

***MACMILLAN/McGRAW-HILL***  
***HEALTH & WELLNESS*** RESEARCH BASE OF  
EFFECTIVE HEALTH EDUCATION AND BEST  
INSTRUCTIONAL PRACTICES

April 2, 2004

National Health Standards





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# IESD WHITE PAPER:

## HOW **MACMILLAN/McGRAW-HILL HEALTH & WELLNESS** RELATES TO RESEARCH ON EFFECTIVE HEALTH EDUCATION AND BEST INSTRUCTIONAL PRACTICES

April 2, 2004

### INTRODUCTION

The overall goal of the health education curriculum is to help students achieve “health literacy,” which the Joint Committee on National Health Education Standards defines as “the capacity of an individual to obtain, interpret, and understand basic health information and services, and the competence to use such information and services in ways which are health-enhancing” (Joint Committee on National Health Education Standards, 1995, as cited by Marx, Wooley, & Northrop (Eds.), 1998, p. 47). An effective health education curriculum, therefore, is one that provides students with the basic information and develops the essential skills they need in order to acquire health literacy. As suggested in the literature, students are most likely to meet the goals of the health education program in the context of a coordinated school health system (Kolbe, 1986, as cited by Allensworth, 1994, p. 181).

Guided by the work of the Centers for Disease Control and Prevention’s (CDC) Division of Adolescent and School Health (DASH), the National Health Education Standards (NHES), and state curriculum standards for health education, **Macmillan/McGraw-Hill Health & Wellness** was designed to assist today’s teachers with the challenge of helping students

- Achieve health literacy
- Maintain and improve health
- Prevent diseases
- Reduce health-related risk behaviors.

In creating the new K-8 program, Macmillan/McGraw-Hill’s goal was to reflect both the findings from key research on health education and instructional best practices. This paper summarizes key research findings and recommendations related to effective health education programs from the professional literature, and explains how **Macmillan/McGraw-Hill Health & Wellness** practically applies these findings and recommendations.

A leading expert on the health education research literature recommended the basic set of research documents to review for this study.<sup>1</sup> Additional research reviews and syntheses were identified based on follow-up searches of the ERIC database.

The Remainder of This Paper is Divided into Four Major Sections:

- The Effectiveness of Health Education in the Context of a Coordinated School Health Program
- Research-Based Recommendations for Health Education Curriculum Content
- Research-Based Instructional Strategies and Methods in Health Education
- Research-Based Recommendations for Educator Professional Development

<sup>1</sup> IESD would like to thank Dianne Kerr, Ph. D., Associate Professor of Health Education at Kent State University in Ohio, for her guidance in the selection of research sources. Please note that IESD, and not Dr. Kerr, is responsible for the research synthesis presented in this paper.

# THE EFFECTIVENESS OF HEALTH EDUCATION IN THE CONTEXT OF A COORDINATED SCHOOL HEALTH PROGRAM

Research suggests that a program of health education has a variety of positive impacts on students. For example, the seminal School Health Education Evaluation (SHEE) study encompassed 30,000 grades 4 through 7 students in 20 states. It compared results from implementing four different health curricula in treatment classrooms with results from control classrooms. The study found that students' self-reported health knowledge, attitudes, and practices were consistently superior in treatment classrooms than in control classrooms. The greatest differences were reported for their decision-making skills, their knowledge of and attitudes towards maintaining a healthy body, and their knowledge of substance use and abuse (Connell, Turner, & Mason, 1985, p. 316).

Additional research has found that well-designed and well-supported health education in schools can reduce childhood addiction to tobacco and unnecessary dental work, and can improve dietary practices, exercise patterns, and feelings of self worth in students (Iverson & Sheer, 1982, Kolbe, 1985, Louis Harris and Associates, Inc., 1988, all as cited by Seffrin, 1997, p. 304; Parcel, Simons-Morton, O'Hara, Baranowski, & Wilson, 1989, as cited by Seffrin, 1990, p. 153). Furthermore, such a program of health education has been found effective in preventing chronic diseases, sexually transmitted diseases (STDs), and unwanted pregnancies (Vincent, Clearie, & Schlucter, 1987, Walter, 1989, all as cited by Seffrin, 1990, p. 153).

