NINTH EDITION

Health Education

Elementary and Middle School Applications

Susan K. Telljohann | Cynthia W. Symons
Beth Pateman | Denise M. Seabert

Mc Graw Hill Education

Health Education

Elementary and Middle School Applications

NINTH EDITION

Volume 6, Number 1, 2019 EISSN 2292-5945

Susan K. Telljohann
University of Toledo

Cynthia W. Symons
Kent State University

Beth Pateman
University of Hawaii

Denise M. Seabert
University of West Florida

Mc Graw Hill Education

HEALTH EDUCATION: ELEMENTARY AND MIDDLE SCHOOL APPLICATIONS, NINTH EDITION

This book is printed on acid-free paper.

1 2 3 4 5 6 7 8 9 LWI 21 20 19

ISBN 978-1-259-92238-1 (bound edition)
MHID 1-259-92238-3 (bound edition)
ISBN 978-1-260-39106-0 (loose-leaf edition)
MHID 1-260-39106-X (loose-leaf edition)

Product Developers: *Francesca King*
Marketing Manager: *Meredith Leo*
Content Project Managers: *Lisa Bruflodt, Emily Windelborn*
Buyer: *Susan K. Culbertson*
Designer: *Beth Blech*
Content Licensing Specialist: *Traci Vaske*
Cover Image: *Students eating: ©Monkey Business Images/Shutterstock; Kids in circle: ©serrnovik/123RF; Disabled children: ©FatCamera/Getty Images; Father with children: ©Chad Springer/Image Source*
Compositor: *Lumina Datamatics, Inc.*

All credits appearing on page or at the end of the book are considered to be an extension of the copyright page.

Library of Congress Cataloging-in-Publication Data

Names: Telljohann, Susan Kay, 1958- author.
Title: Health education : elementary and middle school applications / Susan K. Telljohann, University of Toledo, Cynthia W. Symons, Kent State University, Beth Pateman, University of Hawaii, Denise M. Seabert, University of West Florida.
Description: Ninth Edition. | New York : McGraw-Hill Education, [2019] |Audience: Ages: 18+
Identifiers: LCCN 2019002359| ISBN 9781259922381 (bound edition : acid-free paper) | ISBN 1259922383 (bound edition : acid-free paper) | ISBN 9781260391060 (loose-leaf edition) | ISBN 126039106X (loose-leaf edition)
Subjects: LCSH: Health education (Elementary)—United States. | Health education (Middle school)—United States.
Classification: LCC LB1588.U6 T45 2019 | DDC 372.37—dc23 LC record available at https://lccn.loc.gov/2019002359

2014035735

mheducation.com/highered

BRIEF CONTENTS

CONTENTS

Mc Graw Hill Education
5011222

This page intentionally left blank

PREFACE

VISION AND GOALS

The ideas, concepts, and challenges presented in this text have developed out of many different experiences: teaching elementary and middle-level children; teaching a basic elementary/middle school health course to hundreds of pre-service elementary, early childhood, and special education majors; working with numerous student teachers; and serving on a variety of local, state, and national curriculum and standards committees. Authors and contributors are and have been engaged in teaching in K–8 settings, designing curriculum, developing instructional strategies, and collaborating with state and local educators to provide professional development. This has provided opportunities to use the content and strategies included in this ninth edition.

We have written this textbook with several groups in mind: (1) the elementary and middle-level education major who has little background or experience in health education but will be required to teach health education to her or his students in the future, (2) the health education major who will be the health specialist or coordinator in an elementary or middle school, (3) the school nurse who works in the elementary/middle school setting, and (4) those community health educators and nurses who increasingly must interact with elementary and/or middle school personnel. Our goal is to help ensure that elementary and middle school teachers and health specialists obtain the information, skills, and support they need to provide quality health instruction to students.

CONTENT AND ORGANIZATION

The ninth edition is divided into three sections. Section I, "Foundations of Health Education," includes Chapters 1 through 4. This section introduces the coordinated school health program, the relationship between health and learning, the national health initiatives, the development of the elementary/middle school health education curriculum, the concept of developmentally appropriate practice, lesson and unit planning, and assessment. The basics of effective health education and effective instruction approaches are provided, including a critical analysis of standards-based approaches to health education and strategies for creating a positive learning environment, managing time constraints, and handling controversial topics and issues.

Sections II and III reflect the Centers for Disease Control and Prevention's Health Education Curriculum Analysis Tool. Section II, "Helping Students Develop Skills for Positive Health Habits," includes Chapters 5 through 9 and focuses on the positive health habits students can adopt and maintain to help them live a healthy life. The chapters in Section II cover mental and emotional health, healthy eating, physical activity, safety and unintentional injury prevention, and personal health and wellness. Section III, "Helping Students Translate Their Skills to Manage Health Risks," focuses on the health risks students need to avoid or reduce to promote health. These chapters (10 through 14) cover intentional injury prevention and violence; tobacco use; the use of alcohol and other drugs; sexual health; and managing loss, death, and grief.

Sections II and III present the content and the personal and social skills that comprise the National Health Education Standards. Each chapter in these sections begins by discussing the prevalence and cost of *not* practicing the positive health behavior, the relationship between healthy behaviors and academic performance, and relevant risk and protective factors. Readers then are provided with information about what schools are currently doing and what they should be doing in relation to the health behavior. Chapters in these sections also provide background information for the teacher, developmentally appropriate strategies for learning and assessment, sample student questions with suggested answers (Chapters 11–14), and additional recommended resources, including evaluated commercial curricula, children's literature, and websites.

CHAPTER-BY-CHAPTER CHANGES OF THE NINTH EDITION

The new edition includes updated statistics throughout. "Strategies for Learning and Assessment" have been revised to integrate more opportunities and to integrate technology into learning and assessment. Children's literature recommendations have been significantly revised including numerous new books in Chapters 5–14.

All references to YRBS and SHPPS data have been updated to include the most recently disseminated data.

Chapter 1: Whole School, Whole Community, Whole Child

- The Whole School, Whole Community, Whole Child section provides a current description of each component of the WSCC model.

Chapter 3: Standards-Based Planning, Teaching, and Assessment in Health Education

- Teacher's Toolboxes have been revised.

Chapter 4: Building and Managing the Safe and Positive Learning Environment

- Cooperative learning components have been updated to include new strategies and application ideas.
- Teacher's Toolbox focused on "Evaluation of Web-Based Resources" has been revised.

Chapter 6: Promoting Healthy Eating

- Dietary Guideline information has been updated.
- Food label information includes newest requirements.

Chapter 10: Preventing Intentional Injuries and Violence

- Significantly updated section on child maltreatment.

Chapter 11: Tobacco Use and Electronic Nicotine Systems Prevention

- Enhanced the chapter to include a new section on electronic nicotine systems, such as e-cigarettes and vaping.

Chapter 13: Promoting Sexual Health

- "Sample Student Questions and Suggested Answers about Sexuality" have been revised.

Chapter 14: Managing Loss, Death, and Grief

- Revised Teacher Toolbox, "Warning Signs for Suicide."

INSTRUCTOR AND STUDENT ONLINE RESOURCES

The 9th edition of *Health Education: Elementary and Middle School Applications* is now available as a SmartBook™—the first and only adaptive reading experience designed to change the way students read and learn.

SmartBook creates a personalized reading experience by highlighting the most impactful concepts a student needs to learn at that moment in time. As a student engages with SmartBook, the reading experience continuously adapts by highlighting content based on what the student knows and doesn't know. This ensures that the focus is on the content he or she needs to learn, while simultaneously promoting long-term retention of material. Use SmartBook's real-time reports to quickly identify the concepts that require more attention from individual students—or the entire class. The end result? Students are more engaged with course content, can better prioritize their time, and come to class ready to participate.

Key Student Benefits

- SmartBook engages the student in the reading process with a personalized reading experience that helps them study efficiently.
- SmartBook includes powerful reports that identify specific topics and learning objectives the student needs to study.
- Students can access SmartBook anytime via a computer and mobile devices.

Key Instructor Benefits

- Students will come to class better prepared because SmartBook personalizes the reading experience, allowing instructors to focus their valuable class time on higher level topics.
- SmartBook provides instructors with a comprehensive set of reports to help them quickly see how individual students are performing, identify class trends, and provide personalized feedback to students.

How Does SmartBook Work?

- ***Preview:*** Students start off by *Previewing* the content, where they are asked to browse the chapter content to get an idea of what concepts are covered.
- ***Read:*** Once they have *Previewed* the content, the student is prompted to *Read*. As he or she reads, SmartBook will introduce LearnSmart questions in order to identify what content the student knows and doesn't know.
- ***Practice:*** As the student answers the questions, SmartBook tracks their progress in order to determine when they are ready to *Practice*. As the students *Practice* in SmartBook, the program identifies what content they are most likely to forget and when.
- ***Recharge:*** That content is brought back for review during the *Recharge* process to ensure retention of the material.

Speak to your McGraw-Hill Learning Technology Consultants today to find out more about adopting SmartBook for *Health Education: Elementary and Middle School Applications, 9th edition*!

RESOURCES

Key teaching and learning resources are provided in an easy-to-use format for the ninth edition of Heath Education. The resources include the following teaching tools:

- *Instructor's Manual to Accompany Health Education: Elementary and Middle School Applications.*
- *PowerPoint slides.* A complete set of PowerPoint slides is available for download. Keyed to the major points in each chapter, these slide sets can be modified or expanded to better fit classroom lecture formats. Also included in the PowerPoint slides are many of the illustrations from the text, including the children's art.
- *Test bank.* The test bank includes true-false, multiple choice, short-answer, and essay questions. The test bank is also available with EZ Test computerized testing software. EZ Test provides a powerful, easy-to-use test maker to create printed quizzes and exams.

ACKNOWLEDGMENTS

I would like to express deep appreciation to my colleagues who significantly contributed to the revisions made in this edition.

Wendy S. Baker, MLS, K-5 STEAM Educator, Hudsonville Public Schools, Hudsonville, MI, significantly revised the children's literature recommendations provided with Chapters 5–14. She also updated many of the teaching and assessment strategies to effectively integrate technology.

Ryan G. Erbe, PhD, Minister, New York City Church of Christ, revised Chapter 4: Building and Managing the Safe and Positive Learning Environment; Chapter 5: Promoting Mental and Emotional Health; and Chapter 12: Alcohol and Other Drug Use Prevention.

Janet Kamiri, MPH, CHES, revised Chapter 6: Promoting Healthy Eating; Chapter 7: Promoting Physical Activity; Chapter 9: Promoting Personal Health and Wellness; and Chapter 13: Promoting Sexual Health.

Diana Ruschhaupt, MS, MCHES, Owner/Partner, Health Ed Pros, revised Chapter 3: Standards-Based Planning, Teaching, Assessment in Health Education; Chapter 11: Tobacco Use Prevention; and Chapter 14: Managing Loss, Death, and Grief.

Their expertise and experience have provided invaluable contributions to the ninth edition.

Finally, I would like to thank those who have made it possible for me to continue to share this resource with you. The vision, expertise, and dedication of Susan K. Telljohann, Cynthia W. Symons, and Beth Pateman will forever be captured throughout this textbook. These three school health educators have been vital in shaping school health education, mentoring the next generation of school health educators, and positively altering what we today know as school health education. Our profession and the work that has come from it are better because of these wise individuals.

We hope that you enjoy the changes and additions made in this ninth edition. We welcome any comments or suggestions for future editions. We wish all the best and success in teaching health education to children and preadolescents.

Denise M. Seabert on behalf of
Susan K. Telljohann
Cynthia W. Symons
Beth Pateman

Mc Graw Hill Education connect®

Students—study more efficiently, retain more and achieve better outcomes. Instructors—focus on what you love—teaching.

SUCCESSFUL SEMESTERS INCLUDE CONNECT

FOR INSTRUCTORS

You're in the driver's seat.

Want to build your own course? No problem. Prefer to use our turnkey, prebuilt course? Easy. Want to make changes throughout the semester? Sure. And you'll save time with Connect's auto-grading too.

65%

Less Time Grading

They'll thank you for it.

Adaptive study resources like SmartBook® help your students be better prepared in less time. You can transform your class time from dull definitions to dynamic debates. Hear from your peers about the benefits of Connect at **www.mheducation.com/highered/connect**

Make it simple, make it affordable.

Connect makes it easy with seamless integration using any of the major Learning Management Systems—Blackboard®, Canvas, and D2L, among others—to let you organize your course in one convenient location. Give your students access to digital materials at a discount with our inclusive access program. Ask your McGraw-Hill representative for more information.

Solutions for your challenges.

A product isn't a solution. Real solutions are affordable, reliable, and come with training and ongoing support when you need it and how you want it. Our Customer Experience Group can also help you troubleshoot tech problems—although Connect's 99% uptime means you might not need to call them. See for yourself at **status.mheducation.com**

For Students

Effective, efficient studying.

Connect helps you be more productive with your study time and get better grades using tools like SmartBook, which highlights key concepts and creates a personalized study plan. Connect sets you up for success, so you walk into class with confidence and walk out with better grades.

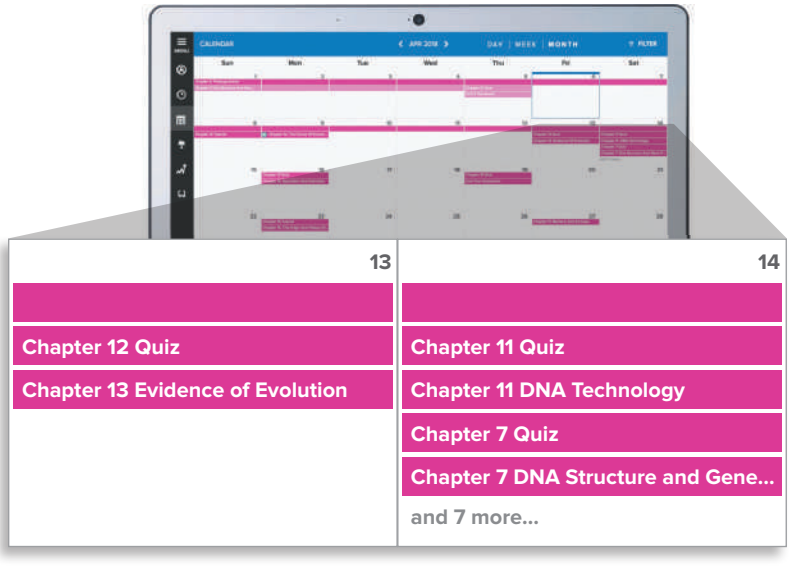
> "I really liked this app—it made it easy to study when you don't have your textbook in front of you."
>
> - Jordan Cunningham,
> Eastern Washington University

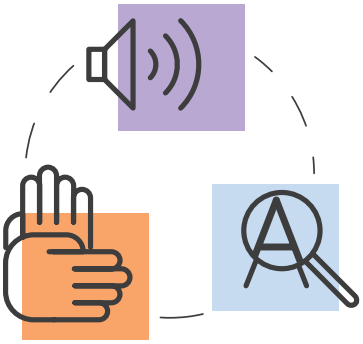
Study anytime, anywhere.

Download the free ReadAnywhere app and access your online eBook when it's convenient, even if you're offline. And since the app automatically syncs with your eBook in Connect, all of your notes are available every time you open it. Find out more at **www.mheducation.com/readanywhere**

No surprises.

The Connect Calendar and Reports tools keep you on track with the work you need to get done and your assignment scores. Life gets busy; Connect tools help you keep learning through it all.





Learning for everyone.

McGraw-Hill works directly with Accessibility Services Departments and faculty to meet the learning needs of all students. Please contact your Accessibility Services office and ask them to email accessibility@mheducation.com, or visit **www.mheducation.com/about/accessibility.html** for more information.

This page intentionally left blank

SECTION I

©Monkey Business Images/Shutterstock

Foundations of Health Education

Section I begins with a review of important definitions and concepts that frame current understandings about health and health promotion. Next, a rationale for the importance of school health programming as a mechanism to reduce health risks and promote school success is discussed. With the foundation of the *Healthy People* agenda and findings from the most recent School Health Policies and Practices Study, this section contains a review of the ten critical components of the Whole School, Whole Community, Whole Child approach to health and learning. Teachers in elementary and middle schools will be enriched by examining the ways in which the broad science about brain function and learning have been translated into strategies for improving health instruction. Information about the value of using health education theory to inform practice is introduced, and a critical analysis of standards-based approaches to health education is provided. Finally, this section highlights strategies for creating a positive learning environment, promoting connectedness, managing time constraints, and dealing with controversial content and associated instructional issues in health education and promotion.

1

©FatCamera/iStock/Getty Images

OUTLINE

Whole School, Whole Community, Whole Child

A Collaborative Approach to Learning and Health

DESIRED LEARNER OUTCOMES

After reading this chapter, you will be able to . . .

- **Define each of the domains of personal health.**
- **Identify behavioral risk factors that influence illness and death.**
- **Describe the link between student health and academic achievement.**
- **Discuss the influence of school health programs on improving school success.**
- **Summarize the role of each element of the Whole School, Whole Community, Whole Child model in improving the health of all stakeholders in the school community.**
- **Discuss the combined impact of the elements of the Whole School, Whole Community, Whole Child model on improving the health of all stakeholders in the school community.**

HEALTH: DEFINITIONS

A review of common understandings about health reveals that most people think in terms of physical well-being. As such, most people focus their thoughts and efforts on preventing or managing illnesses, participating in fitness activities, or modifying dietary behaviors. It is important, however, for teachers in elementary and middle schools to understand that health is a very broad concept that extends far beyond the limitations of the physical domain.

In 1947, the World Health Organization developed an informative definition of health defining it as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity."[1] This definition made a critical contribution by clarifying that health is influenced by a number of interrelated and influential factors.

Today, health is best understood as the capacity to function in effective and productive ways, influenced by complex personal, behavioral, and environmental variables that can change quickly. Bedworth and Bedworth have defined health as "the quality of people's physical, psychological, and sociological functioning that enables them to deal adequately with the self and others in a variety of personal and social situations."[2] Further, Carter and Wilson have clarified that "health is a dynamic status that results from an interaction between hereditary potential, environmental circumstance, and lifestyle selection."[3] These definitions confirm that, although a great deal of personal control can be exerted over some sources of influence over health, the capacity for a person to be in complete control of all such factors is limited. In summary, current definitions emphasize both the independent strength *and* the interactive effect of six influential domains of health: the physical, mental/intellectual, emotional, social, spiritual, and vocational.

Physical Health (Physical/Body)

The most easily observed domain of health is the physical. In addition to being influenced by infectious agents, physical well-being is influenced by the combined effects of hereditary potential, exposure to environmental toxins and pollutants, access to quality medical care, and the short- and long-term consequences of personal behaviors. As such, physical health results from a complex and changing set of personal, family, social, financial, and environmental variables.

Initial and often lasting impressions of the health of a friend or classmate are based on observed physical characteristics, including height, weight, energy level, and the extent to which the person appears to be rested. In addition, it is common to make judgments about health status based on observed behaviors. In this context, if friends participate in regular exercise or always wear a seatbelt, others are likely to conclude that they are healthy. Conversely, very different judgments often are made about the health of friends who are overweight or use tobacco products. Although a person's health outcomes might improve if they participated in fewer risky behaviors, such individuals might be very healthy in other influential domains.

Mental/Intellectual Health (Thinking/Mind)

The capacity to interpret, analyze, and act on information establishes the foundation of the mental or intellectual domain of health. Additional indicators of mental or intellectual health include the ability to recognize the sources of influence over personal beliefs and to evaluate their impact on decision making and behaviors. Observing the processes of reasoning, the capacity for short- and long-term memory, and expressions of curiosity, humor, logic, and creativity can provide clues about mental or intellectual health.[4]

Like the other domains, mental or intellectual health is important at every stage of life. In addition to exerting influence over all elements of well-being, positive mental health can contribute to the ability of people to:

- Realize their full potential.
- Manage stresses of daily living.
- Work productively.
- Make meaningful contributions.

Many factors, including those that are biological (e.g., genetics and brain chemistry) and life circumstances or experiences (e.g., trauma or abuse), can influence mental health. Importantly, positive mental health can be enriched by participating in enriching activities in the other domains of health including regular and vigorous physical activity, getting enough sleep, and maintaining positive relationships with others.

Mental health challenges are common, and help is available. However, even though most people are willing to seek professional help when they are physically ill, many unfortunately are hesitant or even refuse to pursue therapeutic interventions when confronted with mental health challenges. Importantly, when care is provided by a trained professional, many people feel improvement in their mental health status, and others can recover completely.[5]

Emotional Health (Feelings/Emotions)

The emotional domain of health is represented by the ways in which feelings are expressed. Emotionally healthy people communicate self-management and acceptance and express a full range of feelings in socially acceptable ways. Experiencing positive emotions and managing negative ones in productive ways contribute balance to emotional health. Importantly, emotionally robust individuals practice a range of coping skills that enable them to express negative feelings (sadness, anger, disappointment, etc.) in ways that are not self-destructive or threatening to others. In this way, emotional health contributes to and is reflected in perceived quality of life.

Many people who feel isolated, inadequate, or overwhelmed express feelings in excessive or abusive ways. Others suppress or bottle up strong emotions. Routinely attempting to cope with negative feelings by burying them has been demonstrated to contribute to stress-related illnesses, including susceptibility to infections and heart disease. Fortunately, counseling, support groups, and medical therapies can help people manage emotional problems of many types. An important starting resource for those attempting to manage such problems is their family doctor. This professional, with whom people are familiar and comfortable, can diagnose, treat, or make referrals for effective therapies to support and enrich emotional health.[6]

Social Health (Friends/Family)

Humans live and interact in a variety of social environments, including homes, schools, neighborhoods, and workplaces. Social health is characterized by practicing the requisite skills to navigate these diverse environments effectively. People with strength in the social domain of health maintain comfortable relationships characterized by strong connections, mutuality, and intimacy. In addition, socially healthy people communicate respect and acceptance of others and recognize that they can enrich and be enriched by their relationships.[7]

Unfortunately, many people are unable to function in comfortable and effective ways in the company of others. Such individuals can't integrate a range of important social skills into daily living. Often, this is a consequence of being self-absorbed. Such limited focus can compromise one's ability to recognize needs and issues of importance to others. As a consequence, poorly executed social skills and the associated behavioral consequences can place significant limitations on the ability to initiate and maintain healthy relationships. Such limitations compromise personal health and the quality of life of others.

Spiritual Health (Spiritual/Soul)

The spiritual domain of health is best understood in the context of a combination of three important elements:

- Comfort with self and the quality of interpersonal relationships with others.
- The strength of one's personal value system.
- The pursuit of meaning and purpose in life.[8]

Spiritually healthy people integrate positive moral and ethical standards such as integrity, honesty, and trust into their relationships. These individuals demonstrate strong concern for others regardless of gender, race, nationality, age, sexual orientation, or economic status. Although some people believe that spiritual well-being is enriched by their participation in formal religious activities, the definition of spiritual health is not confined to sacred terms or practices.

