1 Health Education for the 21st Century

"Skills-based health education can be effective in the more difficult task of achieving and sustaining behavior change."[1]

Introduction

We want our children to have healthy, happy, and productive lives, but how can we make it happen? Achieving this goal requires a group effort that includes family, friends, community, and schools. With sufficient resources, support, and partnerships, schools provide an excellent environment for students to acquire the knowledge and skills to become wholesome, achieving citizens of the 21st century.

Education in America is interwoven with national legislation that mandates state and local accountability, increased flexibility, local control, expanded options for parents, and proven research-based methods of instruction. Our national educational goals include promoting student achievement and preparing students for global competition. Health education advances these goals by empowering students to be physically, mentally, and emotionally healthy and equipping them to learn, achieve, and succeed.[2]

Why is Comprehensive Skills-Based Health Education Important?

Without our health, life poses many unwelcome challenges because it may be more difficult to concentrate, stay on-task, or care about things other than one's own feelings. We do learn to be healthy, but the question is how? Some of us learn from our parents, friends, family, media, the Internet, and other sources. While a modicum of this information is valid and reliable, a good portion is hearsay, folklore, or plainly incorrect.

Dr. Pat Cooper, the former superintendent of the McComb School District in Mississippi, has said, "Students need to be healthy to learn and must learn to be healthy." To realize this vision that all children learn how to be healthy and receive information and skills that prepare them for personal and academic success in the 21st century, schools provide quality skills-based health education from pre-kindergarten through Grade 12 (PreK–12).

Quality school-based health education, according to the American Cancer Society, uses the National Health Education Standards as the foundation for curriculum development. They concentrate on increasing **functional health knowledge** and the skills needed for healthy living. These include, such as identifying the influence of family, peers, culture, media, and technology on behavior, accessing and using valid health information, communicating, goal setting, practicing healthy behaviors, and advocating for one's self and others.[3]

If our children learn to be healthy at a young age, consider the positive impact on their personal, social, and academic lives as they mature and prepare for their future. A comprehensive, PreK–12 skills-based health education program incorporating the National Health Education Standards helps students establish healthy behaviors that stay with them into adulthood.

Comprehensive school health also serves as a funnel through which local, state, and national health programs reach all children in a coordinated, organized, and sequential manner. Each child in every school at all grades has access to a high-quality program and learns the knowledge and skills needed for a healthy and productive adulthood.

The National Health Education Standards

The foundation of comprehensive skills-based health education is the National Health Education Standards

TABLE 1.1 The National Health Education Standards

Standard 1: Students will comprehend concepts related to health promotion and disease prevention to enhance health.

Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.

Standard 3: Students will demonstrate the ability to access valid information and products and services to enhance health.

Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.

Standard 5: Students will demonstrate the ability to use decision making skills to enhance health.

Standard 6: Students will demonstrate the ability to use goal setting skills to enhance health.

Standard 7: Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

Standard 8: Students will demonstrate the ability to advocate for personal, family, and community health.[4, p.8]

(NHES), Second Edition, Achieving Excellence (see **Table 1.1**). They were revised and published in 2007 and embrace the current science of what knowledge and skills students need to acquire, maintain, and promote healthy behaviors. These standards provide a framework for curriculum, instruction, assessment, and accountability.

The first standard addresses concepts related to health promotion and disease prevention to enhance health. The standards do not, however, specify the content school districts include in a comprehensive PreK–12 health program but do provide districts with the flexibility to choose material from the common health education content areas according to the needs of their students.

Standards two through eight are skills: analyzing influences, accessing valid information and products and services, interpersonal communication, decision making, goal setting, practicing healthy behaviors, and advocating for personal, family, and community health. They are sequenced to show progression from knowledge to the application of skills.

Performance indicators accompany each standard and clarify what a student needs to know and do for each grade span of the standard (PreK–2, 3–5, 6–8, 9–12) (see **Figure 1.1**). To reach proficiency, a student demonstrates expertise in all the performance indicators for that grade span.

The numbers that precede the performance indicator signify the standard, the last year of the grade span, and the number of the performance indicator in the sequence.

Common Health Education Content Areas

Community Health
Consumer Health
Environmental Health
Family Life
Mental/Emotional Health
Injury Prevention/Safety
Nutrition
Personal Health
Prevention/Control of Disease
Substance Use/Abuse[4,p11]

The performance indicators are developmentally appropriate for each grade span and include all six levels of Bloom's original taxonomy of the cognitive domain: knowledge, comprehension, application, analysis, synthesis, and evaluation (see **Figure 1.2**).

The knowledge level expects students to retrieve information. When they take in new information, understand, and use it, students have reached the comprehension level. The application level requires them to use knowledge to solve problems without much prompting. On the analysis level, students deconstruct a complex problem into smaller parts in order to understand it better. To synthesize, students organize individual ideas or parts into a

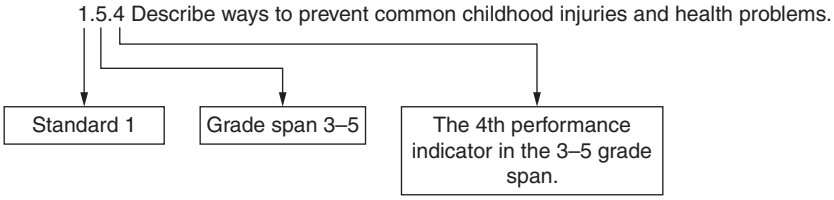

FIGURE 1–1 Performance Number Indicator Numbers

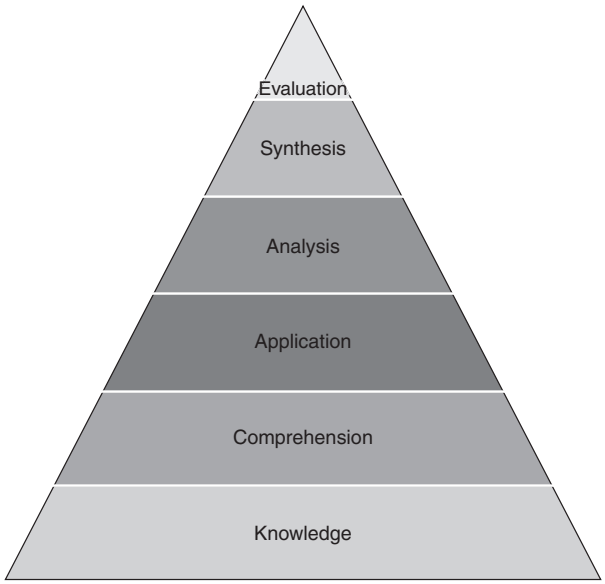

FIGURE 1–2 Bloom's Taxonomy

new product. They make judgments based on specific criteria or evidence[5] on the evaluation level.

As students gain knowledge in content and proficiency in skill from elementary to the middle and upper grades, they progress to more difficult tasks, such as examining, analyzing, predicting, comparing, and proposing. Even though elementary students are challenged with simpler tasks, they learn to achieve at higher levels with the appropriate instruction from a skilled health educator.

The Power of Coordinated School Health

The effectiveness of school health education increases when the members of each component cooperate, collaborate, communicate, and coordinate efforts to support the health of students, staff, and the school community.

When thinking of how a team plans its strategies, we know that a group of knowledgeable and skilled people collaborate, communicate, cooperate, and coordinate their efforts. Districts and school administrators conduct team meetings for the same reasons. Likewise, to meet the health requirements of our students, we need a coordinated effort.

If asked, many schools would probably say that they already provide for student needs and would list the many services in place, such as counseling, nutrition, after-school programs, social services, mental health services, smoking cessation programs for staff and students, and crime prevention programs. Upon a closer look, we might find that these programs and services are offered but perhaps not coordinated. One department may be unaware of what another provides. Two separate departments may service one student, but neither may be aware of the other's efforts.

Community resources—local hospitals, recreational organizations, and businesses—may have services to offer schools. A lack of coordination, collaboration, cooperation, or communication between the community and the school may, however, result in their underutilization.

If the educational goal is to help students develop healthy behaviors and, consequently, improve academic achievement, the **coordinated school health model** must provide the structure through which the school and community can work together towards that common goal. The Centers for Disease Control and Prevention (CDC) designed the Coordinated School Health Program (CSHP), which provides the framework for planned, sequential, integrated courses, services, policies, and interventions to meet the health needs of students in kindergarten through Grade 12. The model organizes school, community, and parent resources to marshal the full potential of the community in improving the health, well-being, and academic achievement of students.[4,p4]

As seen in **Figure 1.3**[4,p5], the CSHP has eight components: comprehensive health education; physical education; school health services; school nutrition services; school counseling, psychological, and social services; healthy school environment; school-site health promotion for staff; and family and community involvement in school health.[4,p5] The eight components, when working in unison, improve the health and well being of our students by providing an efficient, organized delivery of instruction and services. When representatives of each component meet regularly to assess student needs, curriculum, and instruction, as well as design and implement local, state, and national programs and policies, they improve the health and academic achievement of students.

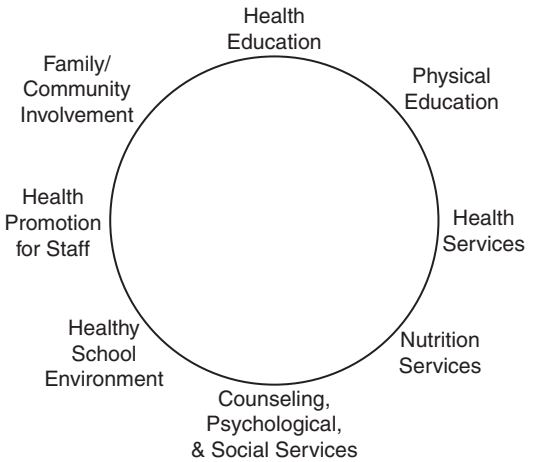

FIGURE 1–3 Coordinated School Health Model

The CDC currently provides funding to selected states to help implement coordinated school health programs. The goal is to increase the effectiveness of policies, programs, and practices that promote physical activity, nutrition, and tobacco use prevention.[6,p3]

Research published in the *Journal of School Health* demonstrates how the coordinated school health model results in positive behaviors and academic achievement. An examination of the components and the research that supports them follows.

HEALTH EDUCATION

Comprehensive PreK–12 skills-based health education is instruction that complies with state and national standards and the characteristics of effective health education. It encompasses the physical, mental, emotional, and social dimensions of health and promotes knowledge, attitudes, and skills. Assessment of student progress in the attainment of standards is continuous and reported. The effectiveness of the program increases when it is a part of a coordinated model, offers equitable access to school resources, and engages local and state partners in the implementation of standards.[6,p4]

The November 2007 edition of the *Journal of School Health* presented research on how health education contributes to improved academic outcomes.

- Academic grades for low-income minority students, aged 8–11, improved when they participated in an asthma self-management program that included health education and parent involvement. Another asthma self-management program that included health education for asthmatic children and their classmates, an orientation for school principals and counselors, and communication with and education of custodians, caretakers, and clinicians resulted in students' demonstrating higher grades in science.[7,p591-599]
- Elementary or high school students who participated in social skills training that also included teacher training experienced improved achievement. In a six-year follow-up study of high school students who had received the training in elementary school, researchers found they had improved attendance and achieved higher scores on standardized tests than members of a control group. Students who received the highest level of training exceeded the control group for scores in language arts and math.[7,p591-599]
- In a study of how to prevent adolescent drug abuse and reduce high school dropout rates through a school social network program, researchers found that ten months after participating in a five-month Personal Growth course that taught social skills and included teacher training, students demonstrated an increase in their grade point average, school bonding, and perception of school performance as compared to a control group.
- Researchers also found that academic success improved when social skills training included parents and community members and was incorporated into health education, breakfast programs, physical education, and mental and general health services.[7,p591-59]

PHYSICAL EDUCATION

Physical education is planned sequential instruction that promotes life-long physical activity. This component teaches basic movement, sports skills, and physical fitness, and enhances mental, social, and emotional capabilities.[6,p4]

Current research shows a link between participation in physical education and increased academic performance.

- Project SPARK (Sports, Play, and Active Recreation for Kids), a PreK–12 program, provides evidence-based physical activity, nutrition programs, curriculum, staff development, follow-up support, and equipment. Researchers completed a rigorous evaluation of SPARK and found significant gains in reading performance. The academic functioning of participating students was not compromised, even though time for physical education was taken out of the school day.
- In an era of high stakes testing, some worry that time is better spent in academics than physical education. One study examined physical education programs that offered classes in fitness or skill training for seventy-five minutes each day, and its researchers found no significant decrease in test scores and reported that physical education does not detract from academic achievement on standardized tests.[7,p597]
- The National Association for Sport and Physical Education & Council of Physical Education for Children found in 2001 that "students who participate in daily physical education have better attendance, a more positive attitude toward school, and superior academic performance."[8]

SCHOOL HEALTH SERVICES

School health services include preventive services, education, emergency care, referral, and management of acute and chronic health conditions. This component promotes and ensures the health of students and identifies and prevents health problems and injuries. Although not much research about the relationship between school health services and academic achievement has been undertaken, some data does show positive outcomes for students who use school health services.[6,p4]

- Students in Grades 6–12 who utilized their school health clinics showed reduced absenteeism and a significant, positive correlation with school graduation or grade promotion. The African-American male students who used the clinics were three times more likely to stay in school than their peers who did not.[7,p598]

SCHOOL NUTRITION SERVICES

School nutrition services consist of nutritious, affordable, appealing meals, accompanied by nutrition education in an environment that promotes healthy eating behaviors for all children. They maximize each child's education and health potential for a lifetime. Furthermore, abundant research demonstrates the connection between good nutrition and positive academic and behavioral outcomes.[6,p4]

- One study used a pre/post test to examine the food and nutrition services in the Pennsylvania and Maryland schools. Results showed that African-American and low-income students who participated in the school breakfast program for four months or longer showed a significant increase in math scores and a decrease in absence and tardiness rates.[7,p598]
- A study on the relationship between a school breakfast program and academic performance conducted in six Massachusetts schools found that students who participated had an increase in total scale scores and language scores. Researchers also found "positive trends for mathematics and reading and decreases in tardiness."[7,p598]
- In a six-month inner city, pre/post study examining diet, breakfast, and academic performance, researchers found that children who decreased their nutrition risk showed improvements in reading, math, social studies, science, and attendance.[7,p598]

SCHOOL COUNSELING AND PSYCHOLOGICAL AND SOCIAL SERVICES

School counseling and psychological and social services incorporate activities that stress the cognitive, emotional, behavioral, and social needs of individuals, groups, and families. These services prevent and address problems, facilitate positive learning and healthy behavior, and enhance healthy development. Emerging research shows a connection between increased psychological services and positive academic behaviors.[6,p4]

- In a study on the utility of psychosocial screening among 13 to 18-year-old public school students at a school clinic, researchers found that after two months of receiving school-based mental health and counseling services, absenteeism decreased by 50% and tardiness by 25%.[7,p598]

HEALTHY SCHOOL ENVIRONMENT

A healthy school environment encompasses the physical, emotional, and social climate of the school. It provides a safe physical building, as well as a wholesome and supportive social and academic climate that fosters learning. One way to improve the school is by expanding the classroom management skills of the teacher.[6,p4]

- Grade 1 teachers were trained in classroom-centered intervention that focused on improved management of child aggression, shyness, on-task behavior, and curriculum to improve critical thinking, composition, listening, and comprehension skills. Researchers found that students in this program had fewer behavioral problems at age twelve, which reduced the need for mental health services.[7,p598]

SCHOOL-SITE HEALTH PROMOTION

School-site health promotion includes assessment, education, and fitness activities for faculty and staff. It maintains and improves the health and well-being of school staff, thereby providing healthy role models for students. Limited research regarding worksite health promotion for school faculty and staff has been conducted.[6,p4]

- One study showed significant improvements in self-reported health status and reduced absenteeism among school employees who participated in a "personalized aerobics lifestyle system program." This program was an intensive, ten-week intervention of health education, peer support, behavior management, and supervised exercise sessions held one day a week after school.[7,p598]

FAMILY AND COMMUNITY INVOLVEMENT

The family and community involvement component includes partnerships among schools, families, community groups, and individuals. It focuses on the healthy development of children, youth, and their families by sharing and maximizing family and community resources and expertise.[6,p4] Research is uncovering the benefits of training parents as part of prevention programs.

- The Seattle Social Development Project is a school program that tries to prevent academic failure, drug use, and delinquency among low-income children. Training included teachers and parents to ensure that children received the same information and behavioral messages at school and home. Teachers received specific training in classroom management and social skills. Results of the program included increased class participation and more commitment to school. Girls showed lowered rates of substance abuse while boys increased their social and schoolwork skills.[9]
- Academic grades for low-income minority students, aged 8–11, increased when they participated in an asthma self-management program that included health education and parent involvement. Academic success improved when social skills training for parents and the community was incorporated into health education, breakfast programs, physical education, mental health services, and health services.[7,p591-599]

The advantages to implementing a coordinated school health program are many. School districts use staff,

resources, and time more efficiently to address the needs of their students. Representatives of each component collaborate to assess needs and data collected from various tools, such as the School Health Index, Health Education Curriculum Assessment Tool, the Physical Education Curriculum Assessment Tool, and the Youth Risk Behavior Survey. They use the results of these assessments to share information and expertise, set goals, meet the needs of the students and district, implement programs that help the school and community, and coordinate local, state, and national resources.

Community agencies and institutions assist districts in providing programs and services. With community and district partners collaborating, barriers to learning decrease while academic success increases. The coordinated school health program also provides an efficient and effective infrastructure to implement and organize the national initiatives of the Association for Supervision and Curriculum Development (ASCD), Action for Healthy Kids, and The U.S. Child Nutrition and WIC Reauthorization Act of 2004.

NATIONAL ORGANIZATIONS SUPPORT COORDINATED SCHOOL HEALTH

Several national organizations also recognize the importance of coordinating the efforts of the school to improve the health and academic performance of students.

In its position statement regarding the whole child, ASCD explains that the current trend in education is academic achievement. ASCD believes in a comprehensive approach to education and defines a successful student as "knowledgeable, emotionally and physically healthy, motivated, civically inspired, engaged in the arts, prepared for work and economic self-sufficiency, and ready for the world beyond their own borders."[10]

According to the ASCD, schools should provide challenging and engaging curricula and adequate professional development with collaborative planning time within the school day. They should also offer a safe, healthy, orderly, and trusting environment; high-quality teachers and administrators; a culture that sustains strong relationships between adults and students; and support for coordinated school health councils or other collaborative structures that are active in the school.

Lastly, ASCD believes teachers should provide proven assessment and instructional practices, rich content, and an engaging learning climate that supports student and family connectedness, effective classroom management, and modeling of healthy behaviors.[10]

This ASCD position is consistent with the goals of the coordinated school health program for several reasons. The CSHP is also a comprehensive approach to education dedicated to improving student knowledge as well as emotional and physical health. The CSHP components of health and physical education provide a challenging, engaging, and proven curriculum built on national standards. The component of a healthy school environment works to provide a safe, healthy, orderly, and trusting learning and social environment.

ASCD recognizes the importance of the CSHP when it affirms support for the coordinated school health councils and other collaborative school structures. The members of these committees collaborate, coordinate, cooperate, and communicate with each other to improve school programs, policies, and services that affect the health and well-being of the students.

Another national organization likewise dedicated is Action for Healthy Kids. It is a public-private partnership consisting of more than sixty national and government agencies that represent education, health, fitness, and nutrition. Action for Healthy Kids addresses the problems of youth who are overweight, sedentary, and undernourished by recommending that schools improve nutrition and increase physical activity.

In its report *Progress or Promises*? Action for Healthy Kids acknowledges the importance of collaboration among the CSHP components of food services, physical and nutrition education, parents, school, and community to improve the nutrition and physical activity of students. The report cites evidence that "poor nutrition, physical inactivity, and obesity are associated with lower student academic achievement and poorer health."[11,p3]

Through a coordinated school health program, each district assesses student needs and sets goals to meet them. The coordinated school health team reviews the data presented by the Action for Healthy Kids and, when appropriate, proposes policies and programs to improve poor nutrition, increase physical inactivity, address obesity, and improve academic achievement.

Another national initiative, The U.S. Child Nutrition and WIC Reauthorization Act of 2004, required every U.S. school district participating in the national school lunch or breakfast program to create a local school district wellness policy by June 2006. A policy must include goals for nutrition education, physical activity, and other wellness promotion activities.

Nutrition guidelines for all food available in each school are mandatory, and the guidelines cannot be less restrictive than those set by the U.S. Department of Agriculture (USDA). Plans must also be in place to measure progress towards reaching established goals. One person is responsible for monitoring the development and implementation of the plan. A local committee that includes representatives of schools, parents, and other community members is also required.[11,p17]

Once again, we see a national organization recognizing the importance of collaboration to address the needs of students. Rather than establishing a separate group, the wellness committee easily merges with the coordinated school health committee to address the specific needs of

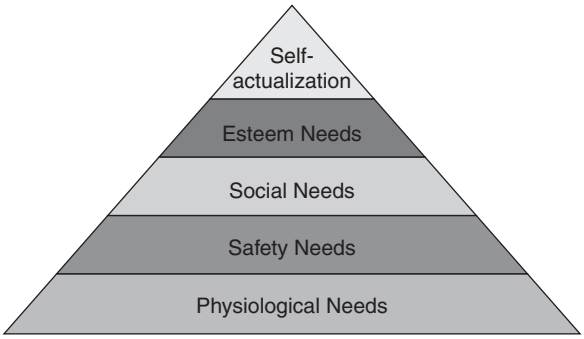

FIGURE 1–4 Maslow's Hierarchy of Needs

wellness, nutrition education, and physical activity as well as other school health issues.

COORDINATED SCHOOL HEALTH IN ACTION

One district that has embraced the coordinated school health model is the McComb School District in Mississippi. The district added a component, Academic Opportunity, to its model and believes that all children can learn if given the opportunity.

McComb uses Maslow's hierarchy (**Figure 1.4**) to show how basic needs must be met before potential is reached. Their coordinated school health model is the mechanism that helps students work their way up the hierarchy. The former superintendent of the McComb district, Dr. Pat Cooper, said, "Students must be healthy to learn, but they must also learn to be healthy."

In each school in the McComb district a School-Based Health and Wellness Team, led by a case manager, meets weekly to identify students with problems. Members work together to develop solutions and strategies that help the student, whom they then follow until reaching a resolution.

The McComb model has increased test scores and decreased negative behaviors. Teachers are teaching, and students learning more effectively. McComb has experienced a decrease in crime and pregnancy rates, special education, dropouts, suspensions, and expulsions, as a result of implementing the coordinated school model.

Skills-Based Health Education Research

There is now increasing evidence that in tackling individual behavior, social and peer pressure, cultural norms, and abusive relationships, a skills-based approach to health education works, and is more effective than teaching knowledge alone.[1]

Focusing Resources on Effective School Health (FRESH) with assistance from the international organizations UNESCO, UNICEF, and WHO, recommend the following to strengthen school health:

- Schools develop health related school policies
- Provide safe water and sanitation for a safe and secure learning environment
- Skills-based health education
- School-based health and nutrition services[12]

FRESH has ascertained that, when school prevention programs include knowledge, attitudes, values, and life skills needed to make and act on decisions concerning health, incidences of HIV/AIDS risk decreased.[12]

After analyzing numerous studies, researcher, J. Hubley concluded that when teachers limit teaching to information about sex, sexually transmitted diseases, and human immune virus, it is not enough to produce a healthy behavioral change.[13,p1]

A more effective way is to teach such content through a skill. When sexuality content is taught through Standard 2, students analyze the influences that cause them to behave in a certain way. Alternatively, Standard 3 teaches students how to access valid and reliable sexuality information. If taught through Standard 4, students learn how to communicate with partners effectively and use refusal skills, if needed. Standard 5 helps them make health-enhancing decisions about sexuality. Standard 6 teaches students how to think about their future and set goals concerning their sexuality. Standard 7 helps them learn to practice health enhancing sexual behaviors and in Standard 8, students learn to advocate for human sexuality issues.

Walter and Vaughn researched AIDS reduction strategies among a multiethnic sample of New York high school students. The strategies included content and skills:

- Facts about AIDS
- Cognitive skills to assess transmission risk
- Changing perceptions of risk-taking behavior
- Personal values clarification
- Understanding external influences on their behavior
- Providing AIDS prevention resources
- Understanding external influences on behavior
- Skills to delay intercourse or consistently use condoms

After three months, the researchers found a "decrease in intercourse with high risk partners, an increase in monogamous relationships, and an increase in consistent condom use."[13,p4]

G.J. Botvin analyzed the research conducted on a control group of 3,000 junior high school students who participated in a drug abuse prevention program that taught skills for life and resisting social influences to use drugs. In a follow-up study six years later, he found significant

reductions in drug use among these students. Botvin concluded that drug abuse prevention programs conducted during junior high school could produce significant reductions in tobacco, alcohol, and marijuana use, if students are taught a combination of social resistance and general life skills.[13,p3]

Life skills training implemented in a Grade 7–12 Thai school had a positive effect on improving knowledge and attitudes about tobacco and drugs and on the development of decision-making and problem solving skills. The study concluded that a life skills program is effective in reducing tobacco and drug use among students.[14]

Research examining the effectiveness of a life skills program delivered in the physical education class found an increase in knowledge about life skills, goal setting, and strategies to successfully cope with life. These results indicate that students, with training in skills, increase their chances of becoming better students and concerned and productive community members.[15]

This research strongly suggests that skills-based health education is effective in equipping youth with the knowledge, attitudes, and competence needed to help them avoid or decrease risk-taking behavior and choose a healthier lifestyle.

Knowing that skills-based health education helps students develop healthy behaviors and being healthy enhances academic achievement, our challenge is to advocate for our discipline. To do so, we must promote the value of the coordinated school health program, educate educational partners about the role of health education as a vital component of CSHP, write skills-based curriculum, plan instruction that focuses on developing and maintaining healthy behaviors, develop curriculum and instruction that embraces the national standards and the characteristics of effective health education, and promote the discipline as an existing tool to implement the many local, state, and national programs that are concentrating on health and wellness. By coordinating, collaborating, cooperating, and communicating with educational and community leaders, we position comprehensive skills-based health education as the foundation of health and wellness programs.

How Skills-Based Health Education Supports the National Initiatives of the Centers for Disease Control and Prevention and Healthy People 2020

A student with healthy behaviors is better equipped to cope with personal and academic challenges and, upon reaching adulthood, has the knowledge and skills to navigate life, work, and the responsibilities of citizenship successfully.

School based skills instruction is based upon student need, which, in turn, is established by local, state, and national data. The Centers for Disease Control Youth Risk Behavior Survey (YRBS) is an excellent data source (**Table 1.2**). The CDC conducts the bi-annual survey in public and private schools, Grades 9–12. Survey questions relate to **health risk behaviors**, which are the leading causes of death, disability, and social problems in the high school population. The CDC risk factors are:

- Alcohol and other drug use
- Injury and violence (including suicide)
- Tobacco use
- Poor nutrition
- Inadequate physical activity
- Sexual risk behaviors.[4,p11]

Once the surveys are collected, data are analyzed to determine the health status and trends of youth. The CDC posts the results on their website. For example, the 2007 CDC data reported that many risk behaviors among high school students nationwide have decreased since 1991. This good news was tempered by data that also showed students continue to engage in behaviors that place them at risk for the leading causes of **mortality** and **morbidity**.[16,p1] Consequently, resources are directed to reduce the behaviors most youth experience.

State Departments of Education also conduct the same survey in randomly selected high schools. The results are posted on their website and the CDC site where state agencies use the data to plan intervention strategies, collaborate with other state agencies to meet student needs, and write grants. The public also has access to this information.

Individual school districts implement the middle and high school YRBS questionnaire to determine their own student risk behaviors and use the data to:

- Compare their own information to state and national data to determine whether to adjust curriculum and instruction to meet the emerging needs of students.
- Report student risk factors to the district and community and explain how comprehensive health education addresses them.
- Apply for Safe and Drug Free Schools grants, which are awarded to individual school districts and can be used for drug, alcohol, tobacco, and violence prevention education.
- Address social norms in health classes. When students are asked what is the percentage of drug or alcohol use and other risk factor usage, they usually over estimate. Using the actual data from a district helps to inform students that they are probably in the

TABLE 1.2 Youth Risk Behavior Surveillance System[46]

	Female		Male		Total	
Category	**%**	**CI[§]**	**%**	**CI**	**%**	**CI**
Race/Ethnicity						
White[¶]	21.5	18.4–25.1	35.6	31.2–40.2	**29.0**	**26.3–32.0**
Black[¶]	32.3	27.1–38.1	35.0	30.9–39.3	**33.7**	**30.1–37.6**
Hispanic	24.0	21.9–26.2	32.2	29.3–35.4	**28.1**	**26.1–30.2**
Grade						
9	24.6	21.7–27.7	35.6	32.7–38.7	**30.5**	**28.4–32.7**
10	23.2	20.4–26.3	34.6	29.6–40.1	**29.2**	**26.3–32.2**
11	21.3	18.8–24.1	35.2	32.2–38.4	**28.5**	**26.1–30.9**
12	23.8	20.4–27.6	32.7	29.3–36.3	**28.3**	**25.5–31.4**
Total	**23.3**	**21.0–25.8**	**34.6**	**31.7–37.5**	**29.2**	**27.2–31.2**

Percentage of high school students who drank a can, bottle, or glass of soda or pop* at least one time/day,[†] by sex, race/ethnicity, and grade — United States, Youth Risk Behavior Survey, 2009

* Not including diet soda or diet pop.

[†] During the 7 days before the survey.

[§] 95% confidence interval.

[¶] Non-Hispanic.

majority, not the minority, if they do not participate in risky behaviors.

- Develop comprehensive skills-based health education and health promotion goals.
- Propose policies and programs to meet the needs of students.
- Advocate for a coordinated school health program[16,p35]

Healthy People 2020 is a consortium of national agencies and organizations working since 1979 to improve the health of the nation by increasing the quality and years of healthy life and eliminating health disparities. They have developed national health objectives that identify preventable risk factors and set national goals to reduce them.

The consortium identifies ten leading health indicators that are important public health issues likely to motivate action and provides data to measure progress.[17] These indicators are similar to the CDC risk factors (see **Appendix A**). The consortium has also developed thirty-eight health areas of concentration.[17] **Appendix B** shows how these foci correspond to traditional health education content.

Comprehensive health education supports the efforts of the Centers for Disease Control and Prevention and the Healthy People 2020 initiative. It uses valid and reliable data supplied by these organizations to establish student need and teaches health education content through the national health education standards, with the goal of reducing risk factors and developing and maintaining healthy behaviors.

Health Education for the 21st Century

Preparing students for the 21st century is a daunting task. Fortunately, education and national organizations are collaborating to meet this challenge.

THE PARTNERSHIP FOR 21ST CENTURY SKILLS

Preparing students for the 21st century is a significant challenge. The Partnership for 21st Century Skills has identified and defined skills students need to be successful in the workforce and is working with educational partners, such as the Association for Supervision and Curriculum Development, to infuse these skills into K–12 education.

Comprehensive skills-based health education already encompasses many of the skills the partnership recommends. Health education and the other components of the coordinated school health program embrace this initiative and implement it fully. A closer look at the relationship between 21st century skills and the National Health Education Standards follows.

The partnership states that today's schools must "bring together rigorous content and real world relevance."[18,p6] Standard 1 of the National Health Education standards provides the framework for districts to develop health content that is rigorous and relevant. Functional health knowledge is taught through skills, with depth being preferred over breadth.

Information Literacy is a 21st century skill. Although many of our students have grown up with technology, they may not fully understand the impact it and the media have on their lives. Standard 2, analyzing the influence of family, peers, culture, media, technology, and other factors on health behaviors, helps students apply critical thinking skills to these subjects. In this standard, students identify, describe, explain, and analyze the different factors that influence their decisions and behavior.[4,p26-27]

Standard 3, accessing valid and reliable information, products, and services, is also similar to the 21st century skill, Information Literacy. This standard teaches students how to identify, access, locate, and evaluate information, products, and services that impact their health.[4,p28-29]

The Partnership believes that the foundation of accomplishment is the ability to communicate and collaborate. Standard 4, interpersonal communication skills, provides students with the training they need to meet this goal.[4,p30-31]

Collaboration skills, according to the Partnership, are vital to success. Collaboration is embedded in skills-based health education projects because students work in groups to create a product that will show proficiency in content and skill. The Partnership also recommends project-based learning because it helps students understand content through real life scenarios. Skills-based health education incorporates performance tasks whereby students work in groups to respond to a challenge. Students take time to collect information and practice the skill, and, when ready, show how they have met the challenge by demonstrating their proficiency.

Health literacy is one of four interdisciplinary themes in the Partnership. The Joint Committee on Health Education Terminology defines health literacy as "the capacity of an individual to obtain, interpret, and understand basic health information and services, and the competence to use such information and services in ways that are health enhancing."[18,p10] Through skills-based health education, students learn functional health knowledge and demonstrate it through a skill. Health literacy increases as students progress from mere knowledge acquisition to the highest order skills of self-management and advocacy.

The Partnership asserts that the themes are most effective when taught through the core subject areas. Health education is closely intertwined with English Language Arts because students use their English skills to prepare and present projects to the class. They include research, writing, creating a variety of presentations, performing role-plays and skits, and oral presentations. Moreover, it is common for English teachers to learn of personal health concerns through a student's journal entries or research papers. Collaboration between the two disciplines improves the health and academic performance of students.

Critical Thinking and Problem Solving, Creativity and Innovation, and Communication and Collaboration are the Partnership's Learning and Innovation Skills.[18,p10] Throughout skills-based health education, students are challenged to think critically. In the decision-making standard, students are challenged to think, solve problems, and be creative and innovative in their interpretation of prompts. The Partnership assumes that critical thinking skills can be taught and aligned with Bloom's Taxonomy (Figure 1.2), which includes six levels of increasing difficulty: "knowledge, understanding, application, analysis, synthesis, and evaluation."[18,p12] All the performance indicators of the National Health Education Standards are based on Bloom's Taxonomy. This concurrence offers another example of how a comprehensive skills-based health education program can support and promote the goals of the Partnership.

In the America Diploma Project, professors and employers examine the skills necessary for success in the workforce. They agree that working in teams and presenting one's work orally are critical to success.[18,p22] Skills-based health education supports that concept because each performance task concludes with students presenting their work to the class collaboratively.

The Partnership supports emotional literacy. When schools teach how to be emotionally healthy, students are less violent, better controlled, and more productive. They get along better with other students and adults. Documented evidence suggests that emotional intelligence contributes to academic success.[18,p22] Emotional health is a content area of health education mapped into curricula from pre-kindergarten through Grade 12. In a skills-based health program, emotional health is taught through the seven national health education skills and reinforced throughout the grade levels.

The Partnership also recognizes the relationship between social and cognitive skills. Research has demonstrated that students perform at a higher level when they show self-control, delay gratification, empathize, and take responsibility for their own actions. Effective health education includes instruction according to the social cognitive and inoculation theories, and also addresses individual values and group norms, coping with social pressures, and building personal and social competence.[18,p22]

Consequently, skills-based health education teaches these qualities throughout its program, especially during a decision-making unit. Students learn that basing decisions on positive values usually results in a good choice and negative values a poor one.

ASSOCIATION FOR SUPERVISION AND CURRICULUM DEVELOPMENT

The Association for Supervision and Curriculum Development (ASCD) has joined with the Partnership for 21st Century Skills to focus on educating the whole child and preparing our children to be skilled members of the 21st century global society and workforce. The ASCD Whole Child initiative encourages schools and communities to work together to ensure that each student has access to a challenging curriculum in a healthy and supportive climate.[10]

Comprehensive skills-based health education provides an excellent implementation framework for these two important programs. Appendix C shows the relationship among the ASCD Whole Child Initiative, 21st Century Skills, and the Comprehensive School Health Program.

A comprehensive health education program makes this preparation available to each student on all grade levels in every school and results in knowledge and skills to become a healthy adult who can contribute to the welfare of the family, community, nation, and world.

Review Questions

1. Explain how health education is an essential contributor to the national education goals?
2. Why is it important to provide comprehensive skills-based health education?
3. Give examples of research from two CSHP components that demonstrate the effectiveness of coordinated school health.
4. List the national health education standards and categorize them as either content or skill.
5. Explain how to demonstrate proficiency in a standard.
6. Why is it important for health education to be included in the coordinated school health model?
7. Cite one research study that indicates the effectiveness of two components of coordinated school health.
8. Explain one example of research that demonstrates how skills-based health education contributes to healthy behavior.
9. Explain how YRBS data can be used to improve skills-based health education.
10. Explain how skills-based health education supports the Partnership for 21st Century Skills.

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