To be successful, research indicates, a health education curriculum must be made an explicit instructional priority and integral part of the academic program. Adequate and ongoing professional development for teachers must also be included. And a system for monitoring its efforts must include assessment of students' knowledge, skills and behaviors (Smith, Steckler, McCormick, & McLeroy, 1995, as cited by Marx, Wooley, & Northrop (Eds.), 1998, p. 53). Furthermore, the 1994 School Health Policies and Programs Study (SHPPS), conducted by the CDC's DASH, found that health education delivered as a distinct and separate course generally provides much more content to students than does an approach where the material is infused into other subjects (Collins, Small, Kann, Pateman, Gold, & Kolbe, 1995, as cited by Institute of Medicine, 1997, p. 1 13).

In summarizing what research has found about effective health education programs in general, the editors of *Health Is Academic* identified eight characteristics such programs tend to have in common. Effective programs:

1. "Are research-based and theory driven.
2. "Include basic, accurate information that is developmentally appropriate.
3. "Use interactive, experiential activities that actively engage students.
4. "Provide students an opportunity to model and practice relevant social skills.
5. "Address social or media influences on behaviors.
6. "Strengthen individual values and group norms that support health-enhancing behaviors.
7. "Are of sufficient duration to allow students to gain the needed knowledge and skills.
8. "Include teacher training that enhances effectiveness." (Marx, Wooley, & Northrop (Eds.), 1998, p. 44).

## The Importance of a Coordinated School Health Program

One of the most important findings from the research is that a health education curriculum is most likely to be effective when it is a part of a coordinated school health program. Effective, in this context, means that it positively influences students' behaviors, skills, and knowledge in relation to health risks and benefits. DASH at the CDC recommends a "Coordinated School Health Program" that includes "eight interactive components":

- "Health Education
- "Physical Education
- "Health Services
- "Nutrition Services
- "Health Promotion for Staff
- "Counseling, Psychological, & Social Services
- "Healthy School Environment
- "Family/Community Involvement" (Centers for Disease Control and Prevention. (2002) *Adolescent & School Health: About the Program: School Health Defined: Coordinated School Health Program*. [http://www.cdc.gov/nccdphp/dash/about/school\\_health.htm](http://www.cdc.gov/nccdphp/dash/about/school_health.htm).)

These eight components were first recommended in a "groundbreaking article" published in a special issue of the *Journal of School Health* (Allensworth & Kolbe, 1987, as cited by Marx, Wooley, & Northrop (Eds.), 1998, p. xv). Research suggests that this expanded scope for school-based health programs has a greater impact on student health (Kolbe, 1986, as cited by Allensworth, 1994, p. 181). Green & Kreuter make the case that the greater visibility of such a broad scope increases saliency and support for each component, and the expanded framework better supports two long-term outcomes: improved health and educational achievement of students (Green & Kreuter, 1991, as cited by Allensworth, 1994, p. 181).

Integration of the school health program with community and family efforts is especially important. For example, coordination with efforts conducted throughout the school and the community has been found to enhance a school health program's effectiveness (Allensworth, Symons, & Olds (Eds.), 1994, as cited by Allensworth, 1994, p. 182). Research also suggests that programs that actively engage parents and families can provide "significant benefits" and promote adoption of health-enhancing behaviors and avoidance of the key health-risk behaviors identified by the CDC (Bruce & Emshoff, 1992; DeMarsh & Kumpfer, 1986; Johnson, 1992; Ruch-Ross, 1992, as cited by Gold, 1994, p. 555; Young, 1991; Vincent, Clearie, & Schlucter, 1987; Werche et al., 1991; Perry et al., 1989, as cited by Allensworth, 1994, p. 185). (For more information about the CDC-identified health-risk behaviors, see the following section of this paper, Research-Based Recommendations for Health Education Curriculum Content.)

In summary, a review of the research indicates that a "comprehensive and coordinated" effective school health program focuses on the key risks to students' health and learning; has the support of students, family, friends and adults within the school and community; draws on the ideas and efforts of many disciplines, community groups and agencies; incorporates multiple components (one of which is health education); provides staff development; and utilizes inclusive and broadly based program planning (Allensworth, 1995, as cited Marx, Wooley, & Northrop (Eds.), 1998, p. 10).