People with compromised spiritual health might not be guided by moral or ethical principles that are broadly accepted or believe that a higher being or something beyond themselves contributes meaning to their lives. Among such individuals, short-term economic objectives, self-interest, or personal gain at the expense of others could be of primary importance. People with compromised spiritual health are likely to feel isolated and have difficulty finding meaning in activities, making decisions about significant issues, or maintaining productive relationships with others.

Vocational Health (Work/School)

The vocational domain of health relates to the ability to collaborate with others on family, community, or professional projects. Vocationally healthy people are committed to contributing their fair share of effort to projects and activities. This commitment is demonstrated by the high degree of integrity with which individuals approach tasks. In addition to personal enrichment, the vocational domain of health is manifested in the degree to which a person's work makes a positive impact on others or in the community. The behaviors of people with compromised vocational health threaten personal work-related goals and have a negative impact on the productivity of professional associates and the collaborative community of the school or workplace.

Lōkahi: A Model of "Balance, Unity, and Harmony"

When evaluating the quality of a person's health, it is important to remember that balance across the domains is as important as maintaining an optimal level of functioning within each. In this context, a middle school student who uses a wheelchair because of a disabling condition might produce very high-quality academic work and have confident and effective relationships with classmates. Conversely, a person who is very healthy in the physical domain might be limited in the ability to express emotions productively or to behave in ways that confirm a poorly developed moral or ethical code.

All cultures have developed ways to communicate about shared beliefs, values, and norms that influence behaviors within the group. In Hawaiian culture the term *lōkahi,* meaning "balance, unity, and harmony," is used to express this ideal. Depicted in Figure 1–1, the Lōkahi Wheel is a culturally specific depiction of the domains of health.[9] Readers will note that names for each part of the Lōkahi Wheel have been linked to the corresponding name of each domain of health discussed. In addition, this illustration reinforces the importance of maintaining a solid balance

Thinking About Health in Hawai'i

The Lōkahi Wheel

Lōkahi

(Harmony, Balance, Unity)

Physical/Body	Spiritual/Soul
Friends/Family	Work/School
Thinking/Mind	Feelings/Emotions

FIGURE 1–1 | The Lōkahi Wheel

Source: Native Hawaiian Safe and Drug-Free Schools Program, *E Ola Pono (Live the Proper Way): A Curriculum Developed in Support of Self-Identity and Cultural Pride as Positive Influences in the Prevention of Violence and Substance Abuse* (Honolulu, HI: Kamehameha Schools Extension Education Division, Health, Wellness, and Family Education Department, 1999).

across the domains as a foundation for maintaining personal, family, and community health.

With a focus on the health of students in elementary and middle schools, examination of the Lōkahi Wheel reinforces the negative impact that an imbalance in the health of one person can exert on the "balance, unity, and harmony" of their family, school, and community. In this way, a student who uses tobacco, alcohol, or other drugs is likely to face negative health, academic, family, and/or legal consequences. Simultaneously, such behaviors can threaten the health of family and friends. Also, the behavioral risks of one student will disrupt the functional "balance" at school, in the workplace, and in the community. As such, it is clear that unhealthy risk behaviors can have significant personal and far-reaching negative consequences.

Lōkahi serves as a foundation for the Hawaiian term *e ola pono*. Though this term has a number of related interpretations, generally it is translated as "living in the proper way" or "living in excellence." When students live their lives in a way that is orderly, successful, and true to what is in their best interest, the elements of their health are in balance and simultaneously enrich the well-being of their family, school, and community.[10]

As discussed in Chapter 2 of this text, to be effective, developmentally appropriate health education learning activities for students in elementary and middle schools must enable learners to translate general or abstract concepts into understandings or representations that have personal meaning or relevance. To enrich student understanding of the influence of each domain of health and the combined importance of a balance between them, teachers are encouraged to explore the learning activity described in Consider This 1.1.

Consider This **1.1**

Health: A Personal Evaluation

At the beginning of each chapter in this text, readers will find artwork done by students in middle school health education classes. An example of correlated instruction (see Chapter 4), the drawings reveal student understandings about critical issues discussed in that chapter. Additional drawings reinforce Coordinated School Health, a concept discussed later in this chapter, and the National Health Education Standards discussed in Chapter 3.

Importantly, the artistic depiction at the beginning of Chapter 1 was done by a sixth grader. This Lōkahi Wheel provides a very personal view through the eyes of this middle school student of each domain of health and the balance of their combined effects. To enrich understanding and personalize the concept of health, teachers are encouraged to have students draw their own Lōkahi Wheels. The inclusion of color, personally meaningful depictions, and family characteristics should be encouraged. As a way to extend the learning activity, students could be asked to write a journal entry or share their "health story" with family members. In addition, the class could create a composite Lōkahi Wheel representing events, conditions, and circumstances that influence the health of the group as a whole. Finally, this learning activity could be correlated with social studies instruction as a way to explore ways in which people depict and communicate about issues of cultural and historical significance.

DETERMINANTS OF HEALTH

In 1979, the U.S. government embarked on a sweeping initiative to improve the health of all Americans. This multidecade agenda was launched with the publication of *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*. This document confirmed that the leading causes of illness and death among Americans had undergone dramatic change between the beginning and the end of the twentieth century. In the early 1900s, the greatest number of Americans died as a result of infectious or communicable diseases, including influenza and pneumonia, tuberculosis, and diarrhea and related disorders. Fortunately, due to measures such as improved sanitation and medical discoveries, Americans living just a century later enjoyed significantly longer, healthier lives.[11]

During the past century between 1900 and 2000, the average life span of Americans lengthened by greater than thirty years. Many factors contributed to such dramatic improvement in the health and life span of Americans during the twentieth century. In 1999, the Centers for Disease Control and Prevention (CDC) compiled a list of ten specific achievements that made a "great" impact on improving the nation's health during that 100-year period. These achievements are reviewed in Table 1–1.[12] It is important to recognize and celebrate the kinds of individual, community, and governmental activities that made these advancements possible. Such efforts continue to influence improvements in the health of all Americans today.

Although there were dramatic increases in the length and the quality of life of Americans since 1900, *Healthy People* reinforced the need to address factors that continue to cause premature death. This report confirmed that approximately 50 percent of premature morbidity (illness) and mortality (death) among Americans was linked to variables largely beyond personal control. These variables include heredity (20 percent); exposure to environmental hazards, toxins, and pollutants (20 percent); and inadequate access to quality medical care (10 percent).[13] It is significant to note, however, that *Healthy People* confirmed that the remainder of premature illness and death (approximately 50 percent) could be traced to participation in risky health behaviors.[14] Table 1–2[15, 16] contrasts past and current leading causes of death among Americans.

Examination of Table 1–2 contrasts the devastating impact of communicable/infectious diseases on previous generations with the consequences of chronic diseases (those that last a year or longer and require medical attention or limit daily activity) on the length and quality of life of Americans today. Conditions including heart disease, stroke, cancer, diabetes, and arthritis are among the most common, costly, and preventable of all health problems. The combined effects of two of these chronic conditions—heart disease and cancer—account for more than 45 percent of all American deaths each year. Importantly, the combined effects of chronic diseases account for seven of every ten American deaths every year.[17] Almost one of every two American adults has at least one chronic disease. In addition to their prevalence, such conditions cause limitations in the daily activities among people who are affected by them.[18] As a nation, more than 85 percent of health care spending goes to the

TABLE 1–1

Ten Great Public Health Achievements in the United States, 1900–1999

1. *Vaccination:* resulted in eradication of smallpox; elimination of polio in the Americas; and control of measles, rubella, tetanus, and other infections in the United States and around the world
2. *Improvements in motor-vehicle safety:* include engineering advancements in highways and vehicles, increased use of safety restraints and motorcycle helmets, and decreased drinking and driving
3. *Safer workplaces:* better control of environmental hazards and reduced injuries in mining, manufacturing, construction, and transportation jobs, contributing to a 40 percent decrease in fatal occupational injuries since 1980
4. *Control of infectious disease:* resulted from clean water, improved sanitation, and antibiotic therapies
5. *Decline in deaths due to heart disease and stroke:* a 51 percent decline in cardiovascular death since 1972—related to decreased smoking, management of elevated blood pressure, and increased access to early detection and better treatment
6. *Safer and healthier foods:* decreased microbe contamination, increased nutritional content, and food-fortification programs that have nearly eliminated diseases of nutritional deficiency
7. *Healthier moms and babies:* better hygiene and nutrition, available antibiotics, greater access to early prenatal care, and technological advances in maternal and neonatal medicine—since 1900, decreases in infant (90 percent) and maternal (99 percent) death rates
8. *Family planning:* improved and better access to contraception, resulting in changing economics and roles for women, smaller families, and longer intervals between births; some methods related to reduced transmission of human immunodeficiency virus (HIV) and other sexually transmitted diseases
9. *Fluoridation of drinking water:* tooth decay prevented regardless of socioeconomic status; reduced tooth loss in adults
10. *Recognition of the health risks of tobacco use:* reduced exposure to environmental tobacco smoke; declining smoking prevalence and associated deaths

While not ranked in order of significance or degree of contribution, the accomplishments on this list continue to help Americans live longer and healthier lives.

SOURCE: Centers for Disease Control and Prevention, "Ten Great Public Health Achievements—United States, 1900–1999," *MMWR* 48, no. 12 (1999): 241–43.

TABLE 1–2

Leading Causes of Death Among Americans in 1900 and Today
(ranked in order of prevalence)

1900	Today
Pneumonia	Heart disease
Tuberculosis	Cancer
Diarrhea/enteritis	Chronic respiratory diseases
Heart disease	Unintentional injuries
Liver disease	Stroke
Injuries	Alzheimer's disease
Cancer	Diabetes
Senility	Influenza and pneumonia
Diphtheria	Nephritis and other kidney disorders
	Suicide

SOURCES: U.S. Department of Health, Education and Welfare, Public Health Service, *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention* (Washington, DC: U.S. Government Printing Office, 1979). National Center for Health Statistics, *Health, United States, 2016: With Chartbook on Long-term Trends in Health* (Hyattsville, MD, 2017).

NOTE: In 1900, the leading causes of death for most Americans were communicable or infectious conditions. Today, however, most Americans die as a result of chronic conditions.

treatment of chronic diseases. These persistent conditions are the causes of deaths that could have been prevented, lifelong disability, compromised quality of life, and an overwhelming burden of health care costs.[19]

An important first step to understand and address the complex burden of chronic diseases is to recognize that the majority of these conditions have been linked to participation in relatively few health-risk behaviors. Evidence suggests that four modifiable health-risk behaviors—lack of physical activity, poor nutrition, tobacco use, and excessive alcohol consumption—account for much of the illness, suffering, cost, and early deaths related to chronic diseases.[20] Data in Table 1–3 identify the risk behaviors that undergird the actual causes of most American deaths.[21, 22] Consistent with the information found in this table, although a physician might indicate a clinical diagnosis of heart disease on a death certificate, the root cause of the heart disease could be traced to the cumulative effects of participation in any number of underlying risk behaviors.

It is important to remember that the greatest majority of adults who participate in risk behaviors initiated those health habits during their youth. Public health professionals at the CDC identified six priority health behaviors to guide educational programmers and intervention specialists. Owing to the demonstrated link between these behaviors and the leading causes of illness and death among Americans, curriculum developers and teachers should target educational strategies at reducing the risks associated with the following:

- Tobacco use.
- Poor eating habits.
- Alcohol and other drug risks.
- Behaviors that result in intentional or unintentional injuries.
- Physical inactivity.
- Sexual behaviors that result in HIV infection, other sexually transmitted diseases, or unintended pregnancy.[23]

In addition to addressing specific personal health risks, school-based professionals must remember that human behavior in general, and health behavior specifically, is influenced by complex sources. While it is important to equip students with the functional knowledge and essential skills to manage personal health risks, it is equally important to recognize that such

TABLE 1–3

Underlying Risk Behaviors—Actual Causes of Death in the United States in 2000

Risk Behavior	Approximate Number of Deaths	Approximate Percent of Annual Deaths
Tobacco	435,000	18.1
Poor diet and physical inactivity	365,000	15.2
Alcohol	85,000	3.5
Infections	75,000	3.1
Toxic agents	55,000	2.3
Motor vehicles	43,000	1.8
Firearms	29,000	1.2
Sexual behavior	20,000	0.8
Drug use	17,000	0.7

Sources: A. H. Mokdad et al., "Actual Causes of Death in the United States, 2000," *Journal of the American Medical Association* 291, no. 10 (March 10, 2004): 1238–45; Centers for Disease Control and Prevention, *Chronic Disease Overview* (https://www.cdc.gov/chronicdisease/overview/index.htm, 2017).

Note: It is important to exert influence over the common lifestyle risk behaviors linked to many of the causes of premature death. These health risks represent the actual leading causes, rather than the clinical diagnoses provided at the time of death for the majority of Americans.

behaviors do not happen in a vacuum. Public health researchers have identified five major sources of influence on American health. Similar to the causes of premature death identified in the 1979 *Healthy People* and those actions discussed in Table 1–1, today's influential variables include:

- *Biology and genetics:* Examples of such determinants of health include age, sex, and inherited conditions. Importantly, some biological and genetic factors affect some people more than others. In specific, older adults are more prone to poorer health outcomes than their adolescent counterparts and sickle-cell disease is most common among people with ancestors from West African nations.
- *Social factors:* The social determinants of health include physical conditions and other factors in the environment in which people are born, live, learn, play, and work. Examples of importance include the availability of resources to meet daily needs, prevalent and powerful social norms and attitudes, transportation options, public safety, and quality schools.
- *Health services:* Both access to and the quality of available health services influence health outcomes for all Americans. Examples of barriers to medical care include limited availability of specialized services in a local area, high cost, poor insurance coverage, and limited language access. In this context, if people don't have health insurance, research has demonstrated that they are less likely to participate in preventive care and to delay seeking medical treatment for illness or injury.
- *Public policy:* Local, state, and federal laws and policy initiatives have been demonstrated to influence the health of individuals and the population as a whole. For example, when taxes on tobacco sales are increased, the health of the people living in that region is improved by reducing the number of people using tobacco products. Readers are encouraged to review the influence of the federal Affordable Care Act in this regard.
- *Individual behavior:* As discussed, positive changes in individual behaviors including reducing dietary risks, increasing physical activity, and reducing or eliminating the use of tobacco, alcohol, and other drugs, can reduce chronic diseases. In addition, the simple act of hand washing is one of the most important individual acts with the potential to reduce the short-term impact of infections.[24]

Although each of these factors exerts independent influence, the interaction among them is significant. In this context, it is clear that health is rooted in homes, schools, neighborhoods, workplaces, and communities. While individual behaviors such as eating well, staying active, not smoking, and seeing a doctor for preventive care or when sick can influence health, well-being also is influenced by their cumulative effects. Social determinants and environmental factors including access to quality schools, availability of clean water, air and healthy foods, and enriching social relationships help to clarify why some people are healthier than others. Only when people understand and can address the independent and combined effects of these sources of influence, will it be possible to achieve the highest quality of health for all. Given the complexity of this challenge, the coordinated efforts of individuals, families, schools, civic groups, faith-based organizations, and governmental agencies will be necessary to address the complex health challenges confronting youth.[25]

HEALTHY YOUTH, HEALTHY AMERICANS

Since the publication of *Healthy People* in 1979, local, state, and federal agencies have assumed leadership for a long-term broad and collaborative initiative to promote health and prevent disease among Americans. Every ten years, the U.S. Department of Health and Human Services (HHS) has gathered the latest data, analyzed accumulated information, and reviewed the best science about trends and innovations collected across the previous decade. Then, the best of this evidence is used to establish and monitor national health objectives targeting a broad range of health issues. These specific and measurable objectives establish a foundation to help individuals and communities make and act on informed health decisions.[26]

In addition to the focus on a range of critical health issues, this decades-long agenda has been organized around measurable objectives targeting diverse ages and groups of Americans. Among these targeted groups are children and youth. Since its inception, *Healthy People* has encouraged collaboration among influential stakeholders and institutions to protect and promote the health of this age group.[27]

Adolescence has been confirmed to be a period characterized by significant developmental transition. Youth between the ages of 10 and 19 are confronted with complex challenges associated with puberty and the task of cultivating skills to negotiate requisite developmental tasks. Although generally a healthy time of life, pertinent issues of significance can take root during adolescence. Tobacco and other substance use and abuse, sexual risks,

©Wavebreak Media Ltd/123RF

Quality health education can help empower children in all domains of health.

motor vehicle crashes, and suicidal thoughts or acts can determine current health status or influence the development of chronic diseases that will be manifested in adulthood. Research has demonstrated that adolescents particularly are sensitive to contextual influences in their environment. Factors including cues from family members, peers, those in their neighborhoods, and expectations and norms presented in the media can challenge or support their health. This is particularly true of the school environment in which policies, practices, and influential others can exert a powerful impact on the decision making and behaviors of youth.[28]

In addition to the developmental issues that challenge adolescents, a growing body of research has documented the importance of early childhood (birth to age 8) as a period in which the physical, cognitive, and social-emotional foundation for lifelong health and learning are established. During this developmental stage, the brain grows to 90 percent of its adult size and children learn to regulate their emotions, cultivate skills to form attachments, and develop language and critical motor skills. All of these milestones can be delayed if young children experience significant environmental stress or other risks that affect the brain or compromise physical, social-emotional, or cognitive growth.

More than any other stages of development, early and middle childhood (ages 6 to 12 years) set the stage for developing health literacy and practicing self-management, decision making, and the skills to negotiate conflicts with others. Typical and nonfatal conditions including asthma, obesity, and developmental and behavioral disorders can affect the health and education outcomes of those at this developmental stage. Importantly, health risks encountered during early and middle childhood can affect the well-being of the adolescents and adults who children will become.[29]

To review important health promotion targets for children and youth contained in *Healthy People 2020*, readers are encouraged to examine Table 1–4. Listed are the objectives that identify actions for many influential stakeholders in school communities designed to promote the health of youth.[30]

HEALTHY PEOPLE

TABLE 1–4

***Healthy People 2020* Objectives That Specify Action for Advocates and Stakeholders in Schools**

Adolescent Health (AH)	
AH-5:	Increase educational achievement of adolescents and young adults.
AH-6:	Increase the proportion of schools with a school breakfast program.
AH-7:	Reduce the proportion of adolescents who have been offered, sold, or given an illegal drug on school property.
AH-8:	Increase the proportion of adolescents whose parents consider them to be safe at school.
AH-9:	Increase the proportion of middle and high schools that prohibit harassment based on a student's sexual orientation or gender identity.
AH-10:	Reduce the proportion of public schools with a serious violent incident.
Disability and Health (DH)	
DH-14:	Increase the proportion of children and youth with disabilities who spend at least 80 percent of their time in regular education programs.
Early and Middle Childhood (EMC)	
EMC-4:	Increase the proportion of elementary, middle, and senior high schools that require health education.
Educational and Community-Based Programs (ECBP)	
ECBP-2:	Increase the proportion of elementary, middle, and senior high schools that provide comprehensive school health education to prevent health problems in the following areas: unintentional injury; violence; suicide; tobacco use and addiction; alcohol or other drug use; unintended pregnancy, HIV/AIDS, and STD infection; unhealthy dietary patterns; and inadequate physical activity.
ECBP-3:	Increase the proportion of elementary, middle, and senior high schools that have health education goals or objectives which address the knowledge and skills articulated in the National Health Education Standards (high school, middle, and elementary).
ECBP-4:	Increase the proportion of elementary, middle, and senior high schools that provide school health education to promote personal health and wellness in the following areas: hand washing or hand hygiene, oral health, growth and development, sun safety and skin cancer prevention, benefits of rest and sleep, ways to prevent vision and hearing loss, and the importance of health screenings and checkups.
ECBP-5:	Increase the proportion of elementary, middle, and senior high schools that have a full-time registered school nurse-to-student ratio of at least 1:750.

TABLE 1–4 (*continued*)

Environmental Health (EH)	
EH-16:	Increase the proportion of the Nation's elementary, middle, and high schools that have official school policies and engage in practices that promote a healthy and safe physical school environment.
EH-23:	Reduce the number of public schools located within 150 meters of major highways in the United States.
Family Planning (FP)	
FP-12:	Increase the proportion of adolescents who received formal instruction on reproductive health topics before they were 18 years old.
Hearing and Other Sensory or Communication Disorders (Ear, Nose, Throat-Voice, Speech, and Language) (ENT-VSL)	
ENT-VSL-21:	Increase the proportion of young children with phonological disorders, language delay, or other developmental language problems who have participated in speech-language or other intervention services.
Injury and Violence Prevention (IVP)	
IVP-27:	Increase the proportion of public and private schools that require students to wear appropriate protective gear when engaged in school-sponsored physical activities.
IVP-34:	Reduce physical fighting among adolescents.
IVP-35:	Reduce bullying among adolescents.
IVP-36:	Reduce weapon carrying by adolescents on school property.
Mental Health and Mental Disorders (MHMD)	
MHMD-2:	Reduce suicide attempts by adolescents.
MHMD-4:	Reduce the proportion of adolescents who engage in disordered eating behaviors in an attempt to control their weight.
Nutrition and Weight Status (NWS)	
NWS-2:	Reduce the proportion of children and adolescents who are considered obese.
NWS-10:	Increase the proportion of schools that offer nutritious foods and beverages outside of school meals.
NWS-11:	Prevent inappropriate weight gain in youth and adults.
NWS-12:	Eliminate very low food security among children.
Physical Activity (PA)	
PA-3:	Increase the proportion of adolescents who meet current Federal physical activity guidelines for aerobic physical activity and for muscle-strengthening activity.
PA-4:	Increase the proportion of the Nation's public and private schools that require daily physical education for all students.
PA-5:	Increase the proportion of adolescents who participate in daily school physical education.
PA-6:	Increase regularly scheduled elementary school recess in the United States.
PA-7:	Increase the proportion of school districts that require or recommend elementary school recess for an appropriate period of time.
PA-10:	Increase the proportion of the Nation's public and private schools that provide access to their physical activity spaces and facilities for all persons outside of normal school hours (i.e., before and after the school day, on weekends, and during summer and other vacations).
PA-13:	Increase the proportion of trips made by walking.
PA-14:	Increase the proportion of trips made by bicycling.
Substance Abuse (SA)	
SA-1:	Reduce the proportion of adolescents who report that they rode, during the previous 30 days, with a driver who had been drinking alcohol.
SA-2:	Increase the proportion of adolescents never using substances.
SA-18:	Reduce steroid use among adolescents.
SA-21:	Reduce the proportion of adolescents who use inhalants.
Tobacco Use (TU)	
TU-2:	Reduce tobacco use by adolescents.
TU-3:	Reduce the initiation of tobacco use among children, adolescents, and young adults.
TU-7:	Increase smoking cessation attempts by adolescent smokers.
TU-15:	Increase tobacco-free environments in schools, including all school facilities, property, vehicles, and school events.
TU-18:	Reduce the proportion of adolescents and young adults in grades 6 through 12 who are exposed to tobacco marketing.

Source: U.S. Department of Health and Human Services, *Healthy People 2020* (www.healthypeople.gov/2020/topics-objectives; 2018).

Note: Education professionals are encouraged to evaluate the extent to which their schools have established policies and practices that bring them into compliance with these national health objectives.

HEALTH IN THE ACADEMIC ENVIRONMENT

Today, youth are confronted with health, educational, and social challenges on a scale and at a pace not experienced by previous generations of young Americans. Violence, alcohol and other drug use, obesity, unintended pregnancy, and disrupted family situations can compromise both their short- and long-term health prospects.[31]

Educational institutions are in a unique and powerful position to improve health outcomes for youth. In the United States, nearly 60 million students are enrolled in more than 1,20,000 public and private elementary and secondary schools. In this context, schools have direct contact with more than 95 percent of American youth between the ages of 5 and 17 years. Sustained for over six hours every school day, this instructional engagement proceeds over a thirteen-year period, a time of significant social, psychological, physical, and intellectual development.[32–35] As such, schools represent the only social institution that can reach nearly all young people.

Beyond offering efficient access to the critical mass of youth, schools provide a setting in which friendship networks develop, socialization occurs, and norms that influence behavior are developed and reinforced.[36] Importantly, such social norms prevail in the school environment *before* specific health behaviors can become habitual for individual students. As a result, developmentally predictable experimentation with a range of health behaviors occurs in context of relationships with professional adult educators who are academically prepared to organize developmentally appropriate learning experiences to empower children to lead safer, healthier lives.

Unfortunately, advocates committed to promoting child and adolescent health in schools have been challenged by sweeping efforts to reform public education. Since the early 1980s, many research reports, position statements, and legislative initiatives have been directed at improving the quality of education for all students. The passionate commitment to reform the nation's education enterprise has taken many forms, including experimentation with strategies to improve teacher preparation, evaluation of student performance, and the U.S. Supreme Court decision supporting vouchers to promote school choice options for parents. Most school improvement plans have increased reliance on quantitative measures of student performance in the basic, or core, academic subjects including language arts, mathematics, social studies, and the physical sciences. In addition, significant efforts and financial resources have been mobilized to enrich instructional practices targeting the Common Core Standards, an agenda explored in Chapter 2.

Unfortunately, support for academic activities designed to address the complex health challenges confronting students are missing in most calls for education reform. *A Nation at Risk,* a report by the National Commission on Excellence in Education, included health education on a list of academic subjects identified as part of the "educational smorgasbord." This prestigious and powerful 1983 report, sponsored by the U.S. Department of Education, asserted that the American education curricula had become "diluted . . . and diffused" and recommended that educational programs in this "smorgasbord" category be either eliminated or significantly reduced in emphasis during the school day.[37] Echoes of this perspective remain in the federal No Child Left Behind and Race to the Top agendas discussed in Chapter 2.

Importantly, a growing body of science confirms that student health behaviors, academic outcomes, and school policies and practices designed to address them are "inextricably intertwined."[38] The American Cancer Society and representatives of more than forty national organizations concluded that "healthy children are in a better position to acquire knowledge" and cautioned that no curriculum is "brilliant enough to compensate for a hungry stomach or a distracted mind."[39] To reinforce this position, a recent and significant research agenda concluded that:

> No matter how well teachers are prepared to teach, no matter what accountability measures are put in place, no matter what governing structures are established for schools, educational progress will be profoundly limited if students are not motivated and able to learn. . . . Healthier students are better learners.[40]

In this context, the Council of Chief State School Officers (CCSSO), the professionals responsible for education programming and policy in each state, issued *Policy Statement on School Health*. Recognizing that "healthy kids make better learners and that better students make healthy communities," this policy statement urged education leaders "to recognize the enormous impact that health has on the academic achievement of our nation's youth." Further, the esteemed CCSSO urged all educators to "look beyond standards setting and systems of accountability and join with public and private sector mental health, health, and social services providers to address the widespread conditions that interfere with student learning and students' prospects for healthy adulthood."[41]

Beyond making this statement of advocacy, this important policy statement contained a number of recommendations for state and local education leaders. At the state level, education and legislative leaders were encouraged to demonstrate their commitment to acting on the evidence-based links between health and academic success by engaging in such activities as:

- Disseminating data that confirm the impact of health-promoting activities on academic achievement.
- Designating senior-level staff to oversee school health-related activities.
- Supporting policies that promote student health, including restricting vending machine sales, prohibiting tobacco use on school property, and ensuring health insurance coverage for all students and staff.
- Ensuring curricular compliance with the National Health Education Standards.
- Allocating adequate funding for school health promotion.[42]

In recognition that school-based activities to promote student health must occur in the context of, rather than in competition with, strategies to improve education outcomes, many professional and policy advocates have responded. Of note, ASCD convened a meeting of the Commission on the Whole Child. This group was charged with the important task of redefining the "successful learner."[43] Their specific responsibility was to reframe the

understanding of a "successful learner" from a student whose achievement is measured only by scores on academic tests, to one who is knowledgeable, emotionally and physically healthy, engaged in civic activities and events, involved in the arts, prepared for work and for economic self-sufficiency, and ready for the world after completing formal schooling.[44]

The Position Statement on the Whole Child, developed by the Commission of the Whole Child, affirmed that academics remain essential, but are only one element of student learning and development. Rigorous testing can be only one part of a complete system of educational accountability. In an expansion of conventional thinking about education reform, the "new compact" established by ASCD calls on teachers, schools, and communities to collaborate to ensure that

- "Each student enters school healthy and learns about and practices a healthy lifestyle,
- Each student learns in an intellectually challenging environment that is physically and emotionally safe for students and adults,
- Each student is actively engaged in learning and is connected to the school and broader community,
- Each student has access to personalized learning and to qualified, caring adults, and
- Each graduate is prepared for success in college or further study and for employment in a global environment."[45]

Achieving these ambitious outcomes requires the establishment of coalitions of supportive and involved families, community volunteers, and advocates for health promotion networks and school health councils. In addition, ASCD has reinforced the importance of support provided by governmental, civic, and business organizations. Schools must develop challenging and engaging curricula, provide professional development and planning time for high-quality teachers and administrators, cultivate a safe, healthy, orderly, and trusting learning environment, promote strong relationships between adults and students, and support health promotion networks and school health councils. Finally, teachers were called on to use evidence-based instruction and assessment practices, engage learners in rich content, make connections with students and families, manage their classrooms effectively, and model healthy behaviors.[46]

Given the complex health and learning challenges facing today's students it is critical for educators, families, and other advocates to remember that children don't grow and learn in isolation. They grow physically, emotionally, ethically, expressively, and intellectually in networks of families, schools, neighborhoods, and communities. Educating the whole child won't happen with emphasis only on measures of academic achievement.[47]

As a result of the contributions of such powerful advocates, health promotion activities are gaining credibility as an effective and efficient way to promote student success as stakeholders learn that the choice of focusing on education outcomes *or* academic success is a false one. Mounting evidence has confirmed the destructive impact of student health risks on attendance, class grades, performance on standardized tests, and graduation rates.[48]

Due to the complexity of the health and academic problems confronting students, it is not reasonable nor realistic to expect that schools can address them without support. Such challenges will require the collaborative efforts of families, communities, health care providers, legislators, the media, and others. While there are no simple solutions, schools can provide a focal point for many such efforts.[49]

WHOLE SCHOOL, WHOLE COMMUNITY, WHOLE CHILD

A Foundation for Understanding

Each day, in schools across the United States, even the most talented students are confronted with risks for alcohol or other drug–related behaviors, pregnancy, or the negative outcomes of violence. In response to these and many other threats, it is common for well-intentioned but often misguided stakeholders to respond with crisis intervention approaches. Rather than developing stable, evidence-based, and sustained policies and practices, educators attend to such health issues only when there is a catastrophic, sensational, or newsworthy event. Importantly, such reactive approaches have been shown to meet the needs of only limited numbers of students and have been demonstrated to produce short-lived outcomes.

As discussed earlier in this chapter, *Healthy People* provided a starting point for organizing many kinds of targeted health initiatives, including those based in the nation's schools. Concerned advocates for children and youth would be wise to review the important definitions of medical care, disease prevention, and health promotion contained in this historic publication. Understanding these concepts can help to establish the boundaries of professional practice, identify realistic program expectations, and target key stakeholders with shared responsibility for the promoting and protecting health of students.

In *Healthy People,* "medical care" is defined with a primary focus on "the sick" and involves activities designed "to keep these individuals alive, make them well, or minimize their disability."[50] Each day, many students in America's schools receive medical care consistent with this definition. They have conditions that have been diagnosed and are being treated by trained clinicians. School-based education professionals are not equipped to provide such diagnostic and therapeutic intervention. Exceptions exist only in circumstances in which first aid or emergency care must be provided. Even in such cases, only trained individuals in the education community should render emergency care. The appropriate role for school-based professionals in managing students who need medical care includes referral, support, and compliance with the prescriptions and proscriptions made by attending clinicians. In this context, the appropriate role for educators is to support parents and trained others to carry out such care plans.

"Disease prevention" "begins with a threat to health—a disease or environmental hazard—and seeks to protect as many people as possible from the harmful consequences of that threat."[51] Disease prevention is best understood as the process of "reducing risks and alleviating disease to promote, preserve, and restore health and minimize suffering and distress."[52] Often, teachers emphasize hand washing and proper disposal of soiled tissues as part of daily classroom practice. Education

professionals collaborate with school nurses, administrators, parents, and medical care providers to manage outbreaks of infections and other conditions including chicken pox, head lice, and the flu. School policymakers work with public health officials in screening and enforcing compliance with immunization policies. Whether working independently in the classroom or collaborating with others, teachers assume a much more active role in disease prevention than in the implementation of medical care delivery in the school setting.

Though there are circumstances in which medical care and disease prevention strategies are warranted, school-based professionals must be capable and comfortable with activities that focus on student health promotion. *Healthy People* defined all strategies that begin with "people who are basically healthy" as the target for health promotion activities. Health promotion "seeks the development of community and individual measures which can help [people] develop healthy lifestyles that can maintain and enhance the state of well-being."[53] More currently, health promotion is best understood as any "planned combination of educational, political, environmental, regulatory, or organizational mechanisms that support actions and conditions of living conducive to the health of individuals, groups, and communities."[54]

In this context, the primary task for educators working with students who are "basically healthy" is to implement health promotion activities at the school site. As concluded in *Healthy People,*

> Beginning in early childhood and throughout life, each of us makes decisions affecting our health. They are made, for the most part, without regard to, or contact with, the health care delivery system. Yet their cumulative impact has a greater effect on the length and quality of life than all the efforts of medical care combined.[55]

A commitment to health promotion at the school site provides a foundation for proactive collaboration by many stakeholders invested in both the health and school success of learners. The contrast between common school health practice and strategies based on sound health promotion research is highlighted in Consider This 1.2, "A Fence or an Ambulance." This poem, written in the 1800s, makes the value of a commitment to a health promotion philosophy based on prevention very clear.

Consider This **1.2**

A Fence or an Ambulance

Joseph Malins

'Twas a dangerous cliff, as they freely confessed,
Though to walk near its crest was so pleasant;
But over its terrible edge there had slipped
A duke and full many a peasant.
So the people said something would have to be done,
But their projects did not at all tally;
Some said, "Put a fence around the edge of the cliff,"
Some, "An ambulance down in the valley."

But the cry for the ambulance carried the day,
For it spread through the neighboring city;
A fence may be useful or not, it is true,
But each heart became brimful of pity
For those who slipped over that dangerous cliff;
And the dwellers in highway and alley
Gave pounds or gave pence, not to put up a fence,
But an ambulance down in the valley.

"For the cliff is all right, if you're careful," they said,
"And, if folks even slip and are dropping,
It isn't the slipping that hurts them so much,
As the shock down below when they're stopping."
So day after day, as these mishaps occurred,
Quick forth would these rescuers sally
To pick up the victims who fell off the cliff,
With their ambulance down in the valley.

Then an old sage remarked: "It's a marvel to me
That people give far more attention
To repairing results than to stopping the cause,
When they'd much better aim at prevention.
Let us stop at its source all this mischief," cried he,
"Come, neighbors and friends, let us rally;
If the cliff we will fence we might almost dispense
With the ambulance down in the valley."
"Oh, he's a fanatic," the others rejoined,
"Dispense with the ambulance? Never!
He'd dispense with all charities, too, if he could;
No! No! We'll support them forever.
Aren't we picking up folks just as fast as they fall?
And shall this man dictate to us? Shall he?
Why should people of sense stop to put up a fence,
While the ambulance works in the valley?"

But a sensible few, who are practical too,
Will not bear with such nonsense much longer;
They believe that prevention is better than cure,
And their party will soon be the stronger.
Encourage them then, with your purse, voice, and pen,
And while other philanthropists dally,
They will scorn all pretense and put up a stout fence
On the cliff that hangs over the valley.

Better guide well the young than reclaim them when old,
For the voice of true wisdom is calling,
"To rescue the fallen is good, but 'tis best
To prevent other people from falling."
Better close up the source of temptation and crime
Than deliver from dungeon or galley;
Better put a strong fence round the top of the cliff
Than an ambulance down in the valley.

A Program Model for Best Practice

While it is true that most schools invest considerable time and expertise in managing a range of health problems, in most cases, these efforts are implemented as isolated or competing entities. In this context, it is common for school communities to organize categorical activities such as Red Ribbon Week campaigns to reduce drug risks, transportation safety activities at the start of the school year, physical education instruction, and free or reduced-cost lunches for children living in poverty, with little thought about their focus, coordination, or sustainability. It is easy to see that such school health activities are operating under a "more of anything" rather than a "better is better" philosophy. As a result, their effectiveness and sustainability are compromised severely.

By contrast, evidence suggests that it is far better to organize all school health activities around a framework in which the talents and efforts of many professionals and resources in the school and local community can be mobilized to promote health and school success for all students, not just those with episodic or demanding health challenges. Such a coordinated approach is a way for many school health promotion activities to be systematic and intentional.[56] In addition, health messages can be communicated with consistency and reinforced through multiple channels, the duplication of services can be reduced, resources funded by tax dollars can be maximized, and advocates are better able to focus their efforts.

For years, health educators implemented the Coordinated School Health (CSH) model in effort to collaboratively impact student health. In recent years, ASCD and the Centers for Disease Control and Prevention have collaborated to improve this model, resulting in the Whole School, Whole Community, Whole Child (WSCC) model. The WSCC model combines and builds on elements of the traditional Coordinated School Health model with a significant emphasis on raising academic achievement and improving learning by integrating a health and well-being focus.[57] The WSCC model "provides a framework that stakeholders—school districts, state boards of education, school and public health professionals, and community organizations—can use to coordinate the education and health policies, processes, and practices to serve each child."[58]

The WSCC model includes ten components, which are divided into four distinct components. The evolution of this model meets the need for greater emphasis on both the psychosocial and physical environment as well as critical roles that community agencies and families must play. The ten components include the following: health education; nutrition environment and services; employee wellness; social and emotional school climate; physical environment; health services; counseling, psychological, and social services; community involvement; family engagement; and physical education and physical activity.[59]

Consistent with the body of literature confirming links between student health and a range of measures of school success, Dr. Lloyd Kolbe, one of the architects of CSH, revisited his original work and concluded that the goals of the modern school health program are consistent with the agenda of educational reform. Consistent with the advocacy position taken by ASCD for education for the "whole child," Dr. Kolbe asserted that modern school health programs develop when the efforts of education, health, and social service professionals are integrated purposefully to tackle four overlapping and interdependent types of goals for students:

- Goals focused on improving health knowledge, attitudes, and skills.
- Goals focused on improving health behaviors and outcomes.
- Goals focused on improving educational outcomes.
- Goals focused on improving social outcomes among learners.[60]

In this way, the WSCC model puts both student health and academic achievement at the heart of the matter and provides an efficient and effective way to improve, protect, and promote school success *and* the well-being of students, families, and education professionals. When fully implemented in a school community, WSCC has the capacity to:

- Maximize the impact of all available expertise and resources directed toward risk reduction and health promotion.
- Conserve taxpayer dollars by reducing duplication of services for health issues.
- Maximize use of public facilities in the school and community to promote health.
- Enhance communication and collaboration across health promotion professionals in the school and community.
- Address student health risks in the context of, rather than in competition with, the academic mission of the school.

Student health advocates are encouraged to review Figure 1–2, a depiction of how the community, school, and families collaborate with focus on the student.

FIGURE 1–2 | **Whole School, Whole Community, Whole Child Model**
SOURCE: https://www.cdc.gov/healthyyouth/wscc/

Health Education: The Keys to Quality Health Instruction

The most familiar component of WSCC is its educational, or instructional, foundation: comprehensive school health education. This element of an effective school-based health promotion program is defined as the "development, delivery, and evaluation of planned, sequential, and developmentally appropriate pre-kindergarten through grade 12 instruction and learning experiences designed to promote the health literacy, knowledge, attitudes, skills, and well-being of students. The content taught is standards-based, includes multiple health topics, and addresses the physical, intellectual, emotional, and social dimensions of health."[61] As such, a program of quality health instruction is focused on enabling and empowering students to gather accurate functional health information, evaluate attitudes, beliefs, and perceptions that influence personal and community health, and practice the essential skills needed to integrate health-enhancing behaviors into daily living. To accomplish this, health education must be addressed with the same commitment and integrity as any other academic discipline of the school curriculum. Readers are encouraged to review selected findings from the School Health Policies and Practices Study (SHPPS 2016) concerning comprehensive school health education in the Chapter 1 "More Resources" section of the Online Learning Center.

Consistent with the current literature identifying evidence-based approaches to comprehensive school health education, antiquated thinking and strategies must be updated. In particular, instructional approaches grounded in information acquisition and content mastery alone are not likely to equip students to manage the complex health challenges confronting them. After a decade of evaluation, researchers from the World Health Organization revealed the following important findings about school health education:

- Health education that concentrates on developing health-related skills and increasing comprehension of health knowledge and attitudes is more likely to enable youth to practice healthy behaviors.
- Skill development is more likely to result in healthy behavior outcomes when skill practice is tied to specific health content, decisions, or behaviors.
- The most effective method of skill development is learning by doing—learners involved in active rather than passive learning experiences.[62]

Consistent with best-practice protocol identified in the education literature, quality health education is grounded in activities that bridge all three domains of learning: the (1) cognitive, (2) affective, and (3) psychomotor, or skill, domains. In addition, health education curricula must reflect the most current and accurate knowledge base and incorporate developmentally appropriate, ability centered, and culturally relevant learning materials and technological resources.

Consistent with such a best practice orientation to health instruction, the Joint Committee on National Health Education Standards, a collaborative group of professionals representing national health and advocacy organizations, published *National Health Education Standards: Achieving Excellence* (2nd ed.) in 2007. This publication specified national standards developed to set ambitious goals for improving health education for all students. The developers also provided rationale for each standard and identified specific performance indicators to be achieved by students in grades 2, 5, 8, and 12. Elementary and middle school teachers should examine Appendix A, containing the health education performance indicators for students in grades pre-K–2, 3–5, and 6–8. Teacher's Toolbox 1.1 highlights the importance of functional knowledge and the essential skills that are the foundation of the National Health Education Standards. The standards provide a framework for developing a rigorous health education instructional scope and sequence and meaningful evaluation protocol for students in all grade levels.[63] Importantly, the School Health Policies and Programs Study (SHPPS) conducted in 2016 confirmed that nearly 82 percent of schools follow national, state, or district health education standards.[64] Readers are encouraged to review Chapter 3 of this text that contains an expanded discussion of the National Health Education Standards and their applicability for improving health education practice.

In addition to standards-based approaches, school districts use many ways to describe how much health education students at various grade levels are required to receive (minutes per week, hours per quarter, hours per school year). SHPPS 2016 confirms that nationwide, 32.0 percent of districts specify time requirements for health education for students in elementary schools, 52.3 percent had such requirements for students in the middle

Teacher's Toolbox **1.1**

National Health Education Standards

1. Students will comprehend concepts related to health promotion and disease prevention to enhance health.
2. Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
3. Students will demonstrate the ability to access valid information and products and services to enhance health.
4. Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
5. Students will demonstrate the ability to use decision-making skills to enhance health.
6. Students will demonstrate the ability to use goal-setting skills to enhance health.
7. Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce risks.
8. Students will demonstrate the ability to advocate for personal, family, and community health.

Source: National Health Education Standards: Achieving Excellence, 2nd ed. (Atlanta, GA: American Cancer Society, 2007). www.cancer.org/bookstore

Note: "This list of health education standards represents the work of the Joint Committee on National Health Education Standards. Copies of *National Health Education Standards: Achieving Excellence* can be obtained through the American School Health Association, the Association for the Advancement of Health Education, or the American Cancer Society."

grades, and 72.3 percent had such specified requirements for high school students. In this context, SHPPS 2016 revealed that nationwide, one-third of elementary schools mandate time be spent on teaching young people to develop healthy behaviors during a time when many young people confront a broad range of health risks.[65] Importantly, the Joint Committee on National Health Education Standards recommends that students pre-K to grade 2 receive a minimum of forty hours and that their counterparts in grades 3–12 receive a minimum of eighty hours of formal health instruction each school year.[66]

Across both the standards- and time-based models of health education, research has revealed that more hours of formal health instruction are necessary to produce changes in the affective domain than in either the cognitive or the psychomotor domain of learning. It is important to note that, forty to fifty hours of formal health education is necessary to produce stable improvements across all three domains of learning: functional knowledge, attitudes, and essential skills.[67]

In addition to differences in instructional time mandates, there is great variability in the health topics addressed in the curricula of local school districts. Choosing or developing the best possible health education curriculum is an important step in making sure that the program of instruction is effective at promoting healthy behaviors among all students. Unfortunately, in many districts, the process of curriculum selection or development lacks structure and focus. Such an approach can result in inadequate and ineffective health instruction.

To help address this matter, the CDC has developed the Health Education Curriculum Analysis Tool (HECAT) that contains guidance and resources for conducting a clear, complete, and consistent analysis of health education curricula. Districts that use HECAT will find help in selecting or developing evidence-based, appropriate, and effective health education courses of study. Further, with the help provided by this important resource, school-based professionals and other stakeholders can improve the delivery of evidence-based health education to students.[68]

This book is organized around HECAT curricular topics. In addition to an expanded discussion of HECAT in Chapter 2, curricular topics in this text are organized into two sections:

- Section II: Helping Students Develop Skills for Positive Health Habits
- Section III: Helping Students Translate Their Skills to Manage Health Risks

Teacher's Toolbox 1.2 highlights priority health issues that should be addressed in a developmentally appropriate way with all students in elementary and middle grades.[69]

Unlike secondary schools, in which content specialists are employed, elementary and middle school classroom teachers often are expected to deliver health education instruction. In such cases, it is common for the school nurse or community resource personnel to provide additional instructional support or supplemental expertise. Many elementary and middle school teachers report that they have inadequate academic preparation to teach complex or often controversial health education topics, and lack confidence or enthusiasm for health instruction. Often these deficiencies are related to residual limitations from their teacher preparation program. Unfortunately, state departments of education often specify only minimal requirements for teacher certification or licensure for those who will teach health education concepts to younger learners. As confirmation, SHPPS 2016 reveals that only 67.8 percent of districts require those teaching health at the middle school to be certified, licensed, or endorsed by the state to teach health education.[70]

To help address this matter, responsibilities and competencies have been developed for the professional preparation of elementary and middle school classroom teachers who assume the primary responsibility for teaching health education to young students. These responsibilities and competencies, developed by representatives of professional health education associations, are identified on Connect.[71, 72]

Readers are encouraged to use these competencies as a foundation for conducting a self-check of strengths and weaknesses in their own expertise. Classroom teachers who feel ill prepared or uncomfortable managing health education topics or a range of instructional activities are encouraged to participate in staff development or continuing education opportunities for in-service professionals. Such programs are designed to help teachers update content expertise and develop skills to improve classroom instruction.

In summary, SHPPS 2016 contains confirmation that 81.7 percent of districts follow national, state, or district health education standards.[73] Administrators, curriculum developers, and health teachers can review Table 1–5 for a checklist of important questions regarding the elements of a comprehensive school health education.[74] In addition, readers will find an expanded discussion about this important topic in Chapter 2 of this text.

Teacher's Toolbox 1.2

Sound Health Education: Instructional Topics for Which HECAT Tools Have Been Developed

- Alcohol and Other Drugs
- Healthy Eating
- Mental and Emotional Health
- Personal Health and Wellness
- Physical Activity
- Safety
- Sexual Health
- Tobacco
- Violence Prevention

Source: Centers for Disease Control and Prevention, *Health Education Curriculum Analysis Tool* (www.cdc.gov/healthyyouth/HECAT/index.htm; 2017).

Health Services

The practice of providing health services in the school setting began in the early twentieth century as a way to improve academic outcomes for students. Public health nurses began working in

TABLE 1–5

Confirming a Commitment to Comprehensive School Health Education: A Checklist of Important Questions

Is health education taught in all grades?
Are credentialed/certified/licensed health teachers employed to coordinate and deliver the program of health instruction?
Do all health education teachers:
Use an age-appropriate sequential health education curriculum that is consistent with State/National Health Education Standards?
Use active learning strategies and activities that students find enjoyable and personally relevant?
Provide opportunities for students to practice or rehearse the skills needed to maintain and improve their health?
Use a variety of culturally appropriate activities and examples that reflect the community's cultural diversity?
Use assignments or projects that encourage students to have interactions with family members and community organizations?
Do all health education teachers participate at least once a year in professional development in health education?
Does the health education curriculum address the following essential topics (consistent with HECAT):
Preventing unintentional injuries, violence, and suicide,
Physical activity,
Healthy eating,
Preventing tobacco use,
Asthma awareness, and
Preventing HIV, other STDs, and pregnancy?

SOURCE: Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School* (Atlanta, GA: CDC, 2017): Module 2.

schools to reduce student absenteeism related to outbreaks of communicable diseases.[75] Today, although communicable diseases are still an issue for many students, there are many other complex health-related barriers to academic achievement. Asthma, child abuse and neglect, domestic and school violence, adolescent pregnancy and parenting, alcohol and other drug use, mental health concerns, and a lack of health insurance coverage are among the issues addressed by today's school health service providers.[76]

School health services include a range of policies and programs designed to assess the health status of children, as well as measures to protect the health of all children. Although various school personnel contribute to the school health service program, the school nurse assumes primary responsibility for leadership with this WSSC component. With the support of parents, teachers, administrators, support staff, community agency professionals, and a range of medical care providers, the school nurse leads the collaborative effort to:

- Provide direct health care to students and staff.
- Provide leadership for the provision of health services.
- Provide screening and referral for health conditions.
- Promote a healthy school environment.
- Promote health.
- Serve in a leadership role for health policies and programs.
- Coordinate care between school personnel, family, community, and health care providers.[77]

Effective and timely delivery of such services is influenced by the number of nurses available at the school site to respond to students' needs.[78] The National Association of School Nurses (NASN) has issued a powerful position statement in which it has asserted that to meet the health and safety needs of all students, the maximum ratio of nurse to student should be:

- One school health nurse to no more than 750 students in the healthy student population.
- One school health nurse to no more than 225 students who may require daily professional nursing services.
- One school health nurse to no more than 125 students in the severely chronically ill or developmentally disabled population (those with complex health care needs).
- A potential 1:1 ratio for individual students who need daily and continuous professional nursing services.

In this way, recommendations for best practice were quantified to equip school communities to meet the changing and often complex health needs of the student population attending American schools today. As confirmation of this requisite obligation, in 1999, the U.S. Supreme Court ruled that schools must provide all nursing services required by students to attend school, including one-on-one nursing care.[79] Unfortunately, SHPPS 2016 confirmed that the majority of schools fail to comply with this as only 10.9 percent of school districts nationwide have adopted a policy specifying a maximum school nurse to student ratio. Further, only 8.2 percent of districts confirmed that they have adopted a policy stating that each school will have a specified ratio of school nurses to meet the needs of students.[80]

Although debate continues about the types and amount of direct health services that should be provided at the school site, it is clear that school nurses must manage care plans for students with special health care needs. In addition, these service providers must institute policy and protocol approved by the board of education for administering medication to students. As the number of students with special needs attending schools continues to grow, new, expensive, and often labor-intensive demands are placed on school districts and their health service providers. School administrators have legal responsibility for the safety of all students enrolled in each public school district. This includes providing and supervising the program of health services. Unfortunately, many school districts have assigned these tasks to classroom teachers or support staff colleagues who have no training. Such practices are dangerous for the student, the school employee, and the school district.

The National Association of School Nurses has asserted that health services should be provided directly by a registered professional school nurse who has a minimum of a baccalaureate degree in nursing and is licensed through a board of nursing.[81] Consistent with this assertion, Teacher's Toolbox 1.3 identifies recommended policies and procedures to guide safe and effective administration of medications in schools.[82] Consistent with these minimum guidelines boards of education and district

Teacher's Toolbox **1.3**

Safe and Effective Medication Administration in Schools: Policies and Procedures

The National Association of School Nurses developed a position statement providing guidance in the development of policies and procedures that ensure safe and effective medication administration in schools. The registered professional school nurse is responsible for medication administration and leading the development of policies and procedures that will ensure effective and safe medication administration. Policies and procedures, consistent with federal and state laws, should be established to address the following:

- Delegation (when permissible by state law), training, and supervision of unlicensed assistive personnel;
- Student confidentiality;
- Medication orders;
- Medication doses that exceed manufacturer's guidelines;
- Proper labeling, storage, disposal, and transportation of medication to and from school;
- Documentation of medication administration;
- Rescue and emergency medications;
- Off-label medications and investigational drugs;
- Prescription and over-the-counter medications;
- Complementary and alternative medications; and
- Psychotropic medications and controlled substances.

SOURCE: National Association of School Nurses, *Position Statement: Medication Administration in Schools* (www.nasn.org/nasn/advocacy/professional-practice-documents/position-statements/ps-medication; Revised February 2017).

administrators are encouraged to review local policies to confirm that they ensure the safety and legal protection of all concerned.

Although school nurses assume primary leadership for providing health services, many other educators and advocates are engaged in responding to student health issues that can compromise achievement. Classroom teachers are in an important position to participate in initial observation and referral of any conditions evident in students. Reports of such observations should be made to the school nurse or others specified in school district policy. In response, the coordinated team of health service providers can plan appropriate interventions to address the problem.

School nurses also collaborate with a range of allied health professionals in providing a formalized program of student health status assessments. In most school districts, a child must have a health examination before enrolling in school. Some school districts require additional periodic health examinations for students. These requirements vary from state to state. Most states also require vision and hearing screening at some point during the school life of each student. Often, vision and hearing difficulties are not identified until the child enters school. Scoliosis screening is a simple, but very effective, procedure to identify spinal curvatures among students in upper-elementary grades. During the elementary school years, the child's weight and height also are recorded. These measurements provide a record of basic childhood growth and development. Such growth data can provide quick confirmation that a child's physical development is on pace with chronological age.

School health service professionals also coordinate disease prevention measures and participate in activities to protect the health of students, faculty, and staff. To this end, policies must be developed in collaboration with public health officials to exclude from school activities those children who are infected with contagious conditions. Classroom teachers must be informed about when and under what circumstances a child excluded from school due to a communicable disease can be permitted to return.

Every state has a legislative mandate requiring that children be immunized against certain communicable diseases before they can enroll in school. Although these state requirements differ slightly, immunization requirements for polio, diphtheria, pertussis, tetanus, measles (rubeola), German measles (rubella), and hepatitis are common. Accurate record keeping and communication with immunization providers can be very time-consuming, but important, roles of the school nurse.

Finally, it is imperative that school districts develop written policies for managing sick and injured students. In addition to a protocol for managing emergencies, staff development programs must ensure full compliance with universal precautions for handling body fluid spills in the educational environment. Such training should be extended to all school staff, including playground monitors, bus drivers, and other classified staff.

Clearly, the program of school health services fills a critical role in promoting student health and advancing the academic mission of schools. Table 1–6 provides a checklist of important questions to help guide the establishment of a quality program of health services in a school community.[83]

TABLE 1–6

Confirming a Commitment to a Quality Program of Health Services: A Checklist of Important Questions

Does your school have a full-time, registered school nurse responsible for health services all day, every day?
Are an adequate number of full-time school nurses available (at least one nurse per school)?
Does the school nurse or other health services provider promote the health and safety of students and their families by engaging in classroom and other activities about essential health topics (consistent with HECAT)?
Does your school implement a systematic approach for referring students, as needed, to appropriate school- or community-based health services?
Does your school have a system for collecting student health information prior to school entry and every year thereafter?
Is all pertinent health information communicated in writing to all appropriate staff members?
Does your school have access to and work with a consulting school health physician who assists with your school health programs?
Does the school nurse or other health services provider have a system for identifying and tracking students with chronic health conditions?
Does your school facilitate or provide case management for students with poorly controlled chronic health conditions?

SOURCE: Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School* (Atlanta, GA: CDC, 2017): Module 5.

Healthy School Environment

Like other elements of WSSC, the environment in which a student spends a large part of every day in the school year makes an impact on both their health status and academic achievement. The most conspicuous element of a healthy school environment is related to the physical condition of the buildings, vehicles, playgrounds, sport facilities, and other school district properties. Policies adopted by the local board of education govern safety and management of noise, temperature, lighting, and air and water quality in physical learning environments. In addition, administrators establish and implement policies that govern school start times, an issue that has been demonstrated to influence academic outcomes particularly among teens.[84] Finally, these leaders are in a position to establish policies including the establishment of "bully-free zones" that help maintain a healthy social and emotional environment in the school community.

In a broad agenda to establish healthy school communities, research has revealed that the role of school administrators, particularly building principals, is critical. By integrating policies and practices that promote health into the overall school improvement process, school leaders are able to take concrete steps to enrich all elements of the school environment.[85]

While it is the responsibility of school leaders to adopt and enforce policies to ensure health and safety in all school facilities and on all school grounds, it is the responsibility of all school personnel to ensure that children do not become injured in classrooms or during activities for which they are the designated supervisors. Although this does not mean that the classroom teacher must make necessary repairs to school equipment, it is important for all school employees to report potential health hazards to designated district personnel. To ensure that potential hazards are addressed quickly, teachers should make such reports in writing.

A primary source of concern for school environmental advocates is the management of specific physical hazards. Recent research has confirmed the importance of the relationship between the physical environment of a school and the health and academic achievement of learners. Leaky roofs, problems with heating and ventilation, lack of cleanliness, and the use of cleaning chemicals can trigger a range of health problems in students. Asthma and allergies that can increase absenteeism and reduce academic performance are among the most common of such negative consequences of threats in the school environment. Importantly, a growing body of research has confirmed that when an investment is made to improve the environment of a school, not only are student health and achievement influenced, but teacher and staff productivity and retention rates are improved.[86]

School districts also are responsible for the safety of students being transported on school buses and in other school vehicles. Because the potential for injury is always present, all school vehicles must be in safe operating condition. In addition, bus drivers should be provided with continuing education opportunities focused on the operation of the bus, the management of the behaviors of their young passengers, and compliance with universal precautions in the event of an emergency in which someone could be exposed to blood or other body fluids.

In addition, classroom teachers play a role in school district transportation matters by providing instruction for and supervision of students. Children need to learn appropriate ways to get on and off buses and safe and appropriate behavior when they are being transported. Also, students should receive information about safe places to wait for the bus along roadways and how and where to proceed from the bus after disembarking.

In cooperation with community police departments, teachers and other school district personnel participate in a range of safety programs. These programs, intended to meet the needs of students who attend schools within walking distance of their homes, are designed to teach pedestrian safety to students in elementary grades. In addition, many districts and local communities employ adults to monitor student safety at the busiest, or most hazardous, intersections in the district.

Another critical, but often overlooked, aspect of a healthy environment is the social and psychological climate of the school. Schools need to be places where all students and staff feel cared for, included, and personally valued.[87] School personnel must establish an inviting, safe, and nurturing learning environment that extends throughout the school campus. Research has confirmed that students who feel like they are welcomed and engaged citizens in their schools report greater enjoyment of their academic experience than their counterparts attending less healthy schools. In this context, engaged students also demonstrate patterns of higher academic achievement.[88]

Research involving fifth graders has revealed that the environment, or social context, of a school is related to a range of student attitudes and behaviors. In this study, social context was defined as a school environment that students perceived to be caring. Student participation in co-curricular activities, development of shared norms, and involvement in decision making concerning school matters all were shown to be important components of a healthier social context. In confirmation of the importance of health social context, those students who attended schools with a stronger sense of community tended to engage in less drug taking and delinquent behavior.[89]

Educators are reminded that the important elements of a healthy school environment are not limited to the maintenance of physical facilities and the establishment of a welcoming emotional climate. In addition, school professionals must enforce policies that manage the full range of student risk behaviors including bullying, weapon carrying, tobacco, alcohol, and other drug possession, and acting-out behaviors. Such policies must be enforced consistently for all students and personnel within the school community. Enforcement of tobacco-free campus policies during all school activities and elimination of fund-raising activities that threaten the nutritional health of students are examples of such policies under review in many school districts.

Creating and maintaining a safe and healthy school environment is consistent with WSSC.

All school personnel and child health advocates share a responsibility for maintaining the highest standards for a healthy, safe, and nurturing learning environment. Examine Table 1–7 for a review of important questions that when answered in the affirmative confirm a commitment to a healthy school environment.[90]

Nutrition Environment and Services

Schools are in a unique position to promote healthy dietary behaviors and help ensure sufficient nutrient intake among America's youth. A comprehensive program of school-based

TABLE 1–7

Confirming a Commitment to School Health and Safety Policies and Environment: A Checklist of Important Questions

Does your school or district have written comprehensive health and safety policies that they communicate broadly and through varied outlets?
Does your school foster a positive psychosocial school climate?
Has your school implemented all components of the district wellness policy?
Has the school established a climate that prevents harassment and bullying?
Do staff members actively supervise students everywhere on campus?
Does your school have a written crisis response plan that includes preparedness, response, and recovery elements?
Is the crisis response plan practiced regularly and updated as necessary?
Does the school provide and maintain a safe physical environment on all grounds and buildings?
Does your school consistently implement indoor air quality practices including for pest management?

SOURCE: Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School* (Atlanta, GA: CDC, 2017): Module 1.

nutrition services provides a variety of nutritious and appealing meals that meet the health and nutrition needs of all students. Since a national epidemic of childhood obesity and the associated costs and consequences have been documented, establishing a school nutrition program of consistent quality has become a top priority in many communities.

The dietary behaviors of elementary and middle school students have a significant impact on their physical development. In addition, a growing body of literature has confirmed the strong relationship between nutritional behaviors and student achievement. Researchers have noted that hungry children manifest behaviors such as apathy and shorter attention spans. These students often have lowered energy levels and a compromised ability to concentrate, factors that threaten attention to detail and the general quality of academic work. Hungry children are at increased risk for infections and tend to be absent from school more often than classmates who are well fed. There is little question that students who are absent frequently tend to fall behind in their studies.[91]

In response to the inadequate nutritional intake of many students, the national school lunch and breakfast programs were initiated by the federal government. Begun in 1946 with the enactment of the National School Lunch Act, local school districts were provided with surplus agricultural commodities and federal funds to defray the costs of providing nutritious meals delivered through the mechanism of a school-based lunch program. Today, management of this program is the responsibility of the U.S. Department of Agriculture.

Whereas the costs of operating school-based breakfast and lunch programs are significant, concern over such fiscal matters must be balanced against research that has demonstrated that such meals are a significant source of nutrition for many children. On school days, many children consume as many as half their daily calories at school.[92] Recent research has confirmed that more than 90 percent of students eat lunch at school, with over 30 million kids participating in the National School Lunch Program and more than 14 million participating in the School Breakfast Program.[93]

To help manage the identified costs and to provide support for the nutritional enrichment of so many children, the *Healthy, Hunger-Free Kids Act* was passed by the federal government in 2010. This legislation authorizes funding and sets policy to guide the core child nutrition programs managed by the U.S. Department of Agriculture. As a consequence, for the first time in over thirty years, real reforms to the school breakfast and lunch programs will improve the critical nutrition and hunger safety net for millions of school-age children and youth.[94]

Beyond the amount and enriching nutritional density of foods made available to children through school-based programs, research has confirmed that student participants have greater class participation and greatly improved achievement than do hungry students.[95] Compared to children who skip it or those who eat breakfast at home, children who eat a school breakfast

©David Buffington/Getty Images

Adequate nutrition is critical to the physical and emotional well-being of children and supports their academic success. School breakfast and lunch programs provide a key source of nutrition for many students.

enjoy such improved health outcomes as eating more fruits, drinking more milk, and eating a wider variety of foods. In addition, offering a free breakfast to all students improves the learning environment for all. Research has demonstrated that in schools in which students are offered this nutritional enrichment, there are the following:

- Declines in reports of discipline and psychological problems.
- Reduced numbers of visits to school nurses that can interrupt critical instruction.
- Decreased incidents of tardiness.
- Increases in student attendance and attentiveness.[96]

In addition to schoolwide policies and practices, wise teachers have learned to collaborate with food service personnel to enrich the nutrition education curriculum. Food service personnel in some school districts provide nutrition education activities that are developmentally appropriate and meaningful for all students. Some schools have organized student/food service advisory councils, to collaborate on special meal planning and nutrition education activities. Special-event luncheons, nutrition newsletters, cafeteria bulletin boards or posters, food-tasting parties, and nutritional labeling of breakfast or lunch line food choices are activities intended to enrich and extend the nutrition education program of studies beyond the classroom.[97]

Beyond its use as a location for breakfast and lunch, the cafeteria in many middle schools is used only to accommodate large-group study halls. Wisely, some districts have developed ways to use this area for more academically enriching activities. Special mini-lectures on a range of topics can be targeted to particular students during their lunch meal. In addition, student organizations, teachers, and administrators can construct table tents to highlight important content matters or upcoming events on the school calendar.[98] In this way, nutrition education is enhanced without sacrificing valuable classroom instruction time, and the use of valuable instruction space is expanded.

In addition to using the cafeteria as a learning laboratory, classroom teachers are encouraged to engage students in a range of cross-curricular instructional activities that can extend healthy eating concepts across the school day. Using fruits and vegetables to teach younger students about colors, engaging middle school students in learning about weights and measures using foods grown in a school garden, and reinforcing math and health concepts through calorie counts and nutritional value charts are just a few examples of such extension activities.

Unfortunately, it has become more and more common for food industry marketers to invest in strategies to increase access of their products and messages to children. Experts in marketing to children realize that targeting adult policymakers in schools is sound short- and long-term practice. In return for needed funds and materials, marketers gain access to captive audiences of children who have money to spend, who can influence the purchasing patterns of their families, and who are the consumers of the future. Marketing strategies that focus on children in schools are very successful, as brand-name and less healthy foods are marketed in school cafeterias and hallways, products and coupons are distributed on holidays and as rewards for achievement, and students and their parents sell products to raise funds for their schools.[99]

TABLE 1–8

Confirming a Commitment to Nutrition Services: A Checklist of Important Questions

Does your school offer school meals that are accessible to all students?
Do school meals include a variety of offerings that extend beyond minimum requirements?
Does your school food service consistently follow practices that ensure healthier foods are purchased and prepared?
Does your school promote healthy food and beverage choices and school meals that meet best practice lunchroom techniques?
Do your students have adequate time to eat school meals?
Does your school implement any Farm to School activities?

SOURCE: Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School* (Atlanta, GA: CDC, 2017): Module 4.

Many elementary and middle schools provide access to less-than-healthy foods. For example, SHPPS 2016 findings revealed that approximately two-thirds of school districts have no policies which require schools to prohibit junk foods (foods or beverages that have low nutrient density) from being sold in vending machines, served at class parties, or made available in school stores or snack bars. Fewer than 10 percent of districts have policies that prohibit serving junk food at staff meetings, in concession stands, and during meetings attended by student family members.[100]

In light of growing concerns about childhood obesity and related negative health outcomes, administrators, parents, and child health advocates need to explore alternative funding options that do not compromise the health of enrolled students. To this end, Table 1–8 provides a checklist of important questions to guide school health advocates toward confirming a commitment to quality school nutrition services.[101] (Readers can find much more information about promoting healthy eating in Chapter 6 of this text.)

Counseling, Psychological, and Social Services

Mental, emotional, and behavioral problems among children and youth are real, prevalent, painful, and costly. Often referred to as "disorders," these problems are a source of stress for children, families, schools, and communities. Common disorders among children include anxiety, attention deficit hyperactivity disorder (ADHD), conduct disorders, autism, and severe depression. Importantly, the number of youth and families affected is significant. Research has estimated that as many as one in five school-age youth have a mental health disorder that can be diagnosed and requires treatment. Unfortunately, less than 20 percent of affected children and adolescents receive the treatment they need.[102]

Mental, emotional, and behavioral disorders in children and adolescents are caused by biological factors including genetics, chemical imbalances, and trauma to the central nervous system resulting from a head injury. Environmental factors, including exposure to violence, extreme stress, or the death or loss of a significant person, also can cause such disorders (see Chapter 14 for an expanded discussion). Despite the cause, schools are an ideal place for mental health promotion, prevention, and early intervention policies and practices for students. As such, it is

clear why counselors, psychologists, and other social service providers play such an important role in WSCC.

While resources to promote and protect mental health often are limited in the school community, educators must not underestimate the impact of mental health challenges on academic success. Psychologist Dr. Howard Adelman has identified five related barriers to learning:

- Inadequate basic resources—food, clothing, housing, and a sense of security at home, at school, and in the neighborhood.
- Psychosocial problems—difficult relationships at home and at school; emotional upset; language problems; sexual, emotional, or physical abuse; substance abuse; delinquent or gang-related behavior; and psychopathology.
- Stressful situations—inability to meet the demands made at school or at home, inadequate support systems, and hostile conditions at school or in the neighborhood.
- Crises and emergencies—death of a classmate or relative, a shooting at school, or natural disasters such as earthquakes, floods, or tornadoes.
- Life transitions—onset of puberty, entering a new school, and changes in life circumstances (moving, immigration, loss of a parent through divorce or death).[103]

Although there are a number of models and approaches around which school-based mental health services are organized, three kinds of professionals most frequently offer such care: school counselors, psychologists, and social workers. Originally, school counselors were employed to provide vocational guidance for students. Today, their role has been expanded to include helping students solve relationship problems, make decisions to improve learning outcomes, and address developmental challenges. Their mental health colleagues—school psychologists—evaluate the psychological functioning and needs of students and coordinate referral networks and collaborative activities with other community service providers. In particular, school psychologists play a critical role in responding to learners with special needs. In addition, school psychologists provide individual and group counseling for students, and conduct informational sessions for parents, faculty, and staff. Finally, in many school communities, social workers bridge the school, the home, and the community, by offering case management, group counseling, home visits, advocacy, parent education, and coordination of programs for youth.[104]

In addition to intervention services for students and their families, counselors and social workers provide instruction in many elementary and middle schools. These resource professionals organize learning activities focused on nonviolent conflict resolution, problem solving, communication, and decision-making skill development. In addition, counselors, psychologists, and social workers collaborate in curriculum and staff development activities in some districts.

In summary, student assistance programs staffed by a range of providers offer services for students who experience personal or social problems that can influence school performance and health. SHPPS 2016 has confirmed that nearly 90 percent of school districts have adopted policies mandating such services for all students.[105]

TABLE 1–9

Confirming a Commitment to Quality School Counseling, Psychological, and Social Services: A Checklist of Important Questions

Are counseling, psychological, and social services provided by a full-time counselor, social worker, and psychologist?
Does the counseling, psychological, or social services provider promote the emotional, behavioral, and mental health of and provide treatment to students and families?
Does the counseling, psychological, or social services provider collaborate with other school staff members to promote student health and safety?
Does your school implement a systematic approach for referring students, as needed, to appropriate school- or community-based counseling, psychological, and social services?
Does your school aid students during school and life transitions (such as changing schools or changes in family structure)?
Does the counseling, psychological, or social services provider have a system for identifying students who have been involved in any type of violence and, if necessary, refer them to the most appropriate school-based or community-based services?

SOURCE: Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School* (Atlanta, GA: CDC, 2017): Module 6.

To evaluate the program of mental health services in local schools, readers are encouraged to review Table 1–9, a checklist of important questions that confirm a commitment to quality school counseling, psychological, and social services.[106] Further, readers can find additional information about promoting mental and emotional health among students in elementary and middle grades in Chapter 5.

Physical Education and Physical Activity

In 1996, the Surgeon General of the United States published a landmark report on physical activity and health. This document confirmed the following significant benefits of regular participation in physical activity: a reduced risk of premature death and a decreased likelihood of developing heart disease, diabetes, and colon cancer.[107] In addition, people who exercise on a regular basis are more likely to participate in other healthy behaviors including improved dietary behaviors, more effective stress management practices, and lower cigarette use.[108]

Importantly, the Surgeon General's report documented that the health benefits of physical activity are not limited to adults. Regular activity among children and youth helps build healthy bones, muscles, and joints; helps control weight; supports development of lean muscle mass; addresses risks for high blood pressure; and reduces feelings of depression and anxiety.[109]

In addition to numerous health benefits, emerging literature has established a link between participation in physical activity and enhanced academic outcomes for students. In particular, research has concluded that students engaged in a consistent, organized program of school-based physical activity experience increased concentration and improved scores on tests of math, reading, and writing skills.[110] In light of these findings, the American Association of School Administrators has concluded

that "children need to be attentive to maximize the benefits of participation in learning tasks. Attention takes energy, and students who are physically fit, well-nourished, and stress-free have more energy."[111]

Given the amount of time spent there, schools are an ideal location for students to get the recommended sixty minutes of physical activity each day. Given the availability of facilities and trained professionals, school can pursue a combination of strategies to help children be more active. Among such steps, schools can:

- Create policies that increase access to and encourage physical activity for all students.
- Maintain strong physical education programs that engage students in moderate to vigorous activity at least 50 percent of their class time.
- Integrate physical activity into classroom practice so students can be active across the school day and not only in physical education class.
- Employ qualified and credentialed staff to teach physical education and to meet the activity needs of students with disabilities.[112]

Sound programs of physical education provide the backbone for school-based fitness activities. Such programs are developed to include a range of learning activities targeting cardiovascular health, muscular endurance, flexibility, strength, agility, balance, coordination, and good posture. Emphasis is placed on physical fitness and the development of skills that lead to lifelong habits of physical activity. As in other content areas, national physical education standards have been developed to provide guidelines for evidence-based program development.

The amount of time allotted for the physical education class varies from as little as fifteen to twenty minutes at some schools to as much as forty-five minutes to one hour at others. To address such variability, the National Association for Sport and Physical Education (NASPE) recommends that students in elementary schools receive a minimum of 150 minutes of physical education per week. Depending on the needs and maturation of students, this equals an approximate average of thirty minutes of formal physical education instruction per day.[113]

The amount of vigorous aerobic activity in which each student is a participant also is worthy of discussion. When observing an elementary physical education class, it is common to witness large blocks of time when many students are standing or sitting while a few are active or the teacher is instructing. Relays and team games tend to result in limited participation for the majority of students. A recent study of a county in Texas revealed that elementary school students were engaged in vigorous activity for only three minutes and twenty-four seconds in a typical forty-minute physical education class.[114] Clearly, this is not an acceptable level of participation if there is to be any positive impact on the physical fitness or achievement of students.

An important addition to the program of formal physical education is the provision of recess for most elementary school children. Unfortunately, many schools reduce recess time in favor of preparation for proficiency testing or count recess time periods toward compliance with state requirements for participation in physical education. This practice is unacceptable, as it implies that physical education learning experiences are less important than experiences in other academic subjects. Unfortunately, SHPPS 2016 confirmed that only 64.8 percent of school districts required schools to provide regularly scheduled recess periods for students in the elementary grades.[115]

Table 1–10 reviews important questions that confirm a commitment to quality physical education and other physical activity programs.[116] Further findings are available for reader review in the Online Learning Center, and in Chapter 7.

Daily physical activity for children—during physical education class and recess—enhances academic performance and sets the stage for lifelong healthy activity habits.

TABLE 1–10

Confirming a Commitment to Quality Physical Education and Physical Activity: A Checklist of Important Questions

Do all students in each grade receive physical education for at least 150 minutes per week throughout the school year?
Do physical education classes have a student/teacher ratio comparable to that of other classes?
Do all teachers of physical education use an age-appropriate, sequential physical education curriculum that is consistent with national or state standards for physical education?
Does the school prohibit exemptions or waivers for physical education?
Do teachers keep students moderately to vigorously active for at least 50 percent of the time during most or all physical education class sessions?
Are all physical education classes taught by teachers who are certified or licensed to teach physical education?
Does the physical education program consistently use practices as appropriate to include students with special health care needs?
Does your school promote or support walking and bicycling to school?
Does your school or district ensure that spaces and facilities for physical activity meet or exceed recommended safety standards for design, installation, and maintenance?

SOURCE: Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School* (Atlanta, GA: CDC, 2017): Module 3.

Employee Wellness

Since the 1970s, corporate America has demonstrated an increased interest in health promotion initiatives for employees. Providing long-term hospitalization for an aging American public has led many businesses to seek ways to reduce costs for hospital, medical, and other types of insurance. Many in the health promotion and medical care professions are committed to the notion that, with appropriate health promotion and disease prevention initiatives, these costs can be reduced. Corporations with work-site health promotion programs formalize opportunities for employees and their families to assume more responsibility for their health and well-being. In turn, the employees tend to be more productive, are absent less frequently, and have improved attitudes and better morale.

Boards of education and administrators are faced with the same issues as their colleagues in corporate management positions. Schools represent one of the largest employers in the United States. On average, approximately 5 percent of the U.S. workforce is employed in schools doing jobs as teachers, administrators, nurses, counselors, social workers, food service workers, maintenance staff, and more.[117] A significant portion of a school district budget is earmarked for health insurance and related benefits for faculty and staff.

School districts are ideal locations for work-site health promotion programs. School buildings are constructed with a wide range of facilities, and school districts employ resource professionals skilled in planning and implementing quality health promotion programs. Screenings, health education, employee assistance programs, health care, immunizations, and policies that support safe and healthy lifestyles are among the formalized activities integrated into the employee contracts in some school districts.

School-based health promotion programs for faculty and staff have been shown to:

- Decrease absenteeism.
- Lower health care and insurance costs.
- Increase employee retention.
- Improve morale.
- Reduce the number of work-related injuries.
- Increase productivity.
- Increase motivation to practice healthy behaviors.
- Provide healthy role models for students.[118]

Healthy teachers, administrators, and support staff are less costly to taxpayers and have fewer absences that require temporary employment of substitute teachers. Better continuity of instruction for students is maintained and costs are contained. In support of such health and cost containment outcomes, SHPPS 2016 contains confirmation that 54 percent of school districts require schools to have employee wellness programs. Further, nearly one-quarter of districts provide preventative screenings such as body mass index, diabetes, and cholesterol.[119] Elementary and middle school teachers interested in exploring the advantages of such programs in their local district should review Table 1–11. This checklist reviews important questions that confirm a commitment to quality health promotion for staff.[120]

TABLE 1–11

Confirming a Commitment to a Quality Employee Wellness and Health Promotion: A Checklist of Important Questions

Does your school or district offer staff members health education and health-promoting activities that focus on skill development and behavior change and that are tailored to their needs and interests?
Does your school or district offer staff members accessible and free or low-cost health assessments at least once a year?
Does your school or district offer staff members accessible and free or low-cost stress management programs at least once a year?
Does your school or district offer staff members accessible and free or low-cost physical activity/fitness programs?
Does your school or district offer staff members healthy eating/weight management programs that are accessible and free or low cost?
Does your school or district offer staff members tobacco-use cessation services that are accessible and free or low cost?

SOURCE: Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School* (Atlanta, GA: CDC, 2017): Module 9.

Family Engagement and Community Involvement

Today, many associate a range of student problems with shortcomings in the school program, yet there are many entities in every community with whom children and their families engage. Children who attend local schools also are influenced by practices in the neighborhoods, churches, and stores and by medical care providers with whom they have contact. No school district is solely responsible when a community is confronted with children who have developed problems with tobacco, alcohol or other drugs, or violence. Rather, every student who is at risk lives in some kind of family arrangement, resides in a neighborhood, shops in local stores, and might participate in religious celebrations. All student advocates must remember that the complexity of today's health and social problems require that no one agency or group be blamed or held responsible for intervening in the absence of other stakeholders. Student risk behaviors are influenced by a complex set of variables. Thus, effective prevention and intervention are based on collaborative approaches.

Key stakeholders in this collaboration are parents or custodial caregivers. By action and example, these adults shape the lives of their children from birth through adulthood. Whereas it is common for the influence of friends and peers to increase during adolescence, research has confirmed the continued significance of parents in shaping choices and behaviors of their children. Close parent–child relationships characterized by mature parenting skills, shared family activities, and positive role modeling have well-documented effects on the health and development of youth.[121]

As an important step in confronting such challenging issues, the school health literature has confirmed the need for local districts to establish a school health advisory council. Such organizations focus the efforts of school, medical, safety, and advocacy services on health promotion in the school community. Specifically, such coalitions or committees work to increase the quantity and quality of school-based health promotion efforts. Such groups also help reduce duplication of services and enhance

TABLE 1–12

Confirming a Commitment to Quality Family Engagement and Community Involvement: A Checklist of Important Questions

Does your school communicate with all families in a culturally and linguistically appropriate way, using a variety of communication methods, about school-sponsored activities and opportunities to participate in school health programs and other community-based health and safety programs?
Does your school's family education program address effective parenting strategies?
Do families and other community members help with school decision making?
Does your school or district have a formal process to recruit, train, and involve family and other community members as volunteers to enrich school health and safety programs?
Does your school provide opportunities for family members to reinforce learning at home?
Do family and community members have access to indoor and outdoor school facilities outside school hours to participate in or conduct health promotion and education programs?
Does your school work with local community organizations, businesses, or local hospitals to plan community events that promote health and wellness for students, families, and community members?
Does your school partner with community-based healthcare providers to link students and families to accessible community health services and resources?

SOURCE: Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School* (Atlanta, GA: CDC, 2017): Modules 10 & 11.

the visibility and potential impact of all participant agencies. With pooled resources, advocacy initiatives that are too large for any one agency become realistic health promotion options.[122]

In addition to addressing more global concerns, elementary and middle school classroom teachers would be wise to cultivate relationships with student health advocacy organizations and agencies in their communities. Many of these organizations offer support for classroom instruction by providing resource materials developed to focus on a broad range of health content matters.

Table 1–12 contains a checklist of important questions that confirm a commitment to quality family engagement and community involvement with the schools.[123] In addition, parent engagement is discussed in greater detail in Chapter 2 and throughout this text.

Pulling It All Together

The health status and academic achievement of students who attend elementary and middle schools are threatened by many complex health-related variables. While learning is threatened among students who are absent due to allergies or communicable infections, others have difficulty maintaining their attention to schoolwork because of dietary risks or bullying. The key to confronting such complex issues is to capitalize on the many resources and talents of professionals who are committed to promoting the health of students.

The Whole School, Whole Community, Whole Child (WSCC) model represents best practice in school health promotion. The successful integration of this model into the active life of the school community depends on several key elements. As a foundation, all school and community personnel with expertise in any aspect of student health should be engaged as active participants in this proactive health promotion agenda. The likelihood of successful implementation of the WSCC model in a local school community is related to the extent of cooperation, collaboration, and communication among the stakeholders. Adults with particular expertise representing the eight component programs must organize their efforts in a coordinated manner.

Many schools offer a range of programs designed to react to the health risks of students who are at risk. Additionally, other districts offer diverse activities to prevent participation in any number of health-risk behaviors. Importantly, activities must be offered in a coordinated and intentional manner to increase the probability of their longevity and success.

As an example of such a coordinated approach, nutritional health promotion is very different in a school community with the WSCC model than in one that has not embraced this model. Such a district, with an established school health council, might collaborate in planning proactive and well-organized activities, including the following:

- *Health education:* Provide a developmentally appropriate nutrition education curricular scope and sequence.
- *Health services:* Provide consultation and resources for planning a nutritional health week in which cross-curricular instruction focuses on healthy foods.
- *Healthy environment:* Review, by administrators and the board of education, all fund-raising policies and practices to make sure that none sabotage the district commitment to nutritional health promotion.
- *School food services:* Establish training tables for athletes, students involved in co-curricular activities, and interested others, including building faculty and staff.
- *Counseling:* Provide support groups and appropriate referral activities for students with eating disorders or other risky dietary behaviors.
- *Physical education:* Develop exercise prescriptions that feature healthy weight management practices for all students.
- *Faculty and staff:* Organize a "Healthy Nutrition for Life" support group open to all faculty and staff.
- *Family engagement:* Have students plan a healthy meal with their families.
- *Healthy community:* Organize "a taste of [name of your community]" event. Invite local restaurants and food outlets to the school campus to prepare samples of their healthy entrées for school district residents. Proceeds can support a range of health promotion activities.

Finally, many school health advocates have identified the need for a person or leadership group to coordinate and serve as "champions" for all activities of the school health program. The primary responsibility of this person or group is to translate the model components into specific programming activities to meet local needs. In particular, such program coordinators focus their professional time and energies on heading the school health advisory committee, maintaining the program budget, and organizing advocacy and liaison activities with district, community, and state agencies. The coordinator provides direct health promotion activities and services and organizes evaluation activities to ensure quality control of the many aspects of the WSCC model.[124]

The School Health Index (SHI), referenced in this chapter, is a very valuable tool developed by the CDC, and can help schools improve their health and safety policies and programs. Easy to use and completely confidential, the SHI has two activities that teams of representatives from school communities can complete. The self-assessment process structures a way for stakeholders to identify strengths and weaknesses in all eight components of CSH. After this self-assessment is completed, schools can use the planning tool in the SHI to identify and rank-order recommended actions for improving a collaborative approach to student health.[125]

ASCD, one of the nation's largest and most respected education organizations, has issued a *Position Statement on Health and Learning*. This important statement is based on the assertion that "successful learners are not only knowledgeable and productive but also emotionally and physically healthy, motivated, civically engaged, and prepared for work and economic self-sufficiency, and ready for the world beyond their own borders." Because both emotional and physical health are critical to accomplishing such short- and long-term goals for the educational process, ASCD concluded that health should be "fully embedded into the educational environment for all students." Consistent with the text in this chapter, this national organization concluded that both the health and the learning needs of children are best addressed when:

- Health is recognized as a multifaceted concept best enriched by supporting the intellectual, physical, civic, and mental attributes of learners.
- Health and learning are supported by coordinated and comprehensive teacher, school, family, community, and policy resources.
- Communities, families, schools, teachers, and policymakers assume reciprocal responsibility for enriching health and learning among students.[126]

In 2014, ASCD and the Centers for Disease Control and Prevention (CDC) collaborated in the development of the updated and expanded Whole School, Whole Community, Whole Child (WSCC) model. This contemporary approach combines and builds on the elements of the traditional coordinated school health approach from the CDC and the whole child framework from ASCD in exploiting the talents of many adults in positions of responsibility and authority to focus on promoting student health while maintaining a focus on the primary mission of schools: to maintain the highest standards of academic achievement.[127]

INTERNET AND OTHER RESOURCES

WEBSITES

Action for Healthy Kids
www.actionforhealthykids.org

Alliance for a Healthier Generation
www.healthiergeneration.org

American Cancer Society
www.cancer.org

American School Health Association
www.ashaweb.org

Center for Health and Health Care in Schools
www.healthinschools.org

Centers for Disease Control and Prevention—Division of Adolescent and School Health
www.cdc.gov/healthyyouth/

Centers for Disease Control and Prevention—Health and Academic Achievement web page
www.cdc.gov/healthyyouth/health_and_academics/

National Association of School Nurses
www.nasn.org

Office of the Surgeon General
www.surgeongeneral.gov

School Health—Society for Public Health Education
www.sophe.org/focus-areas/school-health

U.S. Department of Agriculture's Team Nutrition Website
www.fns.usda.gov/tn/team-nutrition

U.S. Department of Education - Office of Safe and Healthy Students
www2.ed.gov/about/offices/list/oese/oshs/index.html

OTHER RESOURCES

ASCD. *Creating a Healthy School Using the Healthy School Report Card,* 2nd ed. (Alexandria, VA: ASCD, 2010).

ASCD. "Aligning Health and Education in Today's Economic Context." *Education Update* 55, no. 7 (2013): 1, 4–5.

Bradley, B. J., and A. C. Greene. "Do Health and Education Agencies in the United States Share Responsibility for Academic Achievement and Health? A Review of 25 Years of Evidence About the Relationship of Adolescents' Academic Achievement and Health Behaviors." *Journal of Adolescent Health* 52 (2013): 523–32.

Bushaw, W. J., and S. J. Lopez. "The 45th Annual PDK/Gallup Poll of the Public's Attitudes Toward the Public Schools—Which Way Do We Go?" *Phi Delta Kappan* 95, no. 1 (2013): 9–25.

Dillon, N. "RX for Health." *American School* 199, no. 6 (2012): 12–16.

Duchouquette, C. "One Size Fits No One." *American School* 200, no. 9 (2013): 32–33.
Institutes of Medicine. *Schools and Health: Our Nation's Investment* (Washington, DC: National Academy Press, 1997).
Lucarelli, J. F. et al. "Facilitators to Promoting Health in Schools: Is School Health Climate the Key?" *Journal of School Health* 84, no. 2 (2014): 133–40.
Navarro, V. "What We Mean by Social Determinants of Health." *International Journal of Health Services* 39, no. 3 (2009): 423–41.
Price, H. B. *Mobilizing the Community to Help Students Succeed* (Alexandria, VA: ASCD, 2008).
Rodriguez, E. et al. "School Nurses' Role in Asthma Management, School Absenteeism, and Cost Savings: A Demonstration Project." *Journal of School Health* 83, no. 12 (2013): 842–50.
Taras, H. et al. "Medications at School: Disposing of Pharmaceutical Waste." *Journal of School Health* 84, no. 2 (2014): 160–67.
The Education Alliance. *Positive Youth Development: Policy Implications and Best Practices* (Charleston, WV: The Education Alliance, 2007).
U.S. Department of Health and Human Services. *National Prevention Strategy: America's Plan for Better Health and Wellness* (Washington, DC: National Prevention, Health Promotion, and Public Health Council, 2011).
U.S. Environmental Protection Agency. *IAQ Tools for Schools Health and Achievement—Managing Asthma in Schools* (www.epa.gov/iaq/schools/asthma.html).

ENDNOTES

1. World Health Organization, "Constitution of the World Health Organization," *Chronicle of the World Health Organization* (1947): 1.
2. D. Bedworth and A. Bedworth, *The Profession and Practice of Health Education* (Dubuque, IA: Wm. C. Brown, 1992).
3. G. F. Carter and S. B. Wilson, *My Health Status* (Minneapolis, MN: Burgess Publishing, 1982), 5.
4. J. Thomas Butler, *Principles of Health Education and Health Promotion* (Belmont, CA: Wadsworth/Thomson Learning, 2001), 6.
5. U.S. Department of Health and Human Services, "What Is Mental Health?"(https://www.mentalhealth.gov/basics/what-is-mental-health; 2017).
6. American Academy of Family Physicians, "Mental Health: Keeping Your Emotional Health" (familydoctor.org/mental-health-keeping-your-emotional-health; 2018).
7. Butler, *Principles of Health Education and Promotion*.
8. B. L. Seaward, "Spiritual Wellbeing: A Health Education Model," *Journal of Health Education* 22, no. 3 (1991): 166–69.
9. Native Hawaiian Safe and Drug-Free Schools Program, *E Ola Pono (Live the Proper Way): A Curriculum Developed in Support of Self-Identity and Cultural Pride as Positive Influences in the Prevention of Violence and Substance Abuse* (Honolulu, HI: Kamehameha Schools Extension Education Division, Health, Wellness, and Family Education Department, 1999).
10. Ibid.
11. U.S. Department of Health, Education, and Welfare, Public Health Service, *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention* (Washington, DC: U.S. Government Printing Office, 1979).
12. Centers for Disease Control and Prevention, "Ten Great Public Health Achievements—United States, 1900–1999," *MMWR* 48, no. 12 (1999): 241–43.
13. U.S. Department of Health, Education, and Welfare, Public Health Service, *Healthy People.*
14. Ibid.
15. Ibid.
16. National Center for Health Statistics, *Health, United States, 2016: With Chartbook on Long-term Trends in Health* (U.S. Department of Health and Human Services: Hyattsville, MD, 2017).
17. Centers for Disease Control and Prevention, *Chronic Disease Overview* (www.cdc.gov/chronicdisease/overview/index.htm; 2017).
18. Ibid.
19. Ibid.
20. Ibid.
21. A. H. Mokdad et al., "Actual Causes of Death in the United States, 2000," *Journal of the American Medical Association* 291, no. 10 (March 10, 2004): 1238–45.
22. Centers for Disease Control and Prevention, *Chronic Disease Overview*.
23. L. Kolbe, "An Epidemiological Surveillance System to Monitor the Prevalence of Youth Behaviors That Most Affect Health," *Health Education* 21, no. 3 (1990): 24–30.
24. U.S. Department of Health and Human Services, *Determinants of Health* (www.healthypeople.gov/2020/about/foundation-health-measures/determinants-of-health#health%20services; 2018).
25. U.S. Department of Health and Human Services, *Social Determinants of Health* (https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health; 2018).
26. U.S. Department of Health and Human Services, *Leading Health Indicators* (https://www.healthypeople.gov/2020/Leading-Health-Indicators; 2018).
27. Ibid.
28. U.S. Department of Health and Human Services, *Adolescent Health* (www.healthypeople.gov/2020/topics-objectives/topic/Adolescent-Health; 2018).
29. Ibid.
30. U.S. Department of Health and Human Services, *2020 Topics and Objectives—Objectives A-Z* (www.healthypeople.gov/2020/topics-objectives; 2018).
31. U.S. Department of Health and Human Services, *Healthy People 2010. Understanding and Improving Health, and Objectives for Improving Health,* 2nd ed. (Washington, DC: U.S. Government Printing Office, 2000).
32. National Center for Education Statistics, *Fast Facts. Enrollment Trends* (http://nces.ed.gov/fastfacts/display.asp?id=65; 2018).
33. National Center for Education Statistics, *Fast Facts. Educational Institutions* (http://nces.ed.gov/fastfacts/display.asp?id=84; 2018).
34. Centers for Disease Control and Prevention, *Healthy Schools: Whole School, Whole Community, Whole Child* (https://www.cdc.gov/healthyschools/wscc/index.htm; 2018).
35. National Center for Education Statistics, *Private School Universe Survey (PSS)* (https://nces.ed.gov/surveys/pss/tables1516.asp; 2018).
36. U.S. Department of Health and Human Services, *Healthy People 2010: Conference Edition, in Two Volumes,* 7–4.
37. National Commission on Excellence in Education, *A Nation at Risk: The Imperative for Educational Reform* (Washington, DC: U.S. Department of Education, 1983).
38. A. Novello et al., "Healthy Children Ready to Learn: An Essential Collaboration Between Health and Education," *Public Health Reports* 107, no. 1 (1992): 3–15.
39. American Cancer Society, *National Action Plan for Comprehensive School Health Education* (Atlanta, GA: American Cancer Society, 1992), 4–7.
40. Charles E. Basch, "Healthier Students Are Better Learners: A Missing Link in School Reforms to Close the Achievement Gap," *Equity Matters: Research Review*, no. 6 (New York: Campaign for Educational Equity, Teachers College, Columbia University, March 2010), 4.
41. Council of Chief State School Officers, *Policy Statement on School Health* (Washington, DC: CCSSO, July 17, 2004), 1.
42. Ibid., 7–8.
43. ASCD, *The Learning Compact Redefined: A Call to Action, A Report of the Commission on the Whole Child* (Alexandria, VA: ASCD, 2007), 43.
44. Ibid.
45. Ibid., 20.
46. Ibid., 3.
47. Ibid., 11.
48. C. Wolford Symons et al., "Bridging Student Health Risks and Academic Achievement Through Comprehensive School Health Programs," *Journal of School Health* 67, no. 6 (1997): 220–27.
49. Basch, *Healthier Students Are Better Learners*, 6.
50. U.S. Department of Health, Education, and Welfare, Public Health Service, *Healthy People,* 119.
51. Ibid.
52. "Report of the 2000 Joint Committee on Health Education and Promotion Terminology," *American Journal of Health Education* 32, no. 2 (2001): 90–103.
53. U.S. Department of Health, Education, and Welfare, Public Health Service, *Healthy People,* 119.
54. American Association for Health Education, "Report of the 2011 Joint Committee on Health Education and Promotion Terminology," *American Journal of Health Education* 43, no. 2 (March/April 2012): 19.
55. U.S. Department of Health, Education, and Welfare, Public Health Service, *Healthy People,* 119.
56. J. V. Fetro, C. Givins, and K. Carroll, "Coordinated School Health: Getting It All Together," in *Keeping The Whole Child Healthy and Safe*, ed. M. Scherer (Alexandria, VA: ASCD, 2010).
57. ASCD, *Whole School, Whole Community, Whole Child* (www.ascd.org/programs/learning-and-health/wscc-model.aspx; 2018).
58. Centers for Disease Control and Prevention, *Healthy Schools: Whole School, Whole Community, Whole Child* (www.cdc.gov/healthyschools/wscc/approach.htm; 2015).
59. Centers for Disease Control and Prevention, Healthy Schools: Components of the Whole School, Whole Community, Whole Child (WSCC) (www.cdc.gov/healthyschools/wscc/components.htm; 2015).
60. L. J. Kolbe, "Education Reform and the Goals of Modern School Health Programs," *The State Education Standard* 3, no. 4 (2002): 4–11.
61. American Association for Health Education, "Report of the 2011 Joint Committee on Health Education and Promotion Terminology," 16.
62. World Health Organization, *Information Series on School Health: Skills for Health; 2003* (www.who.int/school_youth_health/media/en/sch_skills4health_03.pdf; 2007).
63. Joint Committee on National Health Education Standards, *National Health Education Standards:*

Achieving Excellence, 2nd ed. (Atlanta, GA: American Cancer Society, 2007).
64. Centers for Disease Control and Prevention, *Results from the School Health Policies and Practices Study 2016* (www.cdc.gov/healthyyouth/data/shpps/pdf/shpps-results_2016.pdf; 2017).
65. Ibid.
66. Joint Committee on National Health Education Standards, *National Health Education Standards*.
67. D. B. Connell et al., "Summary of Findings of the School Health Education Evaluation: Health Promotion Effectiveness, Implementation, and Costs," *Journal of School Health* 55, no. 8 (1985): 316–22.
68. Centers for Disease Control and Prevention, *Health Education Curriculum Analysis Tool* (www.cdc.gov/healthyyouth/HECAT/index.htm; 2017).
69. Ibid.
70. Centers for Disease Control and Prevention, *Results from the School Health Policies and Practices Study 2016;* 2017.
71. American Association for Health Education, *Health Instruction Responsibilities and Competencies for Elementary (K–6) Classroom Teachers* (Reston, VA: AAHE, 1992).
72. American Association for Health Education, *2008 NCATE Health Education Teacher Preparation Standards* (http://caepnet.org/accreditation/caep-accreditation/spa-standards-and-report-forms/shape-health-ed; 2015).
73. Centers for Disease Control and Prevention, *Results from the School Health Policies and Practices Study 2016;* 2017.
74. Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School* (Atlanta, GA: CDC, 2017): Module 2.
75. C. M. Smith and F. A. Mauer, eds., *Community Health Nursing: Theory and Practice,* 2nd ed. (Philadelphia, PA: Saunders, 2000).
76. National Association of School Nurses (NASN), *The Role of the School Nurse* [brochure] (Scarborough, ME: NASN, 1999).
77. National Association of School Nurses, *Position Statement: The Role of the 21st Century School Nurse* (www.nasn.org/nasn/advocacy/professional-practice-documents/position-statements/ps-role; 2016).
78. National Association of School Nurses, *Position Statement: School Nurse Workload: Staffing for Safe Care* (www.nasn.org/nasn/advocacy/professional-practice-documents/position-statements/ps-workload; 2015).
79. *Cedar Rapids Community School District v. F. Garret,* 526 US 66, 1999.
80. Centers for Disease Control and Prevention, Health Services: Results from the School Health Policies and Practices Study 2016, 46.
81. National Association of School Nurses, *Position Statement: Education, Licensure, and Certification of School Nurses* (www.nasn.org/nasn/advocacy/professional-practice-documents/position-statements/ps-education; 2016).
82. National Association of School Nurses, *Position Statement: Medication Administration in Schools* (www.nasn.org/nasn/advocacy/professional-practice-documents/position-statements/ps-medication; 2017).
83. Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School:* Module 5.
84. K. Wahlstrom, "School Start Time and Sleepy Teens," *Arch Pediatr Adolesc Med.* 2010; 164(7): 676–677.
85. Association for Supervision and Curriculum Development, *Keeping the Whole Child Healthy and Safe* (Alexandria, VA: ASCD, 2010), 271–78.
86. U.S. Environmental Protection Agency, "Why Healthy School Environments are Important: Impact on Children's Health and Academic Performance" (www.epa.gov/schools/why-healthy-school-environments-are-important; 2018).
87. J. F. Bogden, *Fit, Healthy, and Ready to Learn: A School Health Policy Guide* (Alexandria, VA: National Association of State Boards of Education, 2000).
88. V. Battistich et al., "Schools as Communities, Poverty Levels of Student Populations, and Students' Attitudes, Motives, and Performance: A Multilevel Analysis," *American Education Research Journal* 32 (1995): 627–58.
89. V. Battistich and A. Hom, "The Relationship Between Students' Sense of Their School as a Community and Their Involvement in Problem Behaviors," *American Journal of Public Health* 87, no. 12 (December 1997): 1997–2001.
90. Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School:* Module 1.
91. K. B. Troccoli, "Eat to Learn, Learn to Eat: The Link Between Nutrition and Learning in Children," *National Health/Education Consortium: Occasional Paper* 7 (April 1993): 1–33.
92. Kaiser Permanente, *The Weight of the Nation: Community Action Kit: Food in Schools* (https://share.kaiserpermanente.org/static/weightofthenation/docs/topics/WOTNCommActTopic_School%20Food_F.pdf).
93. School Nutrition Association, *School Meal Trends & Stats* (https://schoolnutrition.org/AboutSchoolMeals/SchoolMealTrendsStats; 2018).
94. U.S. Department of Agriculture, *School Meals: Healthy Hunger-Free Kids Act* (www.fns.usda.gov/school-meals/healthy-hunger-free-kids-act; 2017).
95. American School Food Service Association, "Impact of Hunger and Malnutrition on Student Achievement," *School Food Service Research Review* 13, no. 1 (1989): 17–21.
96. Food Research and Action Center, *School Breakfast Program* (http://frac.org/federal-foodnutrition-programs/school-breakfast-program; 2014).
97. D. Allensworth and C. Wolford, *Achieving the 1990 Health Objectives for the Nation: Agenda for the Schools* (Bloomington, IN: American School Health Association, 1988).
98. Ibid., 26.
99. J. Levine, "Food Industry Marketing in Elementary Schools: Implications for School Health Professionals," *Journal of School Health* 69, no. 7 (1999): 290–91.
100. Centers for Disease Control and Prevention, *Nutrition Environment and Services: Results from the School Health Policies and Practices Study 2016*, 25–35.
101. Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School* (Atlanta, GA: CDC, 2017): Module 4.
102. M. Sander, "Strengthening Children's Mental Health Services Through School-based Programs," *NAMI Beginnings* (Winter 2012): 3.
103. H. Adelman, "School Counseling, Psychological, and Social Services," in *Health Is Academic: A Guide to Coordinated School Health Programs*, eds. E. Marx, S. Wooley, and M. Northrop (New York: Teachers College Press, 1998).
104. N. Brener et al., "Mental Health and Social Services: Results from the School Health Policies and Programs Study 2000," *Journal of School Health* 71, no. 7 (2001): 305–12.
105. Centers for Disease Control and Prevention, *Health Services and Counseling, Psychological, and Social Services: Results from the School Health Policies and Practices Study 2016*, 36–52.
106. Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School* (Atlanta, GA: CDC, 2017): Module 6.
107. U.S. Department of Health and Human Services, *Physical Activity and Health: A Report of the Surgeon General* (Atlanta, GA: Centers for Disease Control and Prevention, 1996).
108. C. Bouchard et al., *Exercise, Fitness, and Health: A Consensus of Current Knowledge* (Champaign, IL: Human Kinetics Books, 1990).
109. U. S. Department of Health and Human Services, *Physical Activity and Health: A Report of the Surgeon General.*
110. L. Kolbe et al., "Appropriate Functions of Health Education in Schools: Improving Health and Cognitive Performance," in *Child Health Behavior: A Behavioral Pediatrics Perspective*, eds. N. Krairweger, J. Arasteli, and J. Cataldo (New York: John Wiley, 1986).
111. American Association of School Administrators, *Critical Issues Report: Promoting Health Education in Schools—Problems and Solutions* (Arlington, VA: American Association of School Administrators, 1985).
112. Centers for Disease Control and Prevention. *The Association between School Based Physical Activity, Including Physical Education, and Academic Performance* (Atlanta, GA: U.S. Department of Health and Human Services, 2010).
113. SHAPE America: Society of Health and Physical Educators, *The essential components of physical education: Guidance document* (Reston, VA, 2015).
114. J. Cawley, C. Meyerhoefer, and D. Newhouse, "Not Your Father's PE," *Education Next* 6, no. 8 (Fall 2006): 2.
115. S. M. Lee, A. J. Niliser, J. E. Fulton, B. Borgogna, and F. Zavacky, "Physical Education and Physical Activity: Results from the School Health Policies and Practices Study 2016," 16–24.
116. Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School*: Module 3.
117. Directors of Health Promotion and Education, *School Employee Wellness: A Guide for Protecting the Assets of Our Nation's Schools* (Washington, DC: Directors on Health Promotion and Education, 2010).
118. Ibid., 8.
119. Centers for Disease Control and Prevention, "Health Services and Counseling, Psychological, and Social Services: Results from the School Health Policies and Practices Study 2016," 51.
120. Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School*: Module 9.
121. D. Aufseeser, S. Jekielek, and B. Brown, *The Family Environment and Adolescent Well-being: Exposure to Positive and Negative Family Influences* (Washington, DC: Child Trends and San Francisco, CA: National Adolescent Health Information Center, 2006).
122. D. Allensworth and C. Wolford, *Achieving the 1990 Health Objectives for the Nation: Agenda for the Schools*, 26.
123. Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—Elementary School:* Modules 10 & 11.
124. K. Resnicow and D. Allensworth, "Conducting a Comprehensive School Health Program," *Journal of School Health* 66, no. 2 (February 1996): 59–63.
125. Centers for Disease Control and Prevention, *School Health Index: A Self-Assessment and Planning Guide—*Elementary School (U.S. Department of Health and Human Services: Atlanta, GA, 2017).
126. ASCD, "All Adopted Positions," *Health and Learning* (http://www.ascd.org/news-media/ASCD-Policy-Positions/All-Adopted-Positions.aspx#health_and_learning; 2004).
127. ASCD, *Whole School, Whole, Community, Whole Child* (Alexandria, VA: ASCD, 2018).

2

(Shayna, age 12)

OUTLINE

Comprehensive School Health Education

Applying the Science of Education to Improving Health Instruction

DESIRED LEARNER OUTCOMES

After reading this chapter, you will be able to . . .

- **Identify key policymakers and ways in which they influence education practice in the United States.**
- **Summarize ways in which findings from the growing body of brain science can be applied to improve teaching and learning.**
- **Describe the application of developmentally appropriate practice to improving health instruction for students in elementary and middle schools.**
- **Summarize characteristics of effective health education curricula.**
- **Describe effective strategies for engaging students in curriculum planning.**

INTRODUCTION

One important way to begin the process of developing effective health education curricula and instructional practices is to review important findings about learning from education literature. Health educators who understand how students learn and the developmental challenges confronting them are better equipped to develop and implement evidence-based and effective learning experiences. In addition, a review of literature about how schools function and current findings about educational effectiveness can inform the thinking of parents, teachers, and administrators involved in making decisions that affect local health education policy, practice, and curricula.

INFLUENTIAL POLICYMAKERS IN THE EDUCATION COMMUNITY

The education enterprise in the United States is grounded in a commitment to decentralization. Rather than being controlled by the federal government, the education of our youth is the responsibility of each state. State-specific mandates and recommendations are interpreted and applied by each local school district. As such, the system for educating American children is designed so that decisions about curricular topics and their boundaries, teacher licensure requirements, and the planning, development, implementation, and evaluation of instruction reflect the unique interests and education standards adopted by each state.

As the voice for education reform has become more powerful, experimental models for educating students have emerged and are being tested. Today's parents can choose from a range of schooling options for their children. This expansion has fulfilled the dreams of school choice advocates who entered the education reform conversation in the past century during the Reagan administration. Vouchers for public school students to attend private schools and proposals for the establishment of charter or community schools were offered. The belief that the competition provided by school choice would pressure poorly performing public schools to improve was the central argument among advocates for education reform at this early time.[1]

Today, positions represented by varied stakeholders and advocacy groups communicate strong, yet competing messages about what is best for schools and students. Shared by many educators and teachers' unions is the belief that schools alone can't eliminate achievement gaps and other education challenges. Supporters committed to the notion that the problems confronting schools result from such complex factors as socioeconomic disparities call for more government spending on the health of poor children, expanded preschool programming, supports for parents, and meaningful after-school activities for students. Others, including many politicians, place the blame for failing schools on teachers' unions that "protect ineffective teachers," rather than focusing on what is best for learners. Still others advocate for greater accountability for schools and their employees. Those supporting this commitment to increased and documented accountability, call for an urgent resistance of any forces that support what they consider to be the status quo.[2] Due to the range of complex challenges confronting the education enterprise, elements of all of these positions are true. Importantly, as vigorous debate continues and alternative models for educating youth are tested, it can be difficult to understand who controls the structure, policies, and practices governing schooling in the United States.

Exercised by an increasing number of parents, the education option of charter, or community, schools is being selected by caregivers for their children. Recent data from the National Center for Education Statistics confirm that nearly 2.8 million students attend more than 6,900 such schools in the United States.[3] Charter or community schools operate with public monies and must conform to state standards for health and safety. Charter schools also must operate in full compliance with federal civil rights laws. These schools, however, are granted considerable autonomy in developing policies, curricula, and programs.[4]

As another option, a growing number of students are being educated in their homes by parents or caregivers. Since 1999, when national prevalence data about home schooling were first collected, the estimated percentage of the school-age population being home schooled has risen to approximately 1.8 million or slightly more than 3 percent of American students.[5] Reasons offered for making this choice include the belief that a better education can be provided at home, the desire to provide religious or moral instruction, an objection to what local schools teach, or the capacity to respond to a child with a disability or special need.[6] In most states, adult family members in charge of educational activities must submit education plans and maintain records with their state department of education. Parents and caregivers who choose to home school their children can find an increasing amount and variety of educational materials, including Internet resources specifically developed to meet their needs.[7]

First tested in the cities of Milwaukee and Cleveland, tuition voucher programs were proposed by politicians and education reform advocates as a way to give economically disadvantaged families access to the widest range of school choice alternatives. Vouchers were challenged by many groups of professional educators who saw such programs as a drain on the limited allocations of public monies for public education. A Supreme Court decision in 2002 confirmed that states have the legal right to distribute public tax dollars to parents for use as tuition vouchers for their children to attend private schools.[8]

> Ranging from the option to take online classes to complete graduation requirements to Internet-based high schools, virtual schools offer another education option for parents and their children. Since the first statewide public high school opened over a decade ago in Florida, many students have taken advantage of the flexibility of virtual learning options. Today, over 30 states run virtual schools and Alabama and Michigan require all students to participate in some form of online learning to graduate from high school. While challenges including financial confront this school choice option, if done well, virtual learning can be engaging, highly personalized, and make a significant contribution toward meeting the needs of learners.[9]

Private schools represent a more established and historically significant education alternative in the United States. More broadly available and widely accessed by parents and their children than other school choice options, private schools operate with a minimum of government influence or control. Recent data confirm that approximately 5.8 million students (about 10 percent) attend approximately 34,500 private schools (25 percent) across the United States.[10, 11] Importantly, great variability exists across states concerning government involvement in or oversight about such matters as curriculum, performance evaluation, and professional preparation requirements for teachers and administrators. Many private schools were established by religious organizations to meet the educational needs of the children of early settlers, whereas others were organized around secular unifying missions or goals. To this day, the largest private school enterprise in the United States operates under the auspices of the Catholic Church. In most cases, boards of directors or trustees comprised of prominent members of the community, volunteers, religious leaders, and/or alumni of the school are responsible for setting policies for individual schools or groups of schools. The majority of funding for private schools is generated from the tuition and fees charged to attendees.[12]

Attended by over 50 million or the majority of students, public schools in the United States must operate in full compliance with several layers of federal, state, and local laws.[13] In addition, public schools and their employees must respond to the expectations and concerns of parents and other taxpayers in the local community. As a result, many stakeholders have a voice in public school policy and practice.

Influence at the National Level

Throughout U.S. history, the federal government has exerted only narrow and limited influence over education policy. Contrary to the assertions of many that the governance of public schools is centralized in Washington, DC, Congress specified that the U.S. Department of Education would maintain a very broad role in public education by participating in activities such as the following:

- Enforcing civil rights laws, prohibiting discrimination, and ensuring equity.
- Exercising leadership by sponsoring research and evaluating policy strategies and pilot programs.
- Providing funds for activities to enrich economically disadvantaged students and children with special needs.
- Promoting educational effectiveness through support of state-developed tests of proficiency in core content areas.[14]

No Child Left Behind (NCLB)

With the reauthorization of the Elementary and Secondary Education Act in 2002, the influence of the federal government over public education in the United States was strengthened. This act, termed *No Child Left Behind (NCLB)*, established a multiyear national agenda intended to improve academic achievement among all students. As a result of this legislation, the federal government assumed leadership for specific activities in state education agencies and local school districts across the nation with a focus on:

- Improving student performance on test scores in selected content areas.
- Eliminating achievement gaps among different racial, ethnic, income, and disability groups of learners.
- Upgrading the qualifications of teachers and paraprofessionals working in schools.

The original purpose of NCLB was a worthy one. This act was intended "to ensure that all children have a fair, equal, and significant opportunity to attain a high-quality education and reach, at a minimum, proficiency on challenging state academic achievement standards and state academic assessments."[15] This federal law affecting public education policy and practice in all schools was built with a focus on four key elements:

- Accountability for results.
- Emphasis on policies and instructional practices demonstrated by research to be effective.
- Expansion of options for parents.
- Extension of local control and flexibility in the management of schools.[16]

Findings about the effectiveness of this federal legislation confirmed that the results were mixed. Education officials in many states and school districts reported that scores on tests of math and reading went up, and achievement gaps narrowed or remained constant. In general, schools began to invest more energy in aligning curricula with standards and many started to use assessment data to inform decision making about school improvement. In addition, nearly 90 percent of teachers in core subjects met the NCLB definition of "highly qualified."

Importantly, NCLB was a federal mandate that was grossly underfunded. Federal funding to support NCLB implementation stagnated and nearly 80 percent of school districts reported that they had to use local tax dollars to cover the costs of mandated activities.[17] In addition, although the law requires that the Elementary and Secondary Education Act be reauthorized every five years, this funding process has been delayed in the U.S. Congress and is long overdue.

In addition to managing the financial burdens of NCLB compliance, school districts have had to change instructional time allocation to accommodate mandated testing.[18] A recent analysis of such costs in midsize school districts revealed the following:

- Students in heavily tested grades can spend as many as 50 hours per week taking tests.
- Students in high-stakes testing grades spend up to 110 hours per year engaged in such test-preparation activities as taking practice tests and learning test-taking strategies (110 hours equals approximately 1 month of school).
- The estimated annual cost of testing in heavily tested grades can exceed 10 percent of the annual per pupil expenditure amount in a typical state.

Although this study did not factor in the costs of test-prep materials and lost service from teachers assigned to administer

the mandated tests, if the testing agenda were abandoned, instructional time could be increased by approximately 40 minutes each school day.[19]

Blueprint for Reform of the Elementary and Secondary Education Act

Given the failure of the U.S. Congress to reauthorize NCLB and the commitment to education reform made by the Obama administration, the White House released the *Blueprint for Reform of the Elementary and Secondary Act* in 2010. Grounded in the belief that NCLB created a system of incentives for states to lower standards and measure students' skills on "bubble tests," the *Blueprint* contained strategies to fix identified problems revealed in the law and to move the imperative of education reform forward with "common-sense strategies." Specifically, the *Blueprint*

- Acknowledged that the most effective teachers generally are not rewarded for doing a great job or for accepting additional responsibilities *and* reinforced the value of using multiple assessment strategies (not just student test scores) to evaluate teachers fairly and pay them for hard and successful work.
- Recognized that NCLB narrowed the focus of the curriculum and marginalized history, the arts, and other critical subjects *and* reformed the need to focus on year-to-year text scores so educators could focus on high-quality educational outcomes for all students in subjects such as the arts and foreign languages, as part of state accountability systems. In this way, teachers of subjects other than math and science would not be ignored.
- Eliminated the misuse of test data and teaching to the test *and* measured school performance both on achievement level and on growth in student performance.
- Refocused the punitive orientation of NCLB *and* empowered states to adopt high and rigorous standards for student performance and then to reward schools for both progress and achievement.[20]

Even though 80 percent of federal funding policies for core programs has remained relatively consistent, more than $4 billion has been awarded to states identified to be leading the way in education reform. This national competitive federal fund, titled "Race to the Top," has served as a catalyst for change in states to establish and maintain effective education strategies in four critical areas:

- Adopting internationally benchmarked standards and assessments designed to prepare students for success in college and the workplace and to compete in the global economy.
- Building data systems that measure student growth and success, and inform teachers and principals about how they can improve instruction.
- Recruiting, developing, rewarding, and retaining effective teachers and principals, especially where they are needed most.
- Turning around the lowest-achieving schools.

States that demonstrate readiness to meet benchmarks for reform in these critical areas have received federal grants not based on politics, ideology, or the preferences of a particular interest group. Rather, funding and implementation of the *Blueprint for Reform of the Elementary and Secondary Act* maintains a focus on improving education outcomes for children and so the U.S. economy and the nation as a whole.[21]

©Realistic Reflections

Children with special needs increasingly are integrated into general education classrooms where instructional adaptations can be made to meet their needs.

The Common Core State Standards Initiative

Consistent with the education reform movement of the 1990s, state departments of education across the United States began to develop instructional standards across a range of content areas. By the early 2000s, every state had developed and adopted its own learning standards specifying what students in each grade level should know and be able to do. In addition, each state defined "proficiency" of the level at which students were identified to be sufficiently educated at each grade level and by the time they graduated from high school. In the name of accountability—a key tenant of the federal NCLB legislation—states then developed and administered high-stakes assessments. Over time, an uneven patchwork of academic standards had been developed, and there was no agreement on what students should know and be able to do. Further, there was no consistency across the nation as to how outcomes should be measured among students at each grade level.[22]

Recognizing the value of and need for consistent learning goals across the states, state-level representatives from the Council of Chief State School Officers and governors representing the

National Governors Association coordinated a state-led effort to develop standards designed to provide a clear and consistent framework for educators. In collaboration with teachers, administrators, and other experts, the Common Core Standards published in 2010 provide a set of high-quality academic standards in Mathematics and English language arts and literacy (ELA) that identify what students should know and be able to do by the completion of each grade in school. In addition, these goals were created to ensure that all students would graduate from high school with the skills and knowledge necessary to succeed in college, career, and life, regardless of where they live. According to its mission statement, the Common Core Standards Initiative aims to:

> provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers. With American students fully prepared for the future, our communities will be best positioned to compete successfully in the global economy.[23]

Consistent with this mission, the Common Core Standards are:

- Fewer, higher, and clearer to best drive effective policy and practice.
- Aligned with college and work expectations, so that all students are prepared for success upon graduating from high school.
- Inclusive of rigorous content and applications of knowledge through higher-order skills, so that all students are prepared for the twenty-first century.
- International benchmarks, so that all students are prepared for succeeding in our global economy and society.
- Research- and evidence-based.[24]

In this context, the Common Core is focused on developing higher-order, critical-thinking, problem-solving, and analytical skills that today's public school students will need to be successful. Although a number of concerns have been voiced about this national initiative, including those focused on threats to the historical tenant of local control and the "one-size-fits-all" orientation, forty-one states, the District of Columbia, four U.S. territories, and the Department of Defense Education Activity (DoDEA) have adopted and are moving forward with the Common Core Standards.[25]

Federal Monitoring and Supervision of School Health Activities

A number of federal agencies have been charged with the responsibility of monitoring and providing support for school-based health education and promotion activities. The Office of Safe and Healthy Students in the U.S. Department of Education provides financial and policy assistance for drug and violence-prevention activities in schools, and the U.S. Department of Agriculture oversees school food service activities, including the National School Breakfast and National School Lunch Programs.

Even though it has no direct policy or governing authority over state and local education agencies, the U.S. Department of Health and Human Services (USDHHS) manages a range of activities that support school health efforts. In particular, the Centers for Disease Control and Prevention, a subdivision of the USDHHS, manages funding programs to support prevention and control of diabetes, heart disease, obesity, and associated risk factors and the promotion of adolescent health through HIV/STD prevention and surveillance. Further, CDC's Division of Adolescent and School Health manages youth at-risk behavior surveillance activities and provides resources and support for the implementation of the Whole School, Whole Community, Whole Child model (described in Chapter 1) across the states. In addition, the Public Health Service of the USDHHS and the Office of the Surgeon General have produced a number of documents and reports focusing national attention and resources on the health issues confronting children and youth. As an example, *The Surgeon General's Vision for a Healthy and Fit Nation* was released in 2010. In addition to shining a spotlight on improving access to safe health and fitness activities in communities, childcare establishments, and work sites, recommendations are included for mobilizing the medical community. This report places a particular emphasis on the need to create healthy schools by making the assertion that to help students develop lifelong habits, "schools should provide appealing healthy food options including fresh fruit and vegetables, whole grains, and water and low fat beverages." In addition, this report recommends that school systems "require nutritional standards and daily physical activity for all students."[26]

Teaching Students with Exceptional Needs: A Brief Introduction

In context of recognized criteria, children with disabilities are defined as those who face persistent challenges when they try to participate in ordinary childhood activities. Specific challenges include those that are physical, behavioral, or emotional making it difficult for affected children to participate in strenuous activities, get along with others, communicate and learn, or participate in neighborhood or school activities with peers.[27] Among school-age children, the most common functional disabilities that limit participation in activities of daily living include speech or language impairments, health impairments, learning disabilities, and autism.[28]

To respond to the needs of children with disabilities, the reauthorization of the Individuals with Disabilities Education Act (IDEA) was passed into law in December 2004. The Individuals with Disabilities Education Improvement Act ensures that services will be provided for children with disabilities across the nation. To accomplish this, IDEA 2004 governs how states and public agencies provide early intervention and special education and related services for more than 6.5 million eligible infants, toddlers, children, and youth with disabilities between their birth and age 21.[29]

With particular focus on children and youth of school age, the law stipulates that a free appropriate public education in the least restrictive environment must be made available for students diagnosed with disabilities who require special education services. IDEA 2004 identifies specific disability categories that qualify students for special education and/or related services,

including specific learning disability, serious emotional disturbance, mental retardation, autism, other health impairments, and orthopedic impairments. Students with disabilities also can access educational services under Section 504 of the federal Rehabilitation Act.[30]

Nearly 13 percent of U.S. school-age children have been diagnosed with a specific disability, and an increasing number of them are being integrated into general education classrooms.[31] In most cases, it is the classroom teacher who assumes instructional responsibility for students with disabilities. As such, regardless of their training, teachers must learn to adapt and accommodate all instruction to meet the educational needs of all learners. Typically teachers or other support staff with particular expertise in special education or related services are be identified to assist classroom teachers with necessary classroom assistance or instructional modifications. In this way, classroom teachers are an integral part of the multidisciplinary team engaged in decision making about best practice for each student with a disability. Then, these decisions are reflected in the specific Individualized Education Program (IEP) or 504 plan developed to meet the needs of each child.

Often overlooked is the critical need for educators and parents to collaborate in meeting both the academic and the health needs of students with disabilities. To support both school success and healthy behavioral outcomes for all students, teachers must be skilled at and comfortable with implementing a wide range of instructional strategies, including adapted learning centers, computer-assisted instruction, cooperative and peer-based learning activities, and skill development in self-management and other essential skills. All students benefit from diversified instruction complemented by instructional adaptations or accommodations when necessary. Most accommodations are simple and easily implemented (e.g., more time for completing tasks, adapted assignments, the use of special equipment). Other accommodations can be extensive. Having a large repertoire of strategies that support academic and health outcomes is the key to learning success for all.[32]

Influence at the State Level

The U.S. Constitution asserts that education is the responsibility of each state. At the state level, the governor is responsible for developing the state budget and proposing initiatives of importance. The state legislature, however, has final authority over state policies, state budgets, and the distribution of state funds. Across the United States, states contribute about 45 percent of the funds necessary to cover public education costs.[33] Many governors and legislators have found that it is politically wise to express their commitment to improving education outcomes as a way to generate support and popularity among constituents. Unfortunately, competing political pressures, budgetary realities, and turnover among officials in state government often challenge continuity and implementation of such intentions. As such, public school districts in most states are confronted with significant budgetary challenges.

Although the scope of influence varies from state to state, it is the state board of education (SBE) that is responsible for policymaking and enforcement and for governance of the public schools. In some states, members of the SBE are elected. In others, they are appointed by the governor. In most states, a chief state school officer chairs the SBE. This professional, usually trained as an educator, holds the title of state superintendent, commissioner, secretary, or director of education. Typically, the SBE is responsible for maintaining a broad long-term vision for education. Further, this body must provide bipartisan leadership over matters such as decision making concerning engagement in the Common Core Standards initiative, graduation requirements, and teacher licensure.

In this way, the SBE sets many policies that influence school health programming in the local school districts of each state. This body has the power to require that all students receive nutrition education or daily physical education. In addition, many SBEs have wrestled with questions concerning the amount and type of sexuality education to be delivered within their state.

Under the guidance of the chief state school officer and the SBE, the state education agency (SEA) or state department of education enforces regulations governing federal and state programs, distributes funds to local school districts, and offers technical assistance and training for employees. In addition, the state department of education, sometimes referred to as department of public instruction, develops curricular guidelines, performance standards in specific content areas, and tests of student performance. This body also is responsible for evaluating school improvement plans. As such, SEA employees collaborate with community agencies and school leaders to support continuous improvement in local school districts.[34]

Influence at the Local Level

In each community, public school districts must comply with all federal and state education laws. Importantly, it is the local school board that is responsible for establishing policies and practices that define the day-to-day operations in the schools. This model of governance grew from a commitment to the belief that local citizens should control the policies and practices of the public schools in their communities. Currently, there are approximately 13,500 local public school boards operating in the United States. Their responsibilities include hiring personnel, approving the district curricula, selecting texts, managing the budget, and contracting for services.[35] Local tax dollars account for approximately 46 percent of local public education costs.[36]

With very few exceptions, local school boards are composed of elected members. The number of school board members varies from state to state, but there are three general eligibility requirements for candidates:

1. *Age.* In most states, those seeking a seat on the board must be at least 18 years of age.
2. *Residence.* Candidates must live within the geographic boundaries of the school district they will represent.
3. *Financial affiliation.* To avoid the potential for conflict of interest, persons running for a seat on the school board must not be employed by the school district.

In this context, a wide range of professional expertise and interest is reflected in the deliberations and decisions made by a local school board.

Every school board member has strong beliefs about what constitutes the best education for local children. Disagreements about how this ideal is translated into practice are common among members of local boards of education. In addition to personal passions about education issues, elected members must represent the values and interests of their constituents. As such, activist residents and special interest groups can exert a powerful influence over school district policies and practices.

To help bridge gaps that emerge between the education ideals of members of the board, concerned citizens, and the education needs of students, school districts employ a superintendent, or chief executive officer who is responsible for implementing policies and practices adopted by the local school board. Typically, the superintendent is supported by a number of professional assistants. Depending on the size and budget of the school district, a number of trained specialists serve as staff in the central office of the district. Collectively, these professionals oversee curriculum, budget, personnel, operations, transportation, and policy implementation.

Unions and other employee associations influence the budget and operations within school districts. Many school communities have organized unions for teachers (the National Education Association [NEA] and American Federation of Teachers [AFT]) and administrators. Local chapters of unions for noncertified or classified staff can be very active. These groups participate in activities such as contract negotiations, employee health and advocacy initiatives, and resolution of conflicts or grievances.

Within each school building, a variety of employees manage daily operations. The principal supervises the instructional program, maintains a safe and nurturing learning environment, evaluates teachers and other staff, and represents the school to parent and community groups. Assistant principals and "school improvement" or "site-based management" teams assist many principals. These teams are composed of teachers, coaches, custodial and school support staff, and parents or other community representatives.

A growing body of literature confirms the importance of engaging parents and concerned others in informing the health education programs and practices in local schools.[37] Teachers in elementary and middle schools who are challenged by curricular decisions and threats to student success and healthy behavior outcomes would be wise to identify committed stakeholders within their school community from whom they can seek counsel and support.

Understanding the organization and sources of influence over public schools is important for educators and other student advocates. Though the structure of the public education system appears to be cumbersome and inconsistencies between local policies and practices are common, it is designed to maximize input from taxpayers and other concerned stakeholders. With this sound philosophical underpinning, children can be educated in ways that reflect the best education practice mediated by parental concerns and community needs, values, and standards.

LESSONS FROM THE EDUCATION LITERATURE

As discussed, the sources of influence over school policy and practice are varied, and the call for education reform has been loud and persistent. All of this is happening at a time when student populations are becoming more diverse, and school communities are being asked to deliver more services to meet the broadest range of learner needs. As a result, education professionals are challenged to improve academic success while meeting social, emotional, occupational, and health needs among increasingly diverse learners.

A range of educational innovations, including school councils, parent involvement task forces, continuous improvement teams, and authentic assessment resource networks, have been proposed as ways to improve the quality of instruction to maximize academic success for all students.

Unfortunately, many proposals to reform education have a political, financial, procedural, or operational motivation. As a consequence, many strategies are not grounded in sound education theory or evaluated to confirm that they are evidence-based. The highest standards, the most rigorous achievement testing protocol, and the most creative curricula can undermine meaningful learning unless they are planned and implemented with specific attention to how students process information and learn.[38]

Connecting Brain Research with Learning

As a foundation for improving teaching and learning, educators have begun to explore ways to translate research from the neurological and cognitive sciences into effective classroom practices. Such brain research has begun to show promise for improving teaching and learning, particularly among students with diverse learning needs.[39]

Brain research has given educators a way to translate neuroimaging data into classroom activities that stimulate parts of the brain demonstrated to be active during information processing, memory, and recall. Research suggests that the most successful strategies are those that teach for meaning and understanding, and that learning is most likely to occur in classrooms in which students feel low levels of threat but reasonable degrees of challenge. In addition, research has confirmed that students who are active, engaged, and motivated devote more brain activity to learning than do their counterparts. Findings from this growing body of literature cluster into the following categories.[40]

Findings About Acquiring and Integrating Knowledge

Brain research has confirmed that learning must occur within the context of what the learner already knows, has experienced, or understands.[41] In addition, new information must be processed so that it can be retrieved for use across different situations or contexts. The more a student repeats a learning activity, the more nerve connections in the brain are stimulated. Further, different parts of the brain store different parts of a memory. For example, singing a song is the result of complex brain activity. One part of the brain stores the tune, while another area stores the song's lyrics. As a result, the brain must reconstruct the parts of that memory before the person can re-create the whole song.[42]

To promote learning, teachers are encouraged to:

- Present new information within the context of prior knowledge or previous experience.
- Structure opportunities for students to repeat learning activities as a way to cement information or skills in their memories.

- Use mnemonics to promote associations in memory tasks.
- Incorporate visually stimulating learning materials and hands-on manipulatives to activate the right hemisphere of the brain and incorporate text-based presentations to activate the left hemisphere.
- Integrate art, music, and movement into learning experiences to promote learning by activating different parts of the brain.[43]

In this context, Teacher's Toolbox 2.1 contains brain-friendly techniques for improving memory.[44]

Findings About Positive Attitudes Toward Learning

While teachers have long suspected that attitudes affect learning, a growing body of brain research has confirmed this link between the cognitive and affective domains of learning. Interestingly, the concept of "emotional intelligence" has been characterized as the best predictor of life success.[45] Though understandings of emotional intelligence have been debated, brain science has confirmed that nerve pathways connect the emotional and cognitive processing centers in the brain. For example, research has confirmed that hormones alter brain chemistry in students under stress. When students are stressed, chemicals are released into the brain that can impair memory and learning.[46] In this context, evidence suggests that teachers should consider the following emotionally supportive classroom practices as a foundation for promoting learning:

- Establish a challenging but supportive classroom environment that reduces stress associated with academic difficulties and peer conflicts. Pair students with a homework buddy, arrange for peer-based tutoring or practice sessions focusing on study skills, and conduct one-on-one meetings with students to reinforce trust.
- Structure learning experiences that enable students to practice social skills and peer acceptance. Hold class meetings and use literature- and history-based learning materials that celebrate diversity. Model appreciation for contributions of students with different learning styles and needs.
- Create and reinforce a climate of civility in the classroom. Model saying "please" and "thank you" for specific student behaviors.
- Use humor, movement, or the expressive arts to promote an engaging learning environment and ease instructional transitions. Such activities arouse emotional centers in the brain, a foundation for peak academic performance.[47]

Findings About Extending and Refining Knowledge

Like many skills, thinking must be practiced for students to be able to extend and refine knowledge. Classroom activities should require students to go beyond the lower-order tasks of recognizing or memorizing. Learning strategies must be constructed in such a way that students are challenged to explore information more deeply and analytically. Students must practice manipulating information by comparing, contrasting, deducing, analyzing errors, and analyzing perspective. Further, brain research supports activities in which students are engaged in classifying concepts and using complex retrieval and integration systems in the brain.[48] To this end, teachers are encouraged to consider the following classroom strategies:

- Design learning activities that require students to build on prior knowledge or experience.
- Structure opportunities for students to compare their work with model responses.
- Create rubrics that require students to develop models or visual representations of error patterns in their work.
- Structure learning experiences in which students identify patterns of events and compare or contrast characteristics or attributes among ideas.[49]

Findings About Meaningful Use of Knowledge

Learners are most successful when they believe that information is necessary to help them accomplish a goal. Evidence suggests that experiential learning activities that require students to make decisions, conduct experiments, and investigate ways to solve real-world problems activate those areas within the brain responsible for higher-order thinking. In this context, productive learning experiences extend beyond hands-on activities. When

Teacher's Toolbox **2.1**

Brain-Friendly Techniques to Improve Memory

The body of research about the brain has the potential to enrich classroom practice for students with a variety of learning styles and abilities. In particular, the suggested strategies extend memory activities beyond the confines of repetitive drills. Such strategies are evidence-based and can be applied to all content areas.

Connect to prior knowledge, experience, or skill.	• Discuss common experiences. • Identify emotions in memory. • Review senses memories.
Develop personal relevance.	• Identify rationale for activities. • Associate family experience. • Clarify personal value of action. • Create mnemonics.
To go from short- to long-term memory, information must make sense.	• Integrate manipulatives. • Represent ideas with foods. • Map concepts visually. • Write associations in journals.
Elaborate and extend key concepts.	• Simulate concepts with gross-motor activities. • Depict ideas with sounds or verbalizations. • Represent ideas with the arts. • Reinforce concepts with play. • Create computer-based simulations. • Reinforce classroom work by going on field trips. • Interview family about topic.

SOURCE: J. King-Friedrichs, "Brain-Friendly Techniques for Improving Memory," *Educational Leadership* 59, no. 3 (November 2001): 76–79.

physical activities are paired with problem-solving tasks, memory and learning are enhanced.[50]

Examples of such strategies include the following:

- Assignments in which students are actively engaged in investigating, analyzing, and solving problems from the world around them.
- Learning activities that require students to demonstrate learning in multiple ways, including inventions, experiments, displays, and musical or oral presentations.[51]

Findings About the Learning Habits of the Mind

Learning is promoted for students who are able to establish and practice important habits, including goal setting, monitoring their own thinking, setting standards for self-evaluation, and regulating behaviors, including their own work habits. Research has confirmed the value of exploring, understanding, and applying concepts in the context of individual ways of thinking and interpreting.

In this context, researcher Howard Gardner has asserted that intelligence is difficult to reduce to a single number, or IQ score. In this spirit, teachers are encouraged to review the extensive bodies of research focused on learning styles and multiple intelligence theory as a context for translating brain research into teaching strategies.[52] Teacher's Toolbox 2.2 contains a checklist for identifying and responding to the range of intelligences represented in a group of learners.[53]

Pertinent classroom strategies include the following:

- Use thinking logs and reflective journals with students of varying abilities.
- Embed group discussions into cooperative learning structures.
- Model classroom habits that foster reflection about learning. Holding class discussions that reinforce reflection and recording important concepts and facts learned in a lesson are very productive strategies.[54]

Although researchers agree that exploration of brain function is an emerging science, the field of neurology and cognitive science has experienced an explosion in recent years. As the research matures, it will continue to shed light on thinking and learning patterns among the broadest range of learners. In addition, as more inroads are made in translating this body of research into meaningful classroom practice, decision making about reforming education in classrooms and schools will become easier for teachers, curriculum developers, and school administrators. Evidence gathered to this point has confirmed that brain-compatible instruction

1. Provides as much experiential learning as possible.
2. Structures ways for learners to build on prior knowledge.
3. Includes rehearsal strategies for students.
4. Enables students to revisit instruction over time.
5. Emphasizes concepts more than facts.
6. Clarifies when and how information could be used in the "real world."
7. Takes place in a safe and nurturing environment.
8. Includes positive emotional components to enhance learning and retention.[55]

A summary of brain research, implications for classroom practice, and examples for improving health education can be found in Teacher's Toolbox 2.3.[56, 57]

Authentic Instruction and Achievement

Once district curricula are updated and teachers have participated in staff development to increase their capacity to manage approaches to learning based on the growing body of brain science, the next step is to maximize the authenticity of all learning activities. Newmann and Wehlage describe *authentic learning* as that which has meaning and significance. This is contrasted with many conventional approaches to instruction and testing that are trivial or useless.[58] As a quick test, teachers can evaluate the extent to which current classroom practice is likely to result in authentic outcomes by asking themselves a few important questions as they plan and organize learning activities. Teachers are encouraged to reflect on the extent to which, as a result of their participation,

- Students will practice the construction of meaning as a foundation for producing knowledge.
- Students will be engaged in disciplined inquiry as a basis for constructing meaning.
- Students will produce work directed toward discussion, outcomes, and/or performances that have value or meaning beyond the confines of the classroom or school.[59]

Specifically, it is the responsibility of teachers to make sure that their approach to teaching is consistent with the following five criteria, or standards, of authentic instruction:

1. *To what degree are students encouraged to use higher-order thinking skills?* Lower-order thinking occurs when students are asked to memorize then recite facts. At this lower level, learners apply rules though repetitive experiences. By contrast, higher-order thinking requires students to manipulate, synthesize, explain, or draw conclusions about ideas. The goal of all instructional activities should be for students to transform the original meaning of an idea in some way. While higher-order thinking implies a challenge for students, it ensures that they will be engaged in solving problems and making meaning that has applicability or relevance. For example, student learning and violence risk reduction are enhanced when learners engage in translating district violence policies into meaningful classroom practice rather than simply reading or memorizing the local code of conduct.
2. *What is the depth of knowledge included in the lesson?* Depth of knowledge refers to the extent to which student work reflects their understanding of ideas that are substantial or important. Knowledge is characterized as thin or superficial if it does not deal with significant issues or ideas within a topic or content area. Superficiality is inevitable if students grasp only a trivial understanding of important concepts, or if they cover large amounts of fragmented information. Knowledge is characterized as deep when it focuses on developmentally appropriate ideas that are central to a topic or discipline. Students are engaged in work that is deep when they make distinctions, develop arguments, and construct explanations. Though fewer topics might be addressed within a specified time period, this approach is far more sound. By planning for deep instruction, teachers are better able to

Teacher's Toolbox **2.2**

A Checklist for Identifying and Responding to Multiple Intelligences

LINGUISTIC INTELLIGENCE: SENSITIVITY TO THE SOUNDS, STRUCTURE, MEANINGS, AND FUNCTIONS OF WORDS AND LANGUAGE

Does the student:

- Write better than average for age?
- Have an advanced vocabulary for age?
- Enjoy reading books?
- Enjoy word games?
- Tell tall tales, stories, or jokes?
- Re-create tongue twisters and rhymes?
- Verbalize memories of names, dates, and other facts?

Planning question for teacher:

- How can I incorporate the written or spoken word into daily classroom practice?

Helpful teaching materials:

- Books, tape recorders, stamp sets, books on tape, walkie-talkies, comic books, word games

LOGICAL-MATHEMATICAL INTELLIGENCE: SENSITIVITY TO, AND CAPACITY TO DISCERN LOGICAL OR NUMERICAL PATTERNS; ABILITY TO HANDLE LONG CHAINS OF REASONING

Does the student:

- Enjoy logic puzzles or brainteasers?
- Enjoy math and science classes?
- Organize things into categories or hierarchies?
- Play chess or other strategy games?
- Compute math quickly in head?
- Ask questions about how things work?
- Enjoy experiments?

Planning question for teacher:

- How can I incorporate numbers, calculations, classification, or logic activities into daily classroom practice?

Helpful teaching materials:

- Calculators, computers, math manipulatives, number games, and equipment for experiments

SPATIAL INTELLIGENCE: CAPACITY TO PERCEIVE THE VISUAL-SPATIAL WORLD ACCURATELY AND TO PERFORM TRANSFORMATIONS BASED ON INITIAL PERCEPTIONS

Does the student:

- Report clear visual images?
- Read maps, charts, and diagrams more easily than text?
- Enjoy puzzles or mazes?
- Respond more positively to illustrations than to text?
- Enjoy art activities?
- Draw well?
- Doodle on learning materials?

Planning question for teacher:

- How can I use visual aids, color, art, or metaphor in daily classroom practice?

Helpful teaching materials:

- Graphs, maps, videos, cameras, optical illusions, art materials, and LEGO or block sets

BODY-KINESTHETIC INTELLIGENCE: THE ABILITY TO CONTROL BODY MOVEMENTS AND TO HANDLE OBJECTS WITH SKILL

Does the student:

- Excel in one or more sports?
- Mimic the gestures or mannerisms of others?
- Take things apart and put them back together?
- Move, tap, or fidget when seated for a period of time?
- Integrate fine-motor coordination or skill into a craft?
- Report physical sensations while thinking or working?
- Dramatically express ideas or feeling?

Planning question for teacher:

- How can I involve the whole body or integrate hands-on experiences and dramatic depictions into daily classroom practice?

Helpful teaching materials:

- Building tools, clay, sports equipment, manipulatives, theater props.

MUSICAL INTELLIGENCE: THE ABILITY TO PRODUCE AND APPRECIATE RHYTHM, PITCH, AND TIMBRE; APPRECIATION FOR THE FORMS OF MUSICAL EXPRESSION

Does the student:

- Have a good singing voice?
- Remember melodies of songs?
- Play a musical instrument?
- React to environmental noises or anomalies in music (off-key)?
- Unconsciously hum to self?
- Enjoy and work well while music is played in the classroom?
- Tap rhythmically while working?

Planning question for teacher:

- How can I integrate music, environmental sounds, rhythmic patterns, or melodic frameworks into daily classroom practice?

Helpful teaching materials:

- Musical instruments, tape recorders, CD players, improvised musical instruments

INTERPERSONAL INTELLIGENCE: THE CAPACITY TO RECOGNIZE AND RESPOND APPROPRIATELY TO THE MOODS, TEMPERAMENTS, MOTIVATIONS, AND DESIRES OF OTHERS

Does the student:

- Enjoy socializing with peers?
- Give advice to friends with problems?
- Demonstrate leadership skills?
- Have a strong sense of empathy for others?
- Have several close friends?
- Have others seek out his or her company?
- Appear to be street-smart?

Planning question for teacher:

- How can I engage students in peer sharing, cooperative learning, or large-group activities?

Helpful teaching materials:

- Board games, party supplies, props and costumes for role-playing.

INTRAPERSONAL INTELLIGENCE: AWARENESS OF PERSONAL FEELINGS AND THE ABILITY TO DISCRIMINATE AMONG EMOTIONS; KNOWLEDGE OF PERSONAL STRENGTHS AND WEAKNESSES

Does the student:

- Display a sense of independence and strong will?
- "March to the beat of a different drummer" in learning and living style?
- Play and work well alone?
- Have a strong sense of self-direction?
- Prefer working alone to collaboration?
- Accurately express feelings?
- Have strong and positive self-esteem?

Planning question for teacher:

- How can I evoke feelings and memories or give students more choices in daily classroom practice?

Helpful teaching materials:

- Journals, personal progress charts, materials to reinforce self-checking, equipment for projects.

NATURALISTIC INTELLIGENCE: CAPACITY TO DISTINGUISH MEMBERS OF SPECIES, RECOGNIZE DIFFERENT SPECIES, AND IDENTIFY RELATIONSHIPS AMONG SPECIES

Does the student:

- Bring insects, flowers, or other natural things to share with classmates?
- Recognize patterns in nature?
- Understand the characteristics of different species?
- Demonstrate interest and ability in classification of objects?
- Recognize and name natural things?
- Collect environmental artifacts?
- Care for classroom pets and plants?

Planning question for teacher:

- How can I incorporate living things, natural phenomena, or ecological exploration into daily classroom practice?

Helpful teaching materials:

- Plants, animals, binoculars, tools to explore and document the environment, gardening equipment

SOURCE: T. Armstrong, *Multiple Intelligences in the Classroom,* 3rd ed. (Alexandria, VA: ASCD, 2009). Used with permission.

Teacher's Toolbox **2.3**

Summarizing and Applying Brain Research to Health Promotion

Each number below highlights a research finding from the growing body of brain science. Each finding is interpreted for better understanding (A), general implications for improving classroom practice are discussed (B), and an example for improving student health promotion is provided (C).

1. *The brain is a complex parallel processor.*
   - A. Thoughts, emotions, and imagination all operate simultaneously, allowing elements of the system to interact and to exchange input from the environment.
   - B. Because no single teaching method or learning strategy can address all the variations of brain operation, teachers need to create learning environments that engage as many aspects of the brains of students as possible.
   - C. To promote nutritional health, teachers would be wise to include pertinent music, visual depictions, menu planning, and food preparation and tasting into units of instruction.
2. *Learning involves the whole body and its processes.*
   - A. Learning is natural for the brain, but it is a process that can be supported or influenced negatively by student health status.
   - B. Classroom practice is enriched when teachers help minimize stress, threats, and boredom. Such states affect brain function differently than do peace, challenge, and contentment. In addition, teachers must recognize that health is not just an instructional class or body of information. Despite the fact that they might be the same chronological age, it is unrealistic to expect children of unequal health status to reach the same level of achievement. Healthy kids may differ by as much as five years in acquisition of basic skills.
   - C. Regardless of the health unit of instruction, teachers should create health class practices that encourage children to drink enough water to keep their brains properly hydrated.
3. *The search for meaning is innate.*
   - A. Making sense of our experiences is linked to survival and is a basic brain function. Our brains register the familiar while searching out and responding to novel stimulation.
   - B. While teachers would be wise to establish classroom policies and routines that communicate stability and behavioral boundaries, they must balance the familiar with learning opportunities that satisfy curiosity, discovery, and challenge.
   - C. The kinds of alcohol risk reduction activities developed to engage and challenge learners identified as gifted and talented should provide guidance for developing learning opportunities about this topic for all students.
4. *The brain searches for meaning by patterning.*
   - A. The brain is designed to identify and generate patterns, to organize and categorize information into meaningful groupings.
   - B. For learning activities to be effective, they must be based on or associated with things that make sense to students. Teachers should avoid basing lessons on elements of isolated or disconnected pieces of information.
   - C. Tobacco lessons based on repetition of facts are far less successful than thematic units of instruction that require students to use math skills to calculate costs of tobacco use or to explore the history of tobacco as a cash crop in various states in the United States.
5. *Emotions are critical to patterning.*
   - A. Emotions, expectations, and thoughts can shape one another and can't be separated in the brain.
   - B. Teachers must remember that the degree to which students feel supported by them and their colleagues will affect student learning.
   - C. When teachers model consistent communication patterns across the school day that convey respect and value for learners, students are more likely to practice similar communication skills with classmates and others when confronted with health issues.
6. *The brain processes parts and wholes simultaneously.*
   - A. Research has demonstrated that there are significant differences between the left and right lobes of the brain. However, both hemispheres work to organize information by reducing it to parts and by working with wholes or series of whole sets of inputs.
   - B. Learning is cumulative and developmental.
   - C. As a way to address decision-making skill development, many teachers create units of instruction focused on practicing such skills outside the context of genuine experiences. It is far more effective to teach and practice decision-making skills in the context of daily dietary experiences or field trips to the grocery store.
7. *We understand and retain best when facts and skills are embedded in spatial memory.*
   - A. Learning experiences are enriched by both internal processes and social interaction.
   - B. To maximize learning experiences, teachers should connect them to real-life experiences as often as possible. Examples include field trips, stories, metaphors, drama, and meaningful homework experiences that connect learners with their families, neighborhood, and community.
   - C. The impact and value of bullying risk reduction activities are enriched when students are immersed in complex and interactive learning experiences. Rather than only lecturing about the negative consequences of bullying, teachers should construct activities in which students read developmentally appropriate and pertinent stories, participate in dramatic play activities and simulations, and practice personal management and advocacy skills with others.
8. *Complex learning is enhanced by challenge but is inhibited by threat.*
   - A. The brain is able to maximize connections when risk taking is encouraged within a safe context. Similarly, the brain processes stimulation less efficiently and effectively when the individual perceives threat.
   - B. Creating a safe learning environment for relaxed alertness, thinking, and risk taking is critical for understanding and learning.
   - C. While sexual health instruction should be regarded with as much academic rigor as other subject matter, the threat of failure or of a low grade might inhibit critical thinking and learning about developmentally appropriate sexual health issues.

SOURCE: R. N. Caine and G. Caine, *Unleashing the Power of Perceptual Change: The Potential of Brain-Based Teaching* (Alexandria, VA: ASCD, 1997); B. Samek and N. Samek, "It's a Brain Thing: Keeping Students Focused and Learning," a presentation at the 78th Annual Meeting of the American School Health Association, October 16, 2004.

help students make connections between topics.[60] Chapter 3 provides a discussion focused on applying this standard to promoting student health.

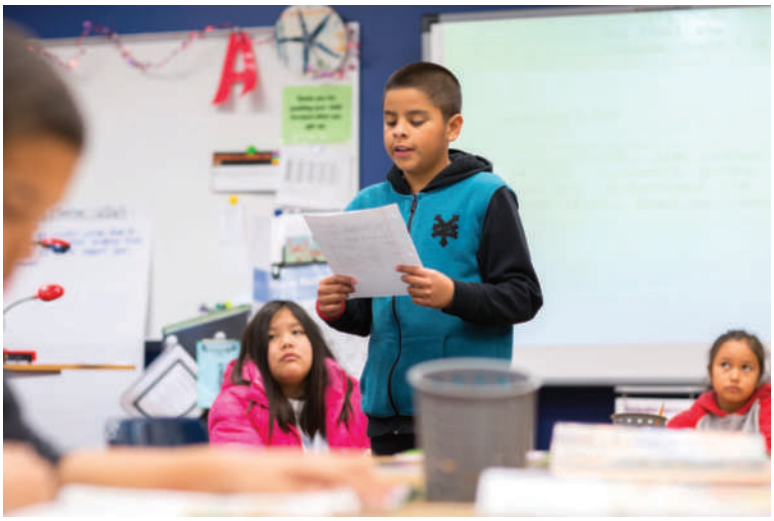
3. *To what extent do instructional activities and class content have meaning beyond the classroom?* Unfortunately, many common learning activities make no authentic contribution to learning. Some certify only that students have been compliant with the rules and norms of their school. Other such instructional activities provide evidence only that students have navigated systems in the school established to support efficiency rather than learning. Lessons gain authenticity when instruction is connected to the larger community in which students live. As a framework for understanding or applying knowledge, students must address real-world problems or incorporate experiences or events from outside the school into classroom learning experiences.[61] For example, student learning and nutritional health can be enriched when learning opportunities extend beyond content mastery about vitamins and minerals. Functional knowledge and decision-making skill development are supported by visiting local food producers, conducting product analyses at local grocery stores, or carrying out vitamin and mineral scavenger hunts in home kitchens.

4. *How much class time is involved in substantive conversation about the subject?* It is all too common for teachers to engage students in unsophisticated classroom conversation. Typically, classroom instruction is one-directional with a planned body of information delivered from teacher to students. Then it is common for part of the lesson to be followed by a recitation period in which students respond to predetermined questions in pursuit of predetermined answers. This process is the oral equivalent of true-false or short-answer written tests of content acquisition. By contrast, high-level, substantive conversation is framed by three characteristics:

- Conversation is focused on higher-order ideas about the topic, including making distinctions, applying ideas, and raising questions rather than simply reporting facts, definitions, or procedures.
- Ideas are shared in an unscripted forum—students are encouraged to explain their thinking, ask questions, and respond to the comments of classmates.
- Conversation builds improved collective understanding of lesson themes or topics.

For example, instruction about injury risk reduction is enriched when teachers make time to cultivate and extend discussions about ways to manage potentially dangerous play spaces at school, at home, and in local neighborhoods.

5. *Is there a high level of social support for the achievements of peers?* Low levels of social support for achievement are evident in classrooms in which the behaviors or comments of teachers and classmates discourage effort, experimentation, creativity, and engagement among all students. Conversely, high-level social support is evident when teachers and classmates reinforce norms of high expectations for all students with consistency. In such classrooms, everyone communicates mutual respect and celebrates risk taking and hard work when confronting challenging tasks.[62] To support cognitive enrichment and skill development about physical activity, opportunities should be provided for students to experience activities that feature group problem solving, celebrate the contribution of diverse skills, and eliminate rewards for selected "stars" who experience individual success.



Social support for achievement promotes positive learning experiences.

Professionals are reminded that authentic instructional approaches are useful for all content areas and teaching methods. This approach is demonstrated when any instructional activity—new or old, in or out of school—engages students in using complex thinking skills to confront issues and solve problems that have meaning or value beyond simple written tests.

Developmentally Appropriate Practice

Regardless of the age of students or the focus of a lesson (increasing functional knowledge, helping students examine their health beliefs and attitudes, or practicing essential skills to live healthier lives), developmentally appropriate practice criteria should serve as the foundation for translating content recommendations contained in the district curriculum document into sound classroom practice. Researchers have found that "the use of developmentally appropriate practices is one of the best current strategies to ensure that individual children will have opportunities for engaging in meaningful and interesting learning on a daily basis."[63]

Developmentally appropriate practice requires teachers to meet students where they are, then to organize learning environments and experiences so learners can reach goals that are challenging yet achievable. To accomplish this, instruction is delivered in context of the age and developmental characteristics of learners and responds to the social and cultural contexts in which they live and go to school. Importantly, developmentally appropriate practice does not mean that instructional rigor is reduced. Rather, learning experiences are organized and delivered in a way that is contextual to student capacity while being challenging enough to promote engagement, growth, and progress.[64]

The National Association for the Education of Young Children reminds all teachers that planning developmentally appropriate learning activities for any content area has two important dimensions. These involve instructional practices that respond to:

- The age-appropriate attributes of learners.
- Individually appropriate characteristics of students.

Age-Appropriate Activities

Teachers in elementary and middle grades are advised to focus their lesson-planning energies on organizing age-appropriate learning activities for students. Age-appropriate practices are based on research in human development that confirms the universal and predictable sequences of growth and change that occur in the physical, emotional, social, and intellectual, or cognitive, dimensions of all children.[65] Appendix C of this text contains a summary of common growth and development characteristics and identifies the corresponding needs of students in kindergarten through grade 9 that can serve as a foundation for developing curricula and delivering instructional activities that are age-appropriate practice.[66]

Wise teachers will use this general information about typical or predictable development of students as a foundation for cultivating a productive learning environment and for planning instructional activities that correspond to the developmental attributes, needs, and abilities of students of a given age.[67] With the foundation of a developmental framework, teachers who have had no or only limited personal contact with a particular group of students, such as at the start of the school year, can maximize their planning time. Further, age-appropriate cues are helpful for teachers as they introduce new, potentially emotionally charged, or controversial health education topics.

Individually Appropriate Activities

As teachers have more contact with particular groups of students, they learn that students have different patterns and/or timing in their personal growth and development that can influence their ability to integrate education concepts into daily behavior.[68] With the advantage of such familiarity with their students, teachers are able to build lessons that respond to specific individual and group needs and characteristics. In this way, enrichment of the learning environment and instructional practice evolves as specific student characteristics become evident.

It is important to remember that there can be discrepancies between chronological age and ability. Whereas all students need structured opportunities to practice health-promoting skills, students with cognitive disabilities might need instructional adaptations or accommodations to learn age-relevant skills. By paying attention to individual learner attributes, teachers are better equipped to develop lessons that are both age and ability centered.

Conclusion

In relation to planning from either an age- or an individually appropriate practice perspective, teachers should begin their decision making and planning with a review of the following student characteristics:

- *Physical* abilities and limitations.
- *Mental,* or *cognitive,* attributes, including variables such as time on task, attention span, and interests.
- *Social* interaction patterns with family, friends, teachers, and influential others.
- *Emotional* characteristics and reaction patterns.
- *Language* skills and attributes as a foundation for understanding and communication.[69]

Such information about students can serve as a foundation for best practice when teachers integrate the following considerations into their curriculum development and lesson planning:

- *What is known about child development and learning, including:*
  1. Age-related human characteristics to support decisions about meaningful instruction.
  2. General age-related clues about activities, materials, interactions, or experiences that will be safe, healthy, interesting, achievable, and challenging to learners.
- *What is known about the strengths, interests, and needs of individual learners in a group, as a foundation for*
  1. Identifying individual variations in students.
  2. Adapting classroom policy, practice, and learning activities to respond to needs, interests, and abilities of diverse students.
- *What is known about the social, cultural, and family contexts in which children live, as a way to*
  1. Make sure that learning experiences are meaningful and relevant.
  2. Ensure that respect for the uniqueness among learners and their families is communicated.

The content and skills to be learned and how best to construct or organize the learning environment should be based on

- The body of literature confirming attributes of best practice about the topic (evidence-based practice guidelines).
- Family and community standards.
- Policy mandates of the state and the local board of education.
- Developmental characteristics and abilities of students.
- The relationship between previous learning experiences and the new content and/or skills to be mastered.[70]

To balance less sound approaches based on distractions including teacher comfort levels or preferences, antiquated textbook content, or community traditions that compromise learner health, the National Association for the Education of Young Children reminds health educators that developmental needs and characteristics of learners must serve as the guide for best practice. For this reason, tobacco, alcohol, and other drug–prevention instruction for primary-grade children should focus on developmentally appropriate concepts such as:

- Recognizing why household products are harmful if ingested or inhaled.
- Complying with rules about safe and adult-supervised use of medication.
- Identifying community health helpers who provide directions and prescriptions for medication.
- Recognizing that matches and lighters should be used only by grown-ups.
- Practicing fire prevention and safe escape strategies.

In this way, the needs and abilities of the learners, rather than other pressures, become the basis for planning and implementing lessons. Learner attributes, needs, and concerns must take center stage in lesson planning and curriculum development. To this end, the Riley Children's Hospital in Indianapolis has summarized important developmental missions, or tasks, that children will confront during