movement skills by applying movement concepts (direction, speed), biomechanical principles (force, projection), and rhythm (tempo, beat).
3. Adapt movement skills in relation to objects, other participants, and boundaries.
4. Combine movement skills to participate in physical activities such as games, sports, and lifetime recreational pursuits.
5. Describe when, where, and how to use and adapt specific movement skills and concepts in physical activities.
6. Observe physical activities and provide feedback to participants to improve performance.

***Building upon knowledge and skills gained in the preceding grades, by the end of Grade 8, students:***

7. Describe the characteristics of skilled performance in a variety of physical activities.
8. Modify and combine movement skills using movement concepts, biomechanical principles, and rhythm to improve performance in physical activities.
9. Describe and demonstrate the application of appropriate rules, strategies, and sportsmanship behaviors as a participant in and observer of physical activities.

***Building upon knowledge and skills gained in the preceding grades, by the end of Grade 12, students:***

10. Analyze and apply movement concepts, biomechanical principles, and rhythm to independently learn, assess, refine, and combine movement skills used in physical activities.
11. Apply the principles of physiology, kinesiology, and psychology to improve personal performance in physical activity.

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**Standard 2.6**

*All students will learn and apply health-related fitness concepts.*

---

**Descriptive Statement:** Health-literate and physically educated students know the components of health-related fitness: cardiorespiratory endurance, muscular strength/endurance, flexibility, and body composition. Considering these components, students are able to meet their personal fitness needs by monitoring and adapting physical activity levels. Health-literate and physically educated students recognize that lifetime fitness activities contribute to wellness.

**Cumulative Progress Indicators**

***By the end of Grade 4, students:***

1. Identify the components of health-related fitness and describe activities related to each component.
2. Demonstrate appropriate techniques used in fitness activities.
3. Describe how fitness activities enhance wellness.
4. Participate in health-related fitness activities.
5. Develop and attain a personal fitness goal to improve performance.

***Building upon knowledge and skills gained in the preceding grades, by the end of Grade 8, students:***

6. Describe the components of health-related fitness and how each contributes to wellness.
7. Discuss and apply basic principles of training to fitness activities.
8. Assess physiological indicators of exercise before, during, and after physical activity, and describe how these can be used to monitor and improve performance.
9. Develop a personal fitness plan, using data from health assessments and fitness testing.

***Building upon knowledge and skills gained in the preceding grades, by the end of Grade 12, students:***

10. Discuss the physical and psychological benefits derived from health-related fitness activities.
11. Describe how sports injuries can be prevented.
12. Design and evaluate a personal fitness plan, taking into consideration fitness, health and nutritional status, age, interests, and abilities, and discuss how the plan may be adapted to injury, illness, or aging.

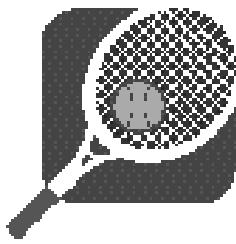
## CURRICULUM DEVELOPMENT

School district curriculum committees need to examine the big picture as they review, revise, and create a context for student achievement. When creating this vision, the most important factor is linking the *Core Curriculum Content Standards* to the program development process. Before any actual writing occurs, curriculum specialists and teachers need to become fully cognizant of the scope of the *Comprehensive Health Education and Physical Education Standards* and this accompanying *Framework*. Curriculum committees need to update their district goals, soliciting input from school administrators, the board of education, teachers, students, parents, and community members. Creating a vision and pathway for student achievement requires retrospection, data collection, analysis, and an honest examination of the needs of students.

To accomplish this, curriculum developers need to become familiar with various national documents that support and enhance our own state *Standards*. Laying the groundwork for further study, schools need to examine exemplary national curriculum projects (e.g., CDC's Programs *That Work*, National Diffusion Network [NDN] programs) and carefully scrutinize high-quality, commercially produced learning materials. School staff involved in developing curriculum should become familiar with national reviews of health and physical education programs (e.g., *Making the Grade*). Committee members should evaluate district funding for existing programs, looking closely at the use of categorical funding sources (Glatthorn, 1994). When aligning the existing curriculum, the committee should focus on the written curriculum, the tested curriculum, and the supported curriculum to ensure that what is taught is taught more effectively.

Too many times, teachers are given an unreasonable amount of time to adequately prepare for the process of curriculum development. Before one can ever begin to actually write, much research and preparation must take place. To ensure that program offerings enable all students to meet the *Standards*, school district health and physical education curriculum committees should:

- Know the *Comprehensive Health Education and Physical Education Curriculum Standards* and cumulative progress indicators for all grade clusters;
- Know the *Cross-Content Workplace Readiness Standards*;
- Review national standards documents, investigate instructional trends, and update content knowledge through regular reading, the use of technology, and attendance at professional development programs;
- Correlate existing programs of study and instructional objectives with the *Standards*;
- Compare district assessment policy and procedures with actual practice;
- Assess available district-owned materials (e.g., textbooks, packaged curricula, videos, software) for accuracy, availability, and content;
- Determine the teaching strategies/methods most often employed by district health and physical education specialists and compare with national trends and research;
- Determine available staffing resources;
- Analyze and predict staff development needs;



- Investigate the availability of educational materials and resources from outside agencies and organizations (e.g., Audio Visual Aids Commission [AVA], Learning Resource Centers [LRC], Educational Technology Training Centers [ETTC], libraries);
- Determine community health resources ( e.g., speakers, healthcare facilities);
- Review the annual budget for health and physical education instruction (do not include athletics);
- Investigate recent purchases and list potential needs (e.g., replacing equipment);
- Examine and analyze health data/profiles for school and community (e.g., *Violence and Vandalism Report*, *Youth Risk Behavior Survey* [YRBS], *New Jersey Adolescent Health Profile*, HIV incidence, teen pregnancy rates);
- Determine the availability of technological resources (e.g., video camera, digital camera, computers, Internet access, heart rate monitors);
- List available instructional facilities (e.g., pool, tennis courts, classroom, weight room) and when they are available (e.g., all-purpose room not available during lunch or assemblies);
- Determine which school and community programs reinforce and support instruction (e.g., peer mediation, health clinic, Municipal Alliance);
- Consider student body profile data (e.g., cultural and ethnic background);
- Discuss parent involvement, support, or opposition;
- List collegial opportunities and resources in the building or district (e.g., a teacher who is a competitive runner, swimmer, golfer, or gourmet chef);
- Inventory available equipment, considering safety, size, appropriateness, and applicability to program implementation (e.g., bats, balls, headgear, mats);
- Identify potential topics/sources of controversy and develop a plan to address them if they arise;
- Examine the district's program offerings for interdisciplinary opportunities; and
- Develop a list of potential community service projects and school-to-career opportunities related to health and physical education.

Developing curriculum, or even reviewing and revising an existing program, necessitates extensive fact-finding, research, and preparation. Collecting the data, however, is only the beginning. To assist districts to use public health data to support coordinated school health programs, numerous “how-to” manuals have been developed. One such manual, developed by the University of Colorado Health Sciences Center, is a compact notebook of information and worksheets to assist school district personnel to assess current health programming. *School Health Needs: A Starter Kit* provides a step-by-step procedure for collecting background information necessary to plan an effective school health program. *Educating for Health*, developed by the Education Development Center, is a health education curriculum manual that includes sample worksheets, checklists, and sample documents to support a step-by-step approach to curriculum planning.

After collecting and reviewing relevant data, the school district curriculum committee should answer the following questions:

- Do the expectations set forth for students in the *Comprehensive Health Education and Physical Education Standards and Framework* match those in our existing health and physical education curriculum?
- Does the existing curriculum address all six *Comprehensive Health Education and Physical Education Standards* and each cumulative progress indicator at the designated grade levels?
- Is there evidence of reinforcement, review, and mastery of the cumulative progress indicators at all levels?
- Are district assessment policies and practices aligned with the *Standards*? Are all teachers employing multiple means of assessment as part of course delivery? What kinds of training have the health and physical education teachers had to ensure consistent and fair assessment? How will students and parents be apprised of student performance?
- What specific program considerations need to be made in light of student body profile data, community demographics, school and community health information, and student, parent, and community expectations?



## CURRICULUM RENEWAL

Most school districts will not need to develop a health and physical education program from ground zero. The curriculum renewal process (Figure 6) offers a streamlined, yet still comprehensive, approach to align the existing program with the *Comprehensive Health Education and Physical Education Standards*. The school district committee charged with this task should include a district level administrator, building supervisors/principals, grade level teachers, and health and physical education content specialists. Parents, community leaders, and representatives from business and industry should be invited to participate in the process. Student input is extremely important and most valuable when debating the “appropriateness” of content and materials. The local board of education has the authority to approve curriculum; the committee acts in an advisory capacity only.

Curriculum should be developed before purchasing materials. Too many times, school districts select a textbook or program and tailor the curriculum to meet the program. Curricular goals and instructional objectives, based on the *Standards*, should drive instruction. Even a well-researched commercial program will not be effective if teachers have limited access to program materials or if school staff are not properly trained to utilize the materials. All teachers need access to the entire curriculum in order to envision the spiraling content. The scope and sequence chart should clearly illustrate this. Figure 7 suggests five simple rules to consider when developing curriculum scope and sequence

Teachers not normally involved in health education and physical education programs need to become familiar with the curriculum so health and physical education content and skills can be incorporated into daily classroom activities for reinforcement. By the same token, health and physical education teachers need to know other content area requirements and plan activities that match program goals and objectives. Articulation between grade levels or between schools (e.g., regional sending districts) may be difficult to accomplish but is necessary so that all students can be prepared to meet the *Standards*. Communication and collaboration are essential for effective curriculum development and implementation. This can be accomplished through regularly scheduled articulation meetings, the establishment of content networks, newsletters, and shared professional development opportunities. Finally, after collecting and reviewing the data, school district curriculum committees need to ask one final question:

***If classroom practices and expectations do not correlate with the state Standards, what changes could be proposed to align the curriculum with this document?***

The development of a “new” curriculum aligned with the *Standards* is not enough. School district curriculum committees should develop an action plan for curriculum implementation, staff development, and expanded local assessment of student knowledge and skills. The plan should clearly delineate the roles of teachers, supervisors, and administrators and should be grounded in the extensive data collected by the committee. The action plan lays the groundwork for teacher/student accountability in the implementation and achievement of the *Standards*.

**Figure 6**      **STEP BY STEP: CURRICULUM RENEWAL**

STAGE	CRITICAL ACTIONS
1. Plan.	<ul style="list-style-type: none"> <li>A. Establish the committee.                             <ul style="list-style-type: none"> <li>Grade level representation</li> <li>Building representation</li> <li>Community members, parents, students</li> </ul> </li> <li>B. Select a chairperson who has access to support services and the authority to direct activities.</li> <li>C. Develop a task list and timeline/action plan.</li> <li>D. Determine health and physical education resources.                             <ul style="list-style-type: none"> <li>Materials, equipment, and facilities</li> <li>Support services</li> <li>Consultant services</li> <li>Funding</li> <li>Instructors</li> </ul> </li> <li>E. Identify networks.</li> </ul>
2. Explore the subject area.	<ul style="list-style-type: none"> <li>A. Develop a rationale.</li> <li>B. Read state <i>Standards</i>, code, and statutes.</li> <li>C. Read national standards documents.</li> <li>D. Observe other programs.</li> <li>E. Review national trends; use list-servs and Web sites to ask questions and gather information.</li> </ul>
3. Examine ideas, trends, issues, and materials.	<ul style="list-style-type: none"> <li>A. Read journals, articles, and summaries.</li> <li>B. Identify current state and local issues.</li> <li>C. Review research-based or evaluated programs.</li> <li>D. Collect public health data.</li> <li>E. Identify available funding and what gets funded.</li> <li>F. Prioritize student needs based on data.</li> <li>G. Examine trends in healthcare, fitness, and social services.</li> </ul>
4. Analyze the existing program.	<ul style="list-style-type: none"> <li>A. Conduct pupil, parent, and teacher surveys.</li> <li>B. Review health data.</li> <li>C. Review program evaluations, if available.</li> <li>D. Analyze instructional time, materials, equipment, personnel, strategies used, and budget.</li> <li>E. Review qualifications of staff and staff development needs.</li> <li>F. Analyze assessment practices in use and review district data.</li> </ul>



**Figure 6** (continued)

STAGE	CRITICAL ACTIONS
5. Develop a recommended course of action.	A. Use the <i>Standards</i> and <i>Framework</i> to examine gaps in instruction. B. Map content and methods. C. Create a vision or revise the old one. D. Revise the time line and action plan. E. Make formal recommendations to revise.
6. Create or revise the curriculum.	A. Develop an overview. B. Develop scope and sequence. C. Align with <i>Standards</i> . D. Develop local assessment measures. E. Complete adaptations, resource lists, etc.
7. Implement the program.	A. Develop an implementation plan. B. Train teachers. C. Monitor student assessment. D. Evaluate the program and modify as necessary. E. Create a time line for the next review. F. Budget for additional supplies, materials, and training. G. Get student, parent, and teacher feedback.

Figure 7

**GENERAL PRINCIPLES: DEVELOPING SCOPE AND SEQUENCE**

*Children are often capable of more than we give them credit for.*

- **Simple content/skills should precede complex content.**

*Example:* Before students can learn how to prevent the transmission of HIV, they need to understand what causes diseases.

- **Content must match the maturation level of the learner.**

*Example:* Discussing puberty just prior to and during the process prepares students for the changes and is of great interest and concern for them.

- **Content that satisfies the immediate needs of the learner is more relevant than content aimed at long-term needs.**

*Example:* Driver's education for 16-17 year old students is a highly anticipated class.

- **Content and sequence are often determined by the faculty's philosophy and comfort level.**

*Example:* Critical thinking and decision making are important skills taught across all content areas and reinforced by all school staff as part of interdisciplinary teams.

- **Chronological order serves as a guide to sequencing some content.**

*Example:* Students better understand some diseases by studying them within the context of the historical period in which they occurred (e.g., black plague, polio, HIV).

## **THE CURRICULUM DEVELOPMENT TEAM: THE ROLE OF THE CONTENT SPECIALIST**

As members of the school district curriculum committee, teachers of health education and physical education are the content “experts.” It is imperative that health education and physical education specialists (including school nurses and family and consumer science teachers) are cognizant of the major changes in the field, the most current and relevant topics, and the teaching strategies found to be most effective. As content experts, health education and physical education teachers are expected to define terms, summarize research, and suggest strategies that support the research base.

For some districts, this may be the first time a health and physical education program is offered for students in early childhood programs. Classroom activities may need to be modified for these younger students. As content experts, health educators and physical education teachers may be called upon to actually instruct students in early childhood programs. In other school districts, content specialists may be called upon to assist or train early childhood teachers to provide such instruction. The specialist may be asked to serve as a content resource, providing the early childhood teacher with articles, information, and supportive materials.

It is imperative that health education and physical education content specialists take a lead role in the development of a comprehensive and coordinated program that articulates across grades, schools, and perhaps even districts. As part of the curriculum development and review process, health and physical education teachers need to answer the following key questions:

- What are other similar school districts doing to address the *Standards*?
- What areas do I personally feel uncomfortable or unprepared to teach? What can I do to change that?
- How can I support and develop a health-promoting environment?
- What can I do to showcase the health and physical education program using methods that truly reflect the instructional program?

## DEALING WITH SENSITIVE ISSUES

What makes an issue sensitive? How can teachers and school administrators prepare for controversy? By its very nature, health education is a controversial area. When developing the comprehensive health and physical education curriculum, schools need to be cognizant of issues and concerns that may impede instruction. The labeling of topics or teaching methods as controversial could deprive students of valuable information and skills and significantly impact their ability to learn.

Controversy in health and physical education develops when a cherished belief, economic interest, or basic principle is threatened. Traditionally, health and physical education has had its ardent supporters as well as its ardent opponents. Curriculum developers and teachers need to recognize that not all students and their families feel the same way about each issue. Ideas about wellness develop over time and are strongly influenced by family upbringing, past experiences, socio-economic status, and culture. An issue may be very sensitive and personal for one student yet have little impact on another (Dealing, 1997).

Educators need to develop a reasonable and consistent plan to deal with sensitive issues. The plan should allow for an open forum and examination of student and parental concerns. The process of curriculum development and materials adoption can promote proactive, positive interaction, actively engaging students and their families in the development of an instructional program that is relevant and meaningful. Keep in mind that the instructional program should meet the needs of all students, not just a “verbal” minority. Controversy can be positive, generating interest and energy (Newman & Farrell, 1991).

School districts need to develop clear policies about instructional practices. For example, N.J.S.A. 18A:35-4.7<sup>1</sup> allows parents to exempt their child from instruction in those aspects of health education that conflict with their sincerely held religious and moral beliefs. To effectively implement the intent of the statute, school districts need policies that clearly outline the application process, any required meetings with school staff, alternative student assignments, educational assessment, grading, and accountability for both student and teacher. In addition, the student, his/her parents, and the teacher need to discuss the transition into the regular instructional program once the “objectionable” content is covered. Teachers and administrators need to be familiar with such policies and implement them with consistency.

Questions about the health and physical education curriculum should be perceived as opportunities, not as threats. When questions are perceived as threats, teachers or administrators often answer incompletely or delay providing a response, hoping the issue will “go away.” Generally, a clear, concise, and honest response to a parental concern will clear up any misconceptions. On the other hand, objections are different from questions. Objections are differences of opinion that are highly emotional, rooted in very personal experiences. School districts need to develop a more detailed plan of action to deal with objections.

<sup>1</sup>N.J.S.A. 18A:35-4.7 Parent’s statement of conflict with conscience

Any child whose parent or guardian presents to the school principal a signed statement that any part of the instructions in health, family life education or sex education is in conflict with his conscience, or sincerely held moral or religious beliefs shall be excused from that portion of the course where such instruction is being given and no penalties as to credit or graduation shall result therefrom.

Objections to health and physical education instruction may be handled informally by the classroom teacher or school administrator. These types of objections most often involve policy or process. If a teacher responds to this type of objection, he/she should inform the building administrator by the end of the school day and should follow-up with a written summary of the objection and response within five days. If the objector is not pleased with the informal response, the building principal should address the concerns. If this does not effectively address the issue, the objector should be advised to submit his/her concerns in writing to the school district administration (Newman & Farrell, 1991).

Dealing with controversy in health and physical education is inevitable. The very personal nature of the discipline—discussing death, sexuality, substance use, and even body image—cause some individuals concern. When handling conflict teachers and administrators need to:

- Listen to the whole concern.
- Seek comfort—sit in a relaxing area.
- Personalize the meeting by using the individual's name.
- Speak softly and use “I” messages.
- Ask questions and clarify meaning.
- Never assume anything.
- Pay attention to detail.
- Offer the individual thanks for his/her concerns.
- Involve others in the process, as appropriate ( e.g., principal, supervisor).
- Provide alternatives for action.
- Apply the principles of teaching and learning to the discussion. Vary the approaches used to be sure the individual understands the school's position.

While all parties may not agree on what is “best,” it is important that school staff recognize the sincere concerns of those who raise such issues. Inviting those individuals to participate in a school health advisory council may help. The American Cancer Society produced a booklet entitled *Improving School Health: A Guide to School Health Councils* to assist school districts in the development of school health councils. The booklet provides school staff, parents, and community leaders with a framework to guide the development of a school health council that can focus on such issues as fiscal and program planning, advocacy, and public relations. School health councils can focus on instructional programs or expand to include all facets of a coordinated school health program. School health advisory councils are not part of the administrative structure of schools and have no authority or legal responsibility for program development or implementation (Bellian, 1998). However, school health councils can examine student and community health concerns from a more holistic approach and provide interventions that address the myriad of health issues.

Dealing with sensitive issues requires school staff to be well informed and confident. Teachers and administrators need to be proactive, developing policies and procedures to address potential concerns. Most of all, school staff should be cooperative and collaborative when reviewing, revising, or developing the health and physical education instructional program.

## SUMMARY

Health and physical education specialists have a professional responsibility to become actively engaged in the school district's curriculum revision process. As content specialists, health educators and physical education teachers should be called upon to interpret data, define terms, and evaluate program offerings. The role of health and physical education content specialists is critical to the development of a curriculum that will enable all students to meet the *Standards*. Involving school staff, parents, students, and the community-at-large in the curriculum development process affords program support and reduces the likelihood of controversy.

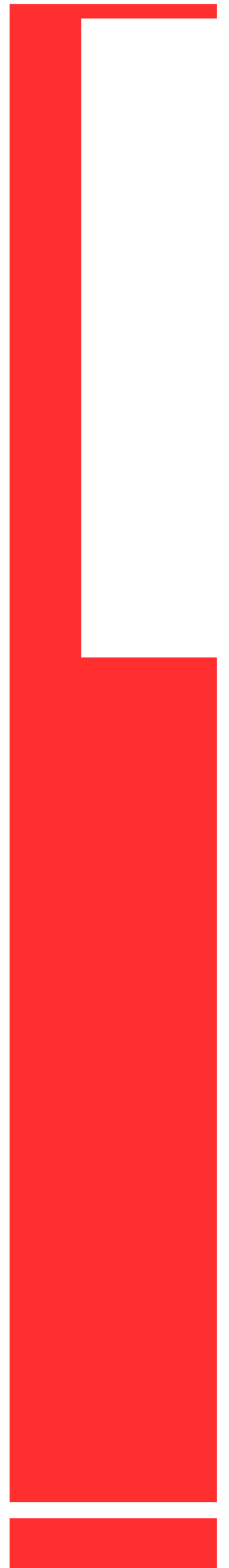


Chapter 4

# LEARNING AND BEHAVIOR

*Native ability without education  
is like a tree without fruit.*

ARISTIPPUS



## LEARNING AND BEHAVIOR

The intent of the *Comprehensive Health Education and Physical Education Standards* is to ensure that all students are provided the education to make safe, appropriate, and healthful choices—now and throughout life. The term “all students” includes students who are college-bound or career-bound, students who are academically talented, students whose native language is not English, students with disabilities, and students from diverse socioeconomic backgrounds. It conveys a commitment that male and female students will achieve at comparable levels across all areas. In addition, students who can do more than achieve the content *Standards* should be afforded the opportunity to do so.

Some might argue that time spent on health and physical education might be better spent on studying classic literature or the life cycle of a tree frog. If the purpose of public education is to prepare young people to become responsible citizens, gainfully employed and self-sufficient, then the rationale for instruction in health and physical education should become clearer. It has been said that students learn better when they are healthy. If students are empowered to make responsible choices about their health now, they will be better able to focus on the study of all other content areas. In the long run, students who are more conscious of the health choices they make are more likely to become healthy, contributing members of the workforce.

This chapter focuses on theories and models of human development that should guide the development and implementation of a comprehensive health and physical education program. It examines elements of the behavioral and social sciences as well as learning theories and models that influence student achievement and health behavior. This chapter is merely an overview. For more information, review some of the references cited at the end of this *Framework*.

## LEARNING AND THE HUMAN BRAIN

The cognitive sciences have seen a number of developing theories and research studies that use biological processes to explain learning. While these research approaches are easier to control and study, it is difficult to assimilate the information into concrete principles that teachers can implement. Neuroscientists still disagree on some of the inner workings of the brain. With this in mind, here is one simplified explanation of how the brain learns along with some simple suggestions to enhance students' learning.

Learning changes the brain. With each new stimulation, experience, and behavior the brain can rewire itself. A *stimulus* to the brain starts the process. If we are repeating something we have already learned, the neural pathways become more efficient. Research has shown that many areas of the brain are involved in new tasks but less and less of the brain is involved as the task is learned (Jensen, 1998). The brain's neural networks combine to process an object or event; each area is responsible for a particular element of the task (e.g., color, spatial movement). The daily chemistry of the human brain complicates things even more. The human brain contains dozens of types of *neu-*



*rotransmitters*, classified both functionally and chemically. Neurotransmitters send either an excitatory or inhibiting message to the receiving *neuron*, much like an on/off switch. This mechanism enables the brain to focus attention or limit activity. Chemically, these substances include *amino acids*, such as glutamate; *monoamines*, such as dopamine or serotonin; and *peptides*, such as endorphins or vasopressin (Sylwester, 1995). An in-depth understanding of neurotransmitters is essential for all teachers **but particularly necessary for health and physical education teachers**. For example, peptides play an important role in modulating emotional states and consequent behaviors. These substances play an important role in the body's response to stress. In addition, exercise and positive social interactions can elevate endorphin levels and help people feel good about themselves (Sylwester). The implications for teachers of health and physical education should be obvious.

### WHAT ARE MULTIPLE INTELLIGENCES?

In his Theory of Multiple Intelligences, Harvard psychologist Howard Gardner suggests that intelligence has more to do with the capacity for solving problems and fashioning products in a context-real and naturalistic setting (Armstrong, 1994). Gardner's theories have been embraced by educators as a way to map the broad array of abilities seen in the classroom. Figure 8 outlines classroom applications of Gardner's theory.

Certain points of Gardner's model are important to remember when planning instruction.

**Each person possesses all seven intelligences.** The theory proposes that all individuals have capacities in all seven areas. Most people are highly developed in some intelligences, modestly developed in others, and relatively underdeveloped in the remaining areas.

**Most people can develop each intelligence to an adequate level of competency.** If given the appropriate encouragement, enrichment, and instruction, most people can develop all seven intelligences to a reasonably high level.

**Intelligences usually work together in complex ways.** Intelligences are always interacting with each other. In a kickball game, a child must kick the ball, run to the appropriate spot, and keep score, using three kinds of intelligence to participate in the activity.

**There are many ways to be intelligent within each category.** This theory emphasizes the many ways individuals show their gifts within their intelligences as well as between the intelligences. For example, a person may not be able to read but may be able to tell a terrific story (Armstrong, 1994).

Figure 8

**SEVEN WAYS OF TEACHING**

<b>Intelligence</b>	<b>Teaching Activities</b>	<b>Teaching Materials</b>	<b>Strategies</b>
<b>Linguistic</b>	Lectures, discussions, word games, choral reading, storytelling, journal writing	Books, tapes, computers, stamp sets, books on tape	Read about it, write about it, talk about it, listen to it
<b>Logical/ Mathematical</b>	Brain teasers, problem solving, science experiments, mental calculation, number games, critical thinking	Calculators, math manipulatives, science equipment, math games	Quantify it, think critically about it, conceptualize it
<b>Spatial</b>	Visual presentations, art, imagination games, mind-mapping, metaphor, visualization	Graphs, maps, video, LEGO sets, art materials, optical illusions, cameras, picture library	See it, draw it, visualize it, color it, mind-map it
<b>Bodily-Kinesthetic</b>	Hands-on learning, drama, dance, sports, games, tactile activities, relaxation exercises	Building tools, clay, sports equipment, manipulatives, tactile learning resources	Build it, act it out, touch it, get a “gut feeling” of it, dance it, perform it, move it
<b>Musical</b>	Super-learning, rapping, songs	CD player, tapes, instruments	Sing it, rap it, listen to it, play it
<b>Interpersonal</b>	Cooperative learning, peer tutoring, community involvement, social gatherings, simulations	Board games, party supplies, props for role-play	Teach it, collaborate on it, interact with respect to it
<b>Intrapersonal</b>	Individualized instruction, independent study, options in course of study, self-esteem building	Self-checking materials, journals, materials for projects	Connect it to your life, make choices about it, self analysis

Adapted from: Armstrong, T. (1994). *Multiple intelligences in the classroom*. Alexandria, VA: ASCD.

## MOVEMENT AND LEARNING

Research conducted by neurophysiologist Carla Hannaford indicates that the inner ear's semicircular canals and the vestibular nuclei are an information-gathering and feedback source for movement. The impulses travel through nerve tracts back and forth from the cerebellum (the part of the brain involved in almost all learning) to the rest of the brain, including the visual system and the sensory cortex. These impulses also seem to impact areas in the brain critical to attention. All together, these actions help human beings to maintain balance, turn thought into action, and coordinate moves. Hannaford supports participation in activities that stimulate inner ear motion such as swinging, rolling, and jumping (Jensen, 1998).

Other researchers have linked pathways from the cerebellum to parts of the brain involved in memory, attention, and spatial perception. Movement and learning seem to have “constant interplay” (Jensen 1998). More than 80 studies presented at the 1995 Annual Society of Neuroscience Conference suggested strong links between the cerebellum and memory, spatial perception, language, attention, emotion, nonverbal cues, and decision-making. According to Eric Jensen (1998), a former teacher and member of the International Society of Neuroscience, these findings strongly implicate the value of physical education, movement, and games in boosting cognition. Research suggests that the relationship between movement and learning continues throughout life.

In the same way that exercise “shapes up” the heart, muscles, lungs, and bones, physical activity strengthens the basal ganglia, cerebellum, and corpus callosum. These areas of the brain influence and control conscious and automatic movement (e.g., being able to walk, talk, and chew gum at the same time!) (Slywester, 1995). Exercise also provides the brain with extra oxygen to enhance greater connections between neurons. Researchers James Pollatschek and Frank Hagan conclude that “children engaged in daily physical education show superior motor fitness, academic performance, and attitude towards school as compared to their counterparts who do not participate in daily physical education” (Jensen, 1998, p. 85). In a Canadian study of 500 children, those enrolled in a daily, one hour physical education class far outperformed at exam time those who did not exercise (Hannaford, 1995).

Essentially, exercise prepares the brain to respond rapidly to challenges. Neuroscientists at the University of California-Irvine discovered that exercise releases a neurotrophic factor that enhances cognition by heightening neuron communication. During a workout, the cerebellum is in high gear. Other studies have shown that children who exercise have higher exam scores and improved short-term memory, reaction time, and creativity (Jensen, 1998). Finally, Arthur Stone of the State University of New York at Stony Brook says: “Having fun may be good for your health. It decreases stress and improves the functioning of the immune system for the three days after the fun.” (Jensen, p. 87). For these reasons, all educators ought to be purposeful about integrating physical activity into everyday learning. Larry Abraham, professor at the University of Texas at Austin, states “Classroom teachers should have kids move for the same reason physical education teachers have kids count.” (Jensen, p. 88).

**CHANGING HEALTH BEHAVIOR**

In spite of increased research into the benefits of healthful eating, regular exercise, and other health-promoting strategies, there continues to be an increased need to develop interventions that promote such behaviors. Numerous theories and models have been used in behavioral and social science research to study and promote health-enhancing behaviors. These theories have major implications for classroom instruction and for school and community programs that support and reinforce classroom instruction. The theories are particularly significant when designing prevention and intervention programs that are synergistic, coordinated, and complementary. Key elements of some of the more widely acknowledged theories are summarized in Figure 9.

At one time, it was thought that providing students with facts would result in behavior change. Through research, it has been determined that lack of knowledge is only one of many factors that influences decision making. Given that experts in both health and education have recognized the variety of factors that influence learning and behavior, it seems prudent to institute multiple interventions to foster the adoption of health-enhancing behaviors. Students need to be armed with the knowledge and skills to address a myriad of problems, now and in the future. The decisions made now can have a significant impact on one's quality of life in the future (Allensworth, Symons & Olds, 1994).

**SUMMARY**

This chapter only scratches the surface of the exciting ideas and theories about how children learn, how movement impacts learning, and how best to structure learning experiences to support health-enhancing behaviors. As an increasing number of programs are developed and tested, this research becomes more important to professional practice. Educators are urged to review some of the materials noted in the reference list for more detailed information about this exciting area.

Figure 9

**HEALTH BEHAVIOR THEORIES**

THEORY/MODEL	LEVEL	KEY CONCEPTS	EXAMPLE
<b>Classic Learning Theory</b>	Individual	Cues Shaping Reinforcement/rewards <ul style="list-style-type: none"> <li>■ Future (looking better)</li> <li>■ Extrinsic (praise)</li> <li>■ Intrinsic (feel good)</li> </ul>	<ul style="list-style-type: none"> <li>■ A person establishes a daily walking program and rewards self with a new outfit.</li> </ul>
<b>Health Belief Model</b>	Individual	Perceived susceptibility Perceived severity Perceived benefits of action Cues to action Self-efficacy	<ul style="list-style-type: none"> <li>■ A person decides to use a condom based on his/her perceived susceptibility to HIV (just tested after a “scare”).</li> </ul>
<b>Transtheoretical</b>	Individual	Precontemplation Contemplation Preparation Action Maintenance (A five-stage continuum related to readiness to change)	<ul style="list-style-type: none"> <li>■ Sedentary individuals check out fitness clubs and programs.</li> </ul>
<b>Relapse Prevention</b>	Individual	Skills training <ul style="list-style-type: none"> <li>■ Coping</li> <li>■ Stress management</li> </ul> Risk identification <ul style="list-style-type: none"> <li>■ Situational</li> </ul> Lifestyle rebalancing <ul style="list-style-type: none"> <li>■ Finding solutions</li> </ul>	<ul style="list-style-type: none"> <li>■ An individual has stopped smoking but always has the urge to smoke at parties.</li> </ul>
<b>Social Cognitive/ Social Learning</b>	Interpersonal	Environmental influences Personal factors Attributes of the behavior Self-efficacy, confidence, and positive expectations Value the outcome (immediate and long-term) Modeling	<ul style="list-style-type: none"> <li>■ A person feels energized and better about him/her self after regular exercise and is complimented on performance by the teacher.</li> </ul>

Figure 9 (continued)

THEORY/MODEL	LEVEL	KEY CONCEPTS	EXAMPLE
<b>Planned Behavior/ Reasoned Action</b>	Interpersonal	Intention to perform <ul style="list-style-type: none"> <li>■ Attitude</li> <li>■ Outcome expectations</li> <li>■ Value of outcome</li> </ul> Social environment <ul style="list-style-type: none"> <li>■ What others think</li> <li>■ Motive to comply</li> </ul> Perceived control <ul style="list-style-type: none"> <li>■ Opportunities</li> <li>■ Skills and resources</li> </ul>	<ul style="list-style-type: none"> <li>■ A person consumes a low fat diet and begins an exercise program, resulting in weight loss that becomes noticed by co-workers who are always trying to lose weight and wear fashionable clothes.</li> </ul>
<b>Social Support</b>	Intrapersonal	Instrumental Informational Emotional Appraisal	<ul style="list-style-type: none"> <li>■ Give a non-driver a ride to an exercise class.</li> <li>■ Tell a neighbor about a walking program.</li> <li>■ Call to offer support to a friend quitting smoking.</li> <li>■ Provide feedback to a friend trying out new skills.</li> </ul>
<b>Ecological Approaches (Multiple Levels of Influence)</b>	Environmental	Supportive environments that implement personal skills <ul style="list-style-type: none"> <li>■ Intrapersonal</li> <li>■ Group</li> <li>■ Institutional</li> <li>■ Community</li> <li>■ Public policy</li> <li>■ Individual</li> <li>■ Organizational</li> <li>■ Governmental (Schools, work sites, healthcare facilities, communities)</li> </ul>	<ul style="list-style-type: none"> <li>■ A community creates bike and roller blade paths for citizens to exercise.</li> <li>■ An employer encourages staff to bike to work or provides an employee assistance program.</li> <li>■ School policies support a drug-free environment.</li> </ul>

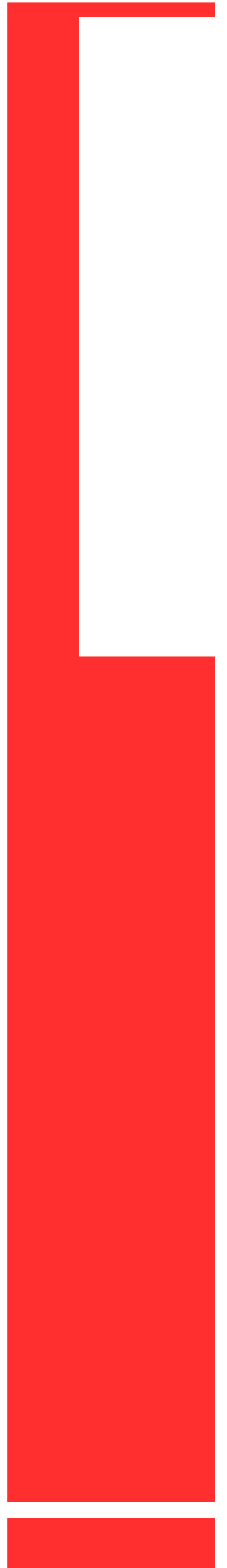
Adapted from Centers for Disease Control and Prevention. (1996). Physical activity and health: A report of the Surgeon General. Atlanta, GA: Author.

# Chapter 5

## RETHINKING ASSESSMENT

*It is not that tests ought to drive the curriculum, or that teachers ought to teach to the test. Rather, good assessment is an integral part of good instruction.*

HERMAN, ASCHBACHER, & WINTERS



## RETHINKING ASSESSMENT

The purpose of student assessment is to provide meaningful feedback that reflects the student's individual growth and allows the student and teacher to plan purposeful and appropriate learning experiences. Meaningful assessment focuses on the knowledge, skills, and behaviors evidenced in the curriculum. Various levels of assessment occur—national, state, local, and classroom—each with a distinct opportunity to provide teachers, students, and parents with important information about student progress.

### STATE ASSESSMENT

In the near future, comprehensive health education and physical education will become part of the statewide testing program. Over the next five years, committees of New Jersey educators and measurement specialists will assist in the development and implementation of meaningful assessment tools that accurately reflect student achievement of the *Comprehensive Health Education and Physical Education Standards*. By the year 2005-2006, New Jersey high school students will be required to pass the High School Proficiency Assessment (HSPA) in all content and workplace readiness areas in order to receive a state-endorsed diploma. Health and physical education will be one of the required elements tested at each level of the statewide assessment program: the Elementary School Proficiency Assessment (ESPA); the Grade Eight Proficiency Assessment (GEPA); and the HSPA. At this writing, the assessment tools for comprehensive health and physical education have not yet been developed; therefore, this chapter focuses primarily on classroom assessment in preparation for statewide testing. As more information about the assessment of health and physical education becomes available, school district staff will be advised.

### CLASSROOM ASSESSMENT PRACTICES

“Anyone can pass gym. Just show up in your gym shorts and sneaks. Health class? What a joke! All we do is fill in diagrams of body parts and see ancient movies about strange diseases we’ll never get in a million years! What a waste?” Sound familiar? If these words can be heard in your halls, classrooms, and gymnasiums, wake up! The days of “show up and pass” are over. Teachers of health and physical education are held to the same high levels of accountability as their math and science counterparts. It is no longer acceptable to simply test students at the end of a unit. If a teacher does not have evidence of student progress (e.g., multiple measures of fitness across time) how can the student be expected to meet the *Standards*? Physical education teachers who only measure sport and fitness skills and pay little or no attention to cognitive assessment are denying students important information that can assist them to achieve the *Standards*. Health teachers who only measure content knowledge and never evaluate student progress in skill development are short-changing students. Student assessment is a critical element of instruction, providing the student with important information about his/her progress. This information enables the student and teacher to collaborate on specific instructional goals so that every student can achieve the *Core Curriculum Content Standards*.



Student assessment is a complex, ever-changing issue. New forms of assessment result from educational reform, developments in psychology and neuroscience, and advances in technology. Classroom teachers need to expand their repertoire of assessment tools and ensure that they are inextricably linked to standards-based instruction. To implement appropriate assessment practices, teachers and school administrators need to consider the overall curricular plan and answer the following questions:

- What information do we need?
- How often do we need this information?
- What will we do with the information?
- What do students, teachers, and parents actually learn from the results?
- How can assessment and instruction become seamlessly institutionalized?

Effective, meaningful assessment demands that teachers know and articulate the major instructional goals. Teachers should ask “What do I want my students to accomplish?” then set priorities and clearly define the aim and purpose of the assessment tasks. In this context, teachers need to consider the following questions:

- What important knowledge do I want my students to develop?
- What personal, interpersonal, and life skills do I want them to develop?
- What metacognitive skills do I want them to develop?
- What types of problems do I want them to solve?
- What physical skills do I want them to develop?

**Stating what you are teaching does not answer what the student is learning.** Teachers need to focus on what the student can do now that he/she could not do before. How does the student’s skill level or knowledge directly relate to instruction? How can a teacher be confident that what he/she is teaching is really what the student needs? How can a teacher be sure that students understand and can use the content of instruction?

Choosing the appropriate assessment measure requires careful consideration of the instructional content; student learning styles; the teacher’s comfort level; and space, facilities, and time. Special attention needs to be paid to the correlation of the measure to the content and skills prescribed in the *Core Curriculum Content Standards*. Sample assessment practices are presented in Appendix C. In addition, teachers need to consider the following questions (Herman, Aschbacher, & Winters, 1992) as they organize their instructional assessment activities:

- Does the task or measure match the instructional intent?
- Does the task or measure adequately represent the content and skills you expect students to attain?
- Does the task or measure enable students to demonstrate their progress and capabilities?
- Does the task or measure involve authentic, real-world applications?
- Does the task or measure lend itself to an interdisciplinary approach?
- Can more than one goal/standard be met using this task or measure?

One cannot discuss assessment without some discussion of scoring. A *rubric* is a fixed scale listing the characteristics of performance for each point on the scale. Rubrics are most often used to rate performance tasks, essays, and portfolios and can be modified to serve as a self-assessment tool for students. In physical education, a task card used by a second-grade student to rate overhand throws is an example of a simple rubric. In health class, students utilize a critical elements card to review and assess a partner's response to a problem-solving scenario. As students and teachers become more comfortable using rubrics, they can be used to address student performance, content knowledge or collaborative qualities. Sample rubrics can be found in Appendix C.

## ASSESSMENT STRATEGIES

Assessment strategies are determined by the kind of learning to be evaluated. Here are some examples of commonly used assessment methods.

### **Selected Response/Forced Choice Items**

Students are forced to provide a single correct response. This type of assessment has a valid role in assessing pure knowledge and facts, if used as part of a spectrum of evaluation. Examples include traditional multiple-choice items and matching tests. True/false tests and short answer responses, including fill-in-the-blanks, are selected response/forced choice items.

### **Essay**

Essay writing is used to evaluate a student's grasp of important concepts, ideas, and relationships. Essay writing may involve developing an explanation or critique of a subject. Students present an argument, test a hypothesis, compare two ideas, or demonstrate situational decision making. Writing an effective essay requires the student to think logically while relating accurate information and ideas.

### **Performance Tasks**

Performance tasks require the student to actively accomplish complex tasks using prior knowledge and recent learning and skills. These tasks demonstrate a deeper understanding of the content and skills and increase student engagement. Performance assessment involves students in situations where they must construct responses that clearly illustrate that they can apply the knowledge. Authentic assessment involves students in "real-life" activities that tap higher-order thinking skills. These tasks invoke real-world applications and require time and effort on the part of the teacher and student.

### **Portfolio**

A portfolio is a collection of student work, over time, that represents that individual's best work. Included in the portfolio are products from performance tasks that show effort, progress, and achievement. Portfolio assessment allows a teacher to view student progress, considering growth and development. Portfolios can serve to engage students in learning content and help students develop skills of reflection and self-evaluation. Portfolios enable the teacher to document student learning in areas that do not lend themselves to more traditional forms of assessment. Assessment portfolios may be used to demonstrate mastery in any content area and may span any period of time (e.g., one

unit, one semester). Maintaining student portfolios facilitates better communication with students and parents.

### **Teacher Observation**

Teacher observation, long a favorite assessment measure of the physical education teacher, is an informal method of noting student progress. This method is only valid, however, if the teacher is knowledgeable and uses appropriate criteria. Detailed observations should be written in a daily log or tape-recorded. An electronic clipboard or message pad can enhance the teacher's ability to transmit classroom observations to standardized student progress forms. Written anecdotal comments can be an effective assessment tool if based on established criteria that has meaning for instruction. Students need to know the evaluative criteria used by the teacher during formal and informal observations. Teachers need to provide students with feedback to improve performance.

### **Student Self-Assessment**

Involving students in the assessment of their own learning is central to the development of higher order metacognitive skills. Students get involved in goal setting, developing action plans, and keeping track of progress using a log, diary, or chart. Students pose specific questions to guide their own assessment and become actively engaged in the learning and assessment process. One of the enormous benefits of student self-assessment is that it permits a sharing of accountability for student learning.

### **Assessment Conferences**

Assessment conferences offer an opportunity for the student and teacher to meet and discuss progress, to plan new activities to meet goals, and to learn more about each other on the path to learning. Assessment conferences may include any of the above-named measures as part of the data shared. Assessment conferences enable teachers to see their students as complete people with special interests, ideas, and experiences.

## SUMMARY

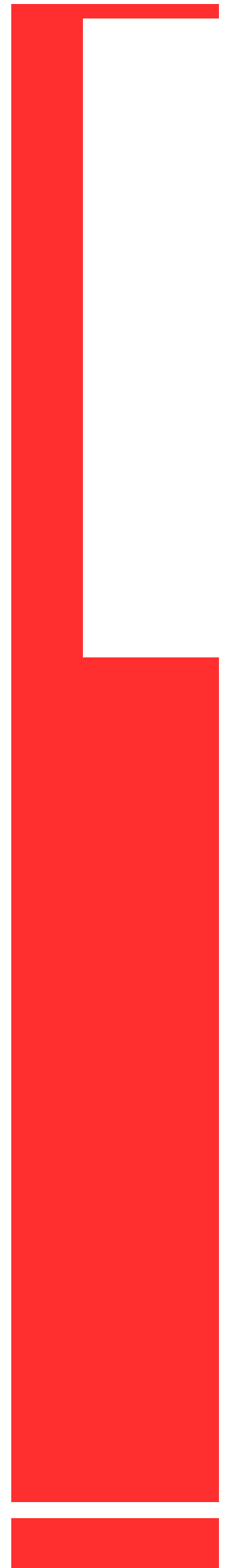
In preparation for the statewide assessment program in comprehensive health education and physical education, local school districts should evaluate their own policies and practices regarding student assessment. All teachers should be actively engaged in developing and implementing classroom assessment practices that employ a variety of methods, cover the essential knowledge and skills required by the *Standards*, and challenge students to use higher order thinking skills. Simply put, student grades in health and physical education should not be based on mere participation, appropriate attire, or effort. Participation in an interscholastic athletic program or alternative physical activity program may not enable a student to achieve the *Comprehensive Health Education and Physical Education Curriculum Standards*. The *Standards* require students to demonstrate an understanding of skilled performance on several levels. Furthermore, students must be able to communicate the theory behind improved performance in a wide variety of lifetime recreational pursuits and fitness activities. Teachers and students should collaborate to develop goals for learning that truly reflect student needs and that enable each and every student to meet the *Comprehensive Health Education and Physical Education Curriculum Standards*. Students and teachers will become more accustomed to the higher demands these *Standards* place on them only if they actively engage in realistic and challenging assessment measures.

# Chapter 6

## PROFESSIONAL DEVELOPMENT

*Teachers, not assessment, must be the cornerstone of any systemic reform directed at improving our schools.*

GEORGE MADUAS



## PROFESSIONAL DEVELOPMENT

In the book *The Right to Learn*, Linda Darling-Hammond (1997) states:

When all is said and done, what matters most for students' learning are the commitments and capacities of their teachers. Teaching for understanding cannot be produced solely by spending more money or by requiring that schools use specific texts or curriculum packages, and it cannot be driven by mandating new tests...Although things like standards, funding, and management are essential supports, the sine qua non of education is whether teachers know how to make complex subjects accessible to diverse learners and whether they can work in partnership with parents and other educators to support children's development. (p. 293)

Professional development is more than just ensuring professional accountability. If we expect our students to achieve at high levels, then we too as educators must hold ourselves to higher standards.

### THE NEW JERSEY PROFESSIONAL DEVELOPMENT INITIATIVE

In the last decade, New Jersey has made significant reforms to strengthen preservice education and licensing requirements for beginning teachers. In keeping with the adoption of the *Core Curriculum Content Standards* and the educational demands they present, the State Board of Education recently adopted, for the first time, regulations that require professional development for all New Jersey teachers and educational services personnel. In fact, New Jersey was one of the only states that did not already require continuing professional development. These regulations require 100 hours of state-approved continuing education every five years beginning in the year 2000. The content of each individual's continuing education will be specified in his/her Professional Improvement Plan (PIP). In those rare situations when a teacher fails to make annual progress towards the requirement, the school district has the responsibility to take early and corrective action based on accepted principles of progressive supervision and related statutes and regulations. A key element of this initiative is the active, vital role that teachers themselves will play in the establishment of common standards and criteria for educational offerings. These new regulations support school reform initiatives and reflect national trends in professional development.

## PROFESSIONAL DEVELOPMENT: A NEW PARADIGM

Professional development is undergoing profound changes to meet these demands. As envisioned by Dennis Sparks and Stephanie Hirsh (1997), there are 11 major paradigm shifts in staff development designed to focus energies on meaningful and productive professional experiences. Staff development is moving:

1. From district-focused to school-focused approaches;
2. From individual development to individual development and organizational development;
3. From fragmented, piecemeal, one-shot efforts to staff development driven by a clear and coherent plan;
4. From a focus on adult needs and satisfaction to a focus on student needs, learning outcomes, and changes in on-the-job behaviors;
5. From training conducted off-site as the primary delivery system to multiple forms of job-embedded learning;
6. From the transmission of knowledge and skills by experts to the study by teachers of teaching and learning;
7. From a focus on generic instructional skills to both generic and content specific skills;
8. From staff developers who function as trainers to those who provide consultation, planning, and facilitation as well as training;
9. From staff development provided by one or two department staff developers to staff development being a critical function and responsibility of all administrators and teacher leaders;
10. From activities directed solely at teachers to programs involving everyone who impacts student performance; and
11. From staff development as a frill to staff development as an indispensable process.

This expanded version of staff development requires significant planning on the part of teachers and school administrators. "Learning to practice in significantly different ways can occur neither through theoretical imaginings alone nor through unguided experience alone. Instead, it requires a tight coupling of the two." (Darling-Hammond, 1997, p. 319) Research supports the notion that teachers learn in much the same ways as students. Rich professional development is centered on the critical elements of teaching and learning: planning, evaluation, development, investigation, and professional discourse. Professional development experiences that succeed provide teachers with experiential engagement in concrete tasks involving teaching, assessment, and observation. The activities are connected to and derived from the teachers' work; thus, teachers are involved in questioning, experimenting, and researching. Professional development enhances collaboration and supports systemic school change efforts. Finally, effective staff development opportunities are sustained and intensive, utilizing such strategies as modeling, peer coaching and mentoring, observation, and collective problem solving to institutionalize the effects (Darling-Hammond, 1997).

## ESSENTIAL ELEMENTS OF EFFECTIVE STAFF DEVELOPMENT

Staff development experiences should be varied and intensive and allow time for practice and reflection. Adult learning can take place in many forms and use various processes. Professional development planners need to vary the content and format of these experiences to meet the needs of all school staff. Essential topics for effective staff development experiences are listed below.

### Subject Matter

It is imperative that health educators and physical education teachers remain keenly aware of frequent changes in content knowledge. Professional development experiences should focus on the following:

- Current information on topics (e.g., new diseases, cures, drugs, data)
- Relationships between content (e.g., multiple risk behaviors)
- Current research in the field (e.g., CDC profiles, Surgeon General's reports)
- Connections to everyday life (e.g., decisions about sex, drugs, driving)
- Content as a foundation and how ideas can be linked and assembled (e.g., teaching the relationship between physical activity and mood)
- How to determine existing student knowledge and tailor content accordingly
- Laws relevant to content (e.g., DUI laws, confidentiality laws)
- Trends in the field (e.g., healthcare, insurance)
- Resources
- Certification in specific content areas (e.g., water safety, CPR)
- Technology as a tool in instructional delivery
- Skill practice and behavior change

### Child/Adolescent Development

Teachers of health education and physical education deal with a wide range of physical, social, and emotional levels of development. It is imperative that teachers have an understanding of the following concepts:

- Normal growth and development
- How students think and behave
- Goals of students
- Student interests
- What students know
- Concepts that may be difficult for some or all of the class to grasp
- Culture, language, family, and gender issues
- Prior schooling
- Knowledge of the community



- Intelligences demonstrated in the class
- Preferred approaches to learning
- How students view the curriculum
- Motivation and feedback
- Student self-images
- What students care about
- What success means to the students

### **Teaching and Learning**

As described in Chapter 4, teachers need to become acquainted with new ideas and theories regarding teaching and learning. Professional development opportunities that focus on teaching and learning should include discussion of the following:

- The kinds and purposes of learning
- The context for learning
- Strategies to support different kinds of learning, materials, and tasks
- Specialized instructional tools (e.g., adaptive equipment)
- Modes of cognition
- Information processing
- Neuroscience/brain research
- Communication skills (e.g., language acquisition)
- Motor development

### **Assessment**

Teachers of health and physical education need time to practice and refine assessment skills. Staff development in this regard should focus on the following:

- Identifying student strengths
- Testing various intelligences
- Interdisciplinary measures
- Reasoning skills
- Developing rubrics, task cards, and self-assessment measures
- Developing performance assessments
- Planning lessons and using assessment
- Instructionally embedded assessment
- Special needs adaptations

### Resources

Not only do teachers need to become cognizant of new content information in health and physical education, but they also need to know where and how to access up-to-the-minute information. It is no longer adequate to rely solely on a textbook for instruction. Staff development opportunities need to focus on the following:

- Inquiry beyond textbooks
- Using technology
- Exploring community service, volunteer, or service learning experiences for students and staff
- Locating and using available resources
- Collaborating with community health resources
- Planning, budgeting, and seeking outside funding support for specialized projects

### Curriculum Development

Too often teachers are left to their “own devices” when it comes to developing curriculum. Professional development experiences, designed to prepare teachers for curriculum development, should include information about the following:

- State, national, and local standards
- Available resources
- Text and material review and selection process
- Goals and objectives and how they link with assessment
- Interdisciplinary opportunities
- Research based programs (e.g. CDC, NDN)
- Articulation (e.g., grade levels, school-to-school, district-to-district)
- Curriculum revision process
- Analyzing test results, health data, and student behavior to refine and improve program

### Collaboration

An effective comprehensive health and physical education program requires the players (students, teachers, other school staff, parents) to collaborate to foster student achievement and success. Professional development opportunities should focus on the following:

- Instructional activities that promote student collaboration (e.g., cooperative learning, teams)
- Productive discourse in the classroom
- Strategies to promote parent involvement
- Strategies to support school and community wellness
- Collaboration with community health resources

- External funding support for programs and projects
- Extracurricular links to classroom instruction
- Peer mentoring, peer mediation, coaching, and cross-age teaching
- School and community partnerships
- School staff networks

## **IMPROVING TEACHER PERFORMANCE IN THE HEALTH AND PHYSICAL EDUCATION CLASSROOM**

Effective comprehensive health education and physical education programs depend on trained teachers. Research indicates that the classroom teacher is the key to student achievement. New and exciting trends in the field, along with emerging health issues and knowledge, necessitate planned professional development experiences that allow teachers to validate existing practices and develop their competence and confidence to implement innovative and effective teaching strategies.

Comprehensive health education and physical education deal with sensitive and sometimes personal issues in both students' and teachers' lives. Effective teacher training builds commitment, understanding, skills, and attitudes that foster instructional practices to support the achievement of the *Standards*. Professional development programs in health and physical education should be designed to:

- Develop positive attitudes towards and commitment to health and physical education;
- Provide teachers with the structure, content, and philosophy of the district's health and physical education program;
- Increase the teacher's understanding of learning theories and principles of behavior change as specifically related to wellness;
- Improve teaching and facilitative skills;
- Prepare teachers to deal with sensitive issues and controversy; and
- Acquaint teachers with school and community health resources that support instruction.

Professional development experiences need to balance health and physical education content and theory with ample opportunities for hands-on experiential learning. Many teachers, accustomed to "read the book and answer the questions" modes of instruction, have a great deal of difficulty adjusting to an interactive classroom and a facilitative role. These same teachers may have difficulty using cooperative grouping, role-play, and case-study approaches. Becoming comfortable with these modes of teaching increases the likelihood that the teacher will at least try to employ the methods in the classroom. Teachers may benefit most from observing master teachers or working with another teacher who is comfortable in a more facilitative role. As new classroom practices are adopted and implemented, coaching and circles (networking groups) reinforce and enhance skill development. Teachers need to become comfortable with these mechanisms in much the same way as students do (Sparks & Hirsh, 1997).

The effectiveness of any health and physical education professional development experience is greatly enhanced by continued support that deals with new questions and problems as they arise. Students often ask questions that may seem inappropriate or may be difficult to answer. How the teacher deals with such questions may determine his/her credibility for the remainder of the year. Practicing similar situations with other professionals enables teachers to anticipate such situations and handle them more effectively when they do arise. Booster sessions, where health and physical education teachers can discuss problems, issues, and successes, help address gaps in preservice educational experiences and provide on-going opportunities for collegial exchange.

Effective staff development addresses the needs of the participants. No doubt the range of content knowledge, skill performance, and commitment will vary among staff members. To develop effective experiences with benefits for all participants, staff development planners should solicit information using a simple needs assessment and use the information obtained to plan experiences focusing on the needs of the participants in relation to the *Core Curriculum Content Standards*. At the conclusion of the session, participant feedback enables the planners to adjust the content and training as necessary and can be used to support additional training sessions.

Professional development in health and physical education is not limited to attendance at workshops or training sessions. Professionals must remain cognizant of emerging health and social issues that profoundly impact health and physical education instruction. One can keep abreast of these changes by reading professional literature, (e.g., *Journal of School Health*, *Journal of Physical Education, Recreation, and Dance*) and browsing health-related Web sites. Teachers should attend medical seminars and state, regional, and national conferences. In addition, professional health educators and physical educators can be involved in research; take advanced college work in the field; and apply their knowledge and skills in other venues such as healthcare facilities, camps, and recreational programs. Health and physical education networks, organized by state-level organizations such as the New Jersey Association for Health, Physical Education, Recreation, and Dance (NJAPERD) and the New Jersey State School Nurses Association (NJSSNA), foster professional growth, assist teachers to create purpose and direction, build collaborative structures, and promote commitment. Networks create activities and relationships, provide leadership at the school district or building level, and address specific issues such as funding or community support (Lieberman, & Grolnick, 1997). As informal mechanisms, networks bring people together to discuss issues of importance to the field and will continue to play an important role in professional development experiences.

## SUMMARY

Beginning in the year 2000, all New Jersey teachers and educational services staff will be required to accumulate 100 hours of professional development experiences over a five-year period. Research shows that teachers who are supported in a variety of helpful and challenging staff development opportunities become partners in improving their schools and their districts.

Staff development and school improvement efforts are personal experiences shaped by the players and circumstances involved. They are more than just training designs; they are the net result of planning, trial and error, assessing results, and sustaining commitment to improvement (Loucks-Horsley, et al. 1987, p.7)

For comprehensive health and physical education specialists, staff development opportunities are a critical link to establishing instructional practices that enable students to develop the knowledge and skills needed to become healthy, competent, and caring adults.

Chapter 7

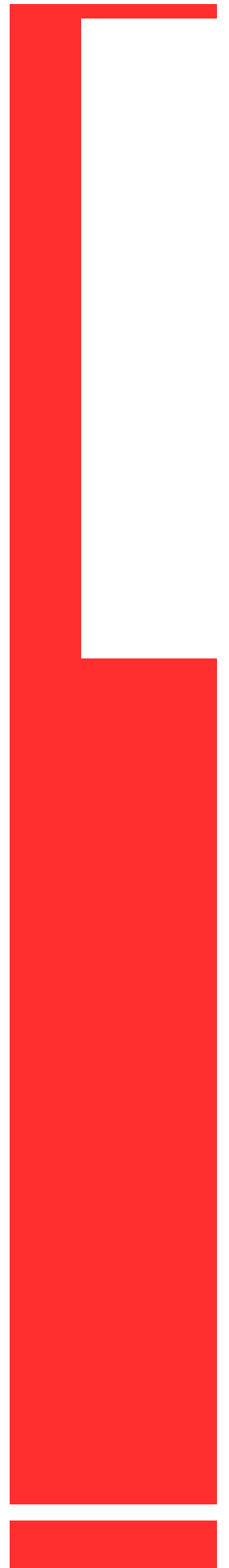
## PREPARING FOR THE WORLD OF WORK

*I will pay more for the ability to deal with  
people than any other ability under the sun.*

JOHN D. ROCKEFELLER

*Knowing is not enough; we must apply.  
Willing is not enough; we must do.*

GOETHE



## PREPARING FOR THE WORLD OF WORK

### THE CROSS-CONTENT WORKPLACE READINESS STANDARDS

To help prepare students for a rapidly changing world, the New Jersey State Board of Education adopted five *Cross-Content Workplace Readiness Standards* to be integrated with the seven academic *Standards*. The *Standards* define the skills students need as they pursue college, careers, and adult responsibilities. These *Standards* focus on the requisite skills and knowledge necessary for students to become productive members of the community and the workforce. The *Cross-Content Workplace Readiness Standards* include the following:

- Career planning and work-place skills;
- Use of technology, information, and other tools;
- Critical thinking, decision making, and problem solving;
- Self-management; and
- Safety principles.

Unlike the cumulative progress indicators for the other content areas, the workplace readiness indicators are not organized by grade-level clusters. Because the *Cross-Content Workplace Readiness Standards* and indicators cut across all content areas and grade levels, educational personnel should integrate these concepts into all programs in content-specific and developmentally appropriate ways. To strengthen the linkages between the content areas and the *Cross-Content Workplace Readiness Standards*, the activities and scenarios in this *Framework* include interdisciplinary approaches to workplace readiness. There is a very strong correlation between the *Cross Content Workplace Readiness Standards* and indicators and the *Comprehensive Health Education and Physical Education Standards*. In this *Framework*, every sample learning activity has been cross-referenced with *Workplace Readiness Standards* and indicators. Related workplace readiness indicators “(CCWR: 1.1)” are found at the end of each sample learning activity.

To adequately prepare students for tomorrow’s world, health and physical education teachers should enlist the assistance of the entire educational team. Preparing students for the world of work requires a team effort, each drawing on the collective expertise of its members. The school counselor plays a pivotal role in this process; however, none of this can be accomplished without strong support from building and district level administrators. School staff should not overlook the important contributions of community businesses and agencies to promote and support workplace readiness knowledge and skills. Sample contributions of these individuals and groups are listed in the chart below.

**TEAM PLAYERS FOR THE WORKPLACE**

**School Counselor**

Coordinates; consults; collaborates; serves as a resource; assists students in the academic, vocational, and personal arenas.

**School Nurse**

Facilitates health service learning experiences; arranges for speakers; coordinates visits to community agencies and health care providers; provides hands-on work experiences in the school health office.

**Library Media Specialist**

Assists students to access print and technological resources; provides volunteer and work experiences for students.

**Nutrition Specialist**

Provides work experiences; demonstrates consumer and safety skills.

**Recreation Specialist**

Assists students to plan and implement a community wellness or fitness day; demonstrates safety equipment; discusses costs associated with community recreation programs; provides job and volunteer experiences for students.

**Manufacturing Co.**

Demonstrates occupational safety measures and policies; demonstrates technology.



## PUTTING IT ALL TOGETHER

As society becomes more complex, “traditional” education becomes less relevant due to its fragmentary nature. The combination of interdisciplinary instruction (which combines several content disciplines in a common lesson or activity) and the use of a systems approach (to develop an overview perspective of the actions and forces that impact the activity) produces a highly motivating and engaging context for learning. Experiential education enables students to learn by doing, to plan and design projects, to research possible solutions to specific and general problems and to present the results of their work to others. Students evaluate both the process and the product. These valuable learning experiences integrate academic content so students are able to achieve and in some cases surpass the *Standards*.

The use of “hands-on” learning activities increases student involvement and adds a sense of personal meaning for students. Students are empowered to interact with the “real world” and become excited and committed to projects in which they play key decision-making roles. As needed in the world of work, students learn to communicate, to create, to think on their feet, and to meet tight timelines. Learning to work as part of a team, sometimes as a responsible leader and sometimes as a team player, is an important skill. Part of this process includes learning to communicate effectively. Listening, reflecting, providing constructive feedback, and carefully considering the ideas of others are important skills to take to the workplace. Throughout the process, students gain confidence from the respect and self-satisfaction their success earns.

The following three scenarios illustrate the interdisciplinary, systems-thinking approach to cross-content workplace readiness instruction. While they are presented in elementary, middle, and high school categories, creative teachers can easily adapt the scenarios for use with students at all levels. Connections to health and physical education content follow each activity. The entire text of the *Cross-Content Workplace Readiness Standards* can be found in Appendix E of this *Framework*.



*Elementary Level***THE PYRAMID RECONSTRUCTION  
(Systems Thinking Project)****GRADE LEVEL:** 3-4**GOAL:** To discuss and debate the system support mechanism that enabled the Great Pyramid of Egypt to be constructed.**MAJOR SKILLS:** Problem-Solving; Thinking Processes; Communication**BACKGROUND**

The Great Pyramids of Giza, built over 4500 years ago, continue to impress modern engineers and technologists. These tombs are the most famous pyramids, but there are more than 80 other pyramids in Egypt. The largest of the three, the Great Pyramid of King Khufu, was built about 2550 B.C. At its peak, it was 481 feet tall and had a square base of 756 feet on each side. Approximately 2,300,000 blocks of solid limestone, each weighing about 2.5 tons, were used in its construction. Many scholars have offered theories on how the Egyptian accomplished the construction; however, there is no definitive proof substantiating their findings.

**THE PROBLEM**

**To discover a successful technique to move a large stone up an inclined plane.**

The ancient Egyptians were faced with many problems while building the pyramids at Giza 4500 years ago. One of the most obvious problems was moving heavy blocks of stone (about 2.5 tons each) into position to build the pyramid. The largest pyramid at Giza is over 450 feet high and used over 2 million stones. To imagine how high the pyramids actually are, they would be more than one and one-half football fields standing end on end.

**MATERIALS**

The materials include stone, an inclined plane, sand, water, rope, and wood.

**QUALITY WORKERS**

The Egyptians needed to be quality workers. Clearly, their finished project is evidence of their ability to work both individually and in teams. The Egyptians understood a great deal about technology and practical problem solving and there is clear evidence they were critical thinkers who knew how to make decisions. We know there was division of labor among the ancient Egyptian workers (e.g., there were surveyors, stone cutters, rope pullers, engineers, architects, and designers). The ancient Egyptians worked on the pyramids only three months of the year, when the Nile River overflowed. In order to accomplish this task, workers must have demonstrated self discipline and self-management skills. The Egyptians needed to be safety-minded to insure that the people who were doing this dangerous work would not be hurt.

**SAMPLE CONNECTIONS****THE PYRAMID CONSTRUCTION**

Here are some examples of ways a classroom teacher can emphasize various content areas using this specific activity and theme.

**Visual and Performing Arts**

Students explore the elements of design and aesthetics in the beauty of the pyramid itself (e.g., the interior walls were decorated with paintings).

**Comprehensive Health Education and Physical Education**

Students explore the diet and exercise patterns of the Ancient Egyptians to explain how they were physically and mentally fit for this arduous task. Students also investigate safety measures that might have been in place to protect the workers during the building process and relate them to modern-day occupational safety concerns.

**Language Arts Literacy**

In addition to the common research and writing skills used in this activity, students present the results of their findings in an oral or multi-media presentation.

**Mathematics**

Students explore the importance of geometric shapes and properties in designing the pyramids.

**Science**

Students construct a chart or diagram which illustrates a variety of system components that are necessary to support the building project. Students explore where the water came from and how it would be transported and stored or the system of levers, wheels, and pulleys used to move the stone.

**Social Studies**

Students examine the significance of the pyramids to Egyptian culture, looking at religious, social, and economic implications.

**World Languages**

Students study Egyptian culture and history to determine why early settlers from different communities on the Nile agreed to use hieroglyphics. Students relate this to the economics and agriculture of the region and their impact on the building of the pyramid.

***Middle School Level*****THE REAL GAME**

In April 1998, 46 New Jersey school districts participated in *The Real Game* pilot program. *The Real Game* is an experiential learning program that allows students to experience various aspects of the working world through role-play and games. Using a cross-curricular approach, the program can accommodate up to forty middle and junior high school students (grades seven and eight). As teachers guide students through a series of interdisciplinary exercises and events, they become more aware of the world of work and how their actions in school affect their future. Anecdotal records from New Jersey teachers indicate increased interest in academics as students come to experience and understand the relevance of school studies to life.

**HOW THE REAL GAME WORKS****Unit One: LEARNING A LIVING**

- The Real Game is presented to the participants as a journey in career exploration that will enable the students to “assume the mantle of the expert.”
- Students randomly choose an occupation and explore aspects related to adult life in our society.
- Students complete a pre-test to determine their current knowledge of terminology and other aspects related to the work world and complete the same questionnaire at the end of Unit Five to evaluate their progress.
- Students play the first round of The Spin Game (an interdisciplinary multiple choice question and answer game) and form groups which serve as the basis for subsequent activities.

**Unit Two: MAKING A LIVING**

- Students explore and express their dreams by choosing items on the wish list that they would like to have in their adult life.
- Students balance a monthly budget and assess what they can actually purchase, considering their income and chance (represented by chance cards).
- Students personalize an activity poster as they gather information on their neighbors' occupations. Activity posters include: transferable skills, annual holidays, gross and net monthly income, income tax, bills, and expenses.

**Unit Three: QUALITY OF LIFE**

- Students choose leisure and holiday activities while still taking into account the profile assigned to them.
- Students examine necessary daily activities and then choose activities to do during free time.
- Students plan a group holiday while taking into account their budget and the amount of vacation time each member has. This exercise enables students to negotiate and research specific vacation destinations as well as learning about a variety of travel industry occupations.

**Unit Four: CHANGES AND CHOICES**

- Students learn to deal with unexpected elements that occur in life such as providing support and assistance to colleagues who are faced with a job loss.
- Students work in groups to develop strategies that may bring lead to new possibilities.
- All students are rendered jobless by large-scale disasters. Working as a team, students offer solutions and learn how their transferable skills will enable them to grasp other employment opportunities.
- Students play the second round of The Spin Game so they can continue to explore occupations, terminology and links that exist between their schooling and the work world.

**Unit Five: THE PERSONAL JOURNEY**

- Students imagine themselves in the future and reflect on their career journey by talking with individuals in the community.
- Students plan a career day and invite guest speakers. Activities such as these enable the students to share their experiences and new knowledge as well as gather information on the present work world and a variety of careers.

**HEALTH EDUCATION AND PHYSICAL EDUCATION CONNECTIONS**

The very nature of this activity presents a strong correlation to the *Comprehensive Health Education and Physical Education Standards*. Additional ideas to extend *The Real Game* might include the following:

- Students participate in lifetime recreational activities that match their “game profile” and examine the costs, time commitments, and benefits of the selected activities.
- Students consider the impact of the use of alcohol, tobacco, and other drugs on the quality of life, the achievement of their goals and their future while playing the game.
- Students develop a health profile for their *Real Game* character and relate the impact of health status on lifetime decisions.
- Students investigate a variety of health careers and establish a hypothetical career plan.

*High School Level*

**THE LIFE CYCLE OF A PENCIL**

**ACTIVITY**

- Provide each student with a wooden pencil.
- Brainstorm a list of materials that make up the pencil, along with the natural resources from which they are derived.
- Ask the students where these natural resources and other materials come from.
- Discuss possible origins and locate these on a world map.
- Students learn the word for pencil in the languages of each country and determine whether pencils are, in fact, used in each country.

Examples for a wood pencil are listed below:

<b>Country / State</b>	<b>Resource</b>	<b>Country / State</b>	<b>Resource</b>
Canada	Copper	Poland	Zinc
Mexico	Gum (sap)	Italy	Pumice
Brazil	Rubber	Saudi Arabia	Petroleum
California	Incense cedar	Sri Lanka	Graphite

- Students consider the life cycle of a wood pencil “from cradle to grave.” Where do the makings of a pencil begin? Where does a pencil stub go?
- Students develop a graphic organizer that represents the formation, use and disposal of a pencil (see Appendix B for sample graphic organizers).

Include the following steps in the graphic organizer:

1. Wood harvested; truck hauls tree to mill
2. Mill prepares lumber; lumber shipped to factory
3. Graphite mined and shipped to factory
4. Clay mined and shipped to factory
5. Gums tapped, prepared and shipped to factory
6. Pencils are manufactured
7. Trucker hauls pencils to warehouse or railroad
8. Trucker hauls pencils to wholesale dealers
9. Trucker hauls pencils to retail stores
10. Customer drives to store to buy pencils
11. Customer uses then discards pencil
12. Pencil hauled to landfill or incinerator

Activity adopted from: “Resource-go round,” Project learning tree activity guide, pp. 316-319.

- Students identify the forms of energy (including human) required to extract, process, manufacture, and transport pencils.
- Students identify where materials might be reused or recycled.
- Students identify and research careers related to pencil manufacturing, distribution, use, and disposal.
- Students provide examples of feedback and explain how feedback is used to control, alter, or effect the behavior of a system. Examples include the following:
  - Overall demand for and sales of pencils;
  - Seasonal fluctuation of sales or decrease or increase of sales;
  - Availability of refillable, plastic pencils
  - Finding new markets for lead pencils;
  - Increased postage for shipping;
  - Increased gasoline prices for hauling;
  - Minimize the environmental impacts of graphite mining, causing a rise in production costs;
  - Development of new technology that is only feasible if greater bulk of pencils are produced;
  - Finding new markets becomes a priority;
  - Using only recycled materials in designing pencil packaging; and
  - Competition has lower price per pencil; production costs must be cut to compete.

### **HEALTH EDUCATION AND PHYSICAL EDUCATION CONNECTIONS**

- Students select a health item or product and research its origins, use, and disposal.
- Students explore occupational health issues related to the use of computers instead of “pencil and paper”. How does this impact fitness? Students compare the ergonomic effects of technology versus the use of traditional writing implements.
- Some people fear “lead poisoning” from pencils. Develop an ad campaign that educates the public about graphite versus lead. What is the appropriate first aid for a pencil injury? What effect, if any, does graphite have on the body?
- Students investigate the potential community and environmental health consequences of the use of trees for paper production.
- A pencil is made of many component resources. How might these substances be used to promote health or treat health conditions (e.g., petroleum products, zinc, pumice)?
- Students investigate occupational safety regulations and policies for manufacturing companies and relate to the incidence of injuries; students design an injury prevention program for the company.