# How *Macmillan/McGraw-Hill Health & Wellness* Reflects the General Guidelines for Effective Health Education Programs:

General Guidelines for Effective Health Education Programs	How <i>Macmillan/McGraw-Hill Health &amp; Wellness</i> Reflects the General Guidelines for Effective Health Education Representative Examples from Grades 1,5,7
Are research-based and theory driven	Our authors, Linda Meeks and Dr. Philip Heit, are emeritus professors of health education in the College of Education at The Ohio State University. As faculty members, Linda and Phil held joint appointments for Health Education in the College of Education and in Allied Medicine in the College of Medicine. They based the <i>Macmillan/McGraw-Hill Health &amp; Wellness</i> program on the results of the Youth Risk Behavior Surveys (Centers for Disease Control and Prevention, 1991, as cited by Allensworth, 1994, p. 180–181), the Joint Committee on National Health Education Standards, 1995 ( <i>Achieving health literacy: An investment in the future</i> , Atlanta, GA: American Cancer Society, as cited by Marx, Wooley, & Northrop, (Eds.) 1998, p.47), and the SCASS Health Education Assessment Project (Council of Chief State School Officers (2004) Health Education Assessment Project 2003–2004) Assessment Project.
Include basic, accurate information that is developmentally appropriate	Authors, as well as contributors, who are medical and health specialists, have written accurate and up-to-date content. Health & Wellness was further reviewed for accuracy by content and medical reviewers. The whole program was reviewed for grade-level appropriateness by advisory board members and teacher reviewers. Additionally, internal editorial and external third-party reviewers checked the entire program for accuracy and developmental appropriateness. See Grades 1, 5, 7 Teacher Edition pp. T23-T25
Use interactive, experiential activities that actively engage students	Life Skill activities allows students to practice life skills in every lesson in Grades 3-8 and in every chapter in K-2; these activities include role-playing, brainstorming, and conducting interviews. All these critical-thinking activities are based on problem-solving situations. In addition, <i>Macmillan/McGraw-Hill Health &amp; Wellness</i> includes cross-curricular activities, health online activities, consumer wise activities, and build character activities. Grade 1 Teacher Edition pp. 20-21; 40-41, 64-65; plus Life Skills Book Grade 5 Pupil Edition pp. A9, A15, A21, A24, A40-41 Grade 7 Pupil Edition pp. A9, A10, A15, A20
Provide students an opportunity to model and practice relevant social skills	<i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides students ample opportunities to model and practice relevant social skills. The program includes life skill activities that allow students to build healthful relationships, resolve conflicts, resist negative peer pressure, and express emotions in healthful ways. Grade 1 Teacher Edition pp. 152, 218 Grade 5 Pupil Edition pp. A84, C72, E14 Grade 7 Pupil Edition pp. A46, C50, D24

<p><b>General Guidelines for Effective Health Education Programs</b></p>	<p><b>How <i>Macmillan/McGraw-Hill Health &amp; Wellness</i> Reflects the General Guidelines for Effective Health Education</b> Representative Examples from Grades 1,5,7</p>
<p>Address social or media influences on behaviors</p>	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides direct instruction and practice in the Life Skill, <i>Analyze What Influences your Health</i>, throughout the program plus gives instruction in this skill, teaching students to recognize and analyze external influences on their behavior. In Kindergarten through Grade 3 there are entire pupil editions devoted to developing healthy life skills. Grade 1 Teacher Edition pp. 206-207, plus Life Skills Book pp. 20-21 See Grade 5 Pupil Edition pp. A67, B48, D21 See Grade 7 Pupil Edition pp. A14-A15, B70, C11</p>
<p>Strengthen individual values and group norms that support health-enhancing behaviors</p>	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides direct instruction in the six recognized traits of Character Education, including caring, sharing, responsibility, respect, good citizenship, and fair-ness, and builds and applies the lessons in the feature, <i>Build Character</i>. The program teaches Health Advocacy as a life skill by instructing students in the four steps of “Be A Health Advocate.” The program also provides real-life examples and instruction in positive peer pressure. Grade 1 Teacher Edition pp. 8-9, 36-37, 86-87 Grade 5 Pupil Edition pp. A16-A21, A74-A89, D22-D23 Grade 7 Pupil Edition pp. A12-A17, A56-A63, E56-E57</p>
<p>Are of sufficient duration to allow students to gain the needed knowledge and skills</p>	<p>The textbook provides grade-level appropriate depth of instruction, from 2 page lessons in Kindergarten through Grade 2, and 4-8 page lessons in Grades 3-8; including direct instruction of concepts plus a variety of interactive activities with each lesson to build upon and strengthen student knowledge and skills. The entire program spirals and reviews key content to build upon knowledge learned in preceding years. Grade 1 Teacher Edition pp. 3-4 Grade 5 Pupil Edition pp. A4-A9 Grade 7 Pupil Edition pp. A4-A1 1</p>
<p>Include teacher training that enhances effectiveness</p>	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides a comprehensive Teacher’s Edition containing lesson plans that include interactive teaching techniques and instructional strategies. The Teacher Editions provide guidance to incorporate health into the teacher’s busy class schedule. Chapter Planners identify key lessons to teach within each chapter to ensure effective health instruction takes place each year. Representative lesson plan pages: Grade 1 Teacher Edition pp. 46-47, 60-61 Grade 5 Teacher Edition pp. A58-A63 Grade 7 Teacher Edition: pp. A22-A29</p>



## Coordinated School Health

*Macmillan/McGraw-Hill Health & Wellness* supports a Coordinated School Health Program. As suggested by the research, the program provides students with the information and develops the essential skills they need in order to acquire health literacy. Every *Macmillan/McGraw-Hill Health & Wellness* Teachers' Edition (K–8) provides an explanation and a professional article on the Coordinated School Health System. *Macmillan/McGraw-Hill Health & Wellness* was designed in the context of a Coordinated School Health Program.

As part of a coordinated school health system, *Macmillan/McGraw-Hill Health & Wellness* provides a solid instructional approach to Health Education in Grades K-8, building a foundation for a coordinated

approach incorporating the eight interactive components. The program provides extensive support and components for family and community involvement.

### RESEARCH-BASED RECOMMENDATIONS FOR HEALTH EDUCATION CURRICULUM CONTENT

Specifications for health education curriculum content come from these main sources:

- Research on risk behaviors among children and adolescents, and on the effectiveness of focusing instruction on related skills
- National and state curriculum and assessment standards and frameworks informed by research findings and recommendations from these sources are summarized below.

#### Curriculum Topics and Components Suggested by Research

According to Public Health Service research, an unhealthy lifestyle accounts for half (50%) of the contributing factors to premature death and illness (U.S. Department of Health, Education and Welfare, 1979, as cited by Allensworth, 1994, p. 180). Recognizing that many unhealthy habits begin at childhood and adolescence, the CDC has focused significant attention to youth risk behaviors. The CDC's Youth Risk Behavior Surveys confirmed that many adolescents engage in "numerous health-debilitating behaviors" (Centers for Disease Control and Prevention, 1991, as cited by Allensworth, 1994, p. 180-181). The CDC Division of Adolescent and School Health (DASH) identified six specific behaviors as priority risks to children and adolescent health:

- "Tobacco use.
- "Unhealthy dietary behaviors.
- "Inadequate physical activity.
- "Alcohol and other drug use.
- "Sexual behaviors that may result in HIV infection, other sexually transmitted diseases, and unintended pregnancies.
- "Behaviors that may result in violence and unintentional injuries (for example, injuries from motor vehicle crashes)." (Centers for Disease Control and Prevention, 2003)

To achieve its goal, DASH synthesizes applicable research; monitors and reports on those six behaviors at local, state, and national levels through its Youth Risk Behavior Surveillance System (YRBSS); and develops and publishes relevant guidelines for health education programs and health educators. These six categories of risk behavior have become an important part of the foundation of health education curriculum development in the United States. However, in addressing these behaviors in a health education curriculum's scope and sequence, experts have noted that "significant attention should be given to age and developmental readiness of students" because instruction to deter certain risk behaviors are especially effective at specific stages of a youth's development. For example, smoking prevention has been determined to be most effective during grades 6 through 8 (American Cancer Society, 1992, as cited by Marx, Wooley, & Northrop (Eds.), 1998, p. 48; Seffrin, 1990, p. 155).

#### Skills-Based Curricula Found Effective

Research suggests that skills-based curricula are effective in influencing students' health attitudes and practices related to the risk behaviors identified by the CDC's DASH (Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995, Kirby et al., 1994, all as cited by Marx, Wooley, & Northrop (Eds.), 1998, p. 47; Dusenbury & Falco, 1995, p. 421). A broad range of research indicates that certain "generic" skills are effective in promoting health-enhancing behavior (Allensworth, 1994, p. 185). These include:

- Refusal skills (Meeks & Heit, 1988, as cited by Allensworth, 1994, p. 185)
- Problem solving (Hamburg, 1990, Mann, 1973, all as cited by Allensworth, 1994, p. 185)
- Decision making (Duryea, 1983, Hamburg, 1990, Mann, 1973, all as cited by Allensworth, 1994, p. 185; Fetro, 1992, as cited by Marx, Wooley, & Northrop (Eds.), 1998, p. 46)
- Media analysis (Hamburg, 1990, as cited by Allensworth, 1994, p. 185)
- Assertiveness (Bruess & Greenberg, 1988, as cited by Allensworth, 1994, p. 185)
- Communication (Bruess & Greenberg, 1988, Hamburg, 1990, Duryea, 1983, all as cited by Allensworth, 1994, p. 185; Fetro, 1992, as cited by Marx, Wooley, & Northrop (Eds.), 1998, p.46)
- Coping strategies for stress (Hamburg, 1990, as cited by Allensworth, 1994, p. 185; Fetro, 1992, as cited by Marx, Wooley, & Northrop (Eds.), 1998, p. 46)
- Goal setting (Fetro, 1992, as cited by Marx, Wooley, & Northrop (Eds.), 1998, p. 46)
- Behavioral contracts (Allensworth, Symons, & Olds (Eds.), 1994, Elder, 1991, all as cited by Allensworth, 1994, p. 185).

Integrating and modeling these generic skills into health education and other classes helps students learn, practice, and receive feedback on their usage in more than one aspect of their lives (Fetro, 1992, as cited by Allensworth, 1994, p.185).

Additional research has confirmed that instruction that builds students' social skills is effective for changing health behavior (Dreyfoos, 1990, Ewles & Simnett, 1985, Israel & McLeroy, 1985, all as cited by Allensworth, 1994, p. 182).

#### Other Considerations

Consistency is also critical for effective health education. Research concludes that the content of a school health education programs' messages—both explicit and implied—must be consistent for it to succeed (Lewis, Battistich, & Schaps, 1990, as cited by Gold, 1994, p. 553, 559).

Furthermore, research suggests that health education curricula must take into account the many differences in students' literacy levels, social background, gender, culture, and ethnicity to be widely effective in today's diverse classrooms (Conner & Conner, 1992, Ireland, 1990, Marin & Marin, 1991, Oyemade & Brandon-Monye, 1990, Shane & Kaplan, 1988, Terry, Silka, & Terry, 1992, all as cited by Gold, 1994, p. 556).

## Curriculum and Assessment Standards and Frameworks

State departments of education have typically expanded the curriculum beyond the focuses of the CDC’s DASH to include topics such as personal health (physical, mental, emotional, and social), consumer health, community health, environmental health, family life, and individual growth and development (e.g., *Health Framework for California Schools: Kindergarten Through Grade Twelve*, California Department of Education, 2003, p. 56; *Texas Administrative Code (TAC), Title 19, Part II Chapter 115, Texas Essential Knowledge And Skills for Health Education*, Texas Education Agency, 1998; *Sunshine State Standards, Health Education & Physical Education*, Florida Department of Education, 1996).

**For example:** The various Health Standards and Frameworks generally identify four “unifying ideas for health literacy”:

- “Acceptance of personal responsibility
- “Respect for and promotion of the health of others
- “An understanding of the process of growth and development
- “Informed use of health-related information, products, and services”

They also list major content areas of health education from which to draw content to address these unifying ideas:

- “Personal Health
- “Consumer and Community Health
- “Injury Prevention and Safety
- “Alcohol, Tobacco, and Other Drugs
- “Nutrition
- “Environmental Health
- “Family Living
- “Individual Growth and Development
- “Communicable and Chronic Diseases”

Health education curriculum in the United States has also been guided by the work of the Joint Committee on National Health Education Standards, which released in 1995 a formal set of standards for health education in schools. These National Health Education Standards (NHES) are divided into three grade ranges—K-4, 5-8, and 9-12—and specify the following seven skill areas as learning objectives for the school health curriculum:

1. “Comprehend concepts related to health promotion and disease prevention.
2. “Demonstrate the ability to access valid health information and health-promoting products and services.
3. “Demonstrate the ability to practice health-enhancing behaviors and reduce health risks.
4. “Analyze the influence of culture, media, technology, and other factors on health.
5. “Demonstrate the ability to use interpersonal communication skills to enhance health.
6. “Demonstrate the ability to use goal-setting and decision-making skills to enhance health.
7. “Demonstrate the ability to advocate for personal, family, and community health.” (Joint Committee on National Health Education Standards, 1995, as cited by Marx, Wooley, & Northrop (Eds.), 1998, p. 47).

Within each of the three grade clusters, the NHES details several knowledge- and/or skill-based objectives for each of its seven standards. For example, for grades 5-8, under Standard 1 (“Comprehend concepts related to health promotion and disease prevention”) the learning objectives for students include an ability to “describe ways to reduce risks related to adolescent health problems” and “explain how health is influenced by the interaction of body systems.” Under Standard 5 (“ . . . interpersonal communication skills . . .”), the skill objectives include an ability to “demonstrate refusal and negotiation skills to enhance health” and “demonstrate effective verbal and non-verbal communication skills to enhance health.” Under Standard 7 (“ . . . advocate for personal, family, and community health”), the objectives include an ability to “demonstrate the ability to work cooperatively when advocating for healthy individuals, families, and schools” and “identify barriers to effective communication of information, ideas, feelings, and opinions about health issues” (American Association for Health Education, 2003).

Even before the NHES learning standards for K-12 students were finished, valid assessment measures began to be developed. The Council of Chief State School Officers’ State Collaborative on Assessment and Student Standards (SCASS) made health education the focus of one of its 11 curriculum assessment projects. Started in 1993 and involving the CDC and more than 30 states, the SCASS Health Education Assessment Project’s goals are to identify and develop assessments for health education. “The mission of the project, revised in 2002, is to develop effective health education assessment resources through a collaborative process, and to increase members’ capacity to align curriculum, instruction, and assessment to improve student health literacy through improved instruction” (Council of Chief State School Officers, 2004). The SCASS Health Education Assessment Framework uses the NHES Standards as a basis for performance assessment in 10 key health education topics:

- “Alcohol and Other Drug Use Prevention
- “Community Health
- “Consumer Health
- “Environmental Health
- “Mental and Emotional Health
- “Nutrition and Dietary Behavior
- “Physical Activity Promotion
- “Sexuality and Family Life
- “Tobacco Use Prevention
- “Unintentional and Intentional Injury Prevention” (Toucan Ed, 2004).

According to experts in the field, performance-based assessments, as compared to traditional multiple-choice testing, give educators a more relevant way to measure students’ skills related to health instruction. The emphasis of assessment shifts from knowing health facts to demonstrating health skills, which provides a more complete and authentic picture of student achievement. Such skills-focused assessment aligns with skills-based curricula, which (as mentioned above) research concludes are effective in influencing students’ attitudes and practices regarding health (Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995, Kirby et al., 1994, all as cited by Marx, Wooley, & Northrop (Eds.), 1998, p. 47; Dusenbury & Falco, 1995, p. 421).

## How *Macmillan/McGraw-Hill Health & Wellness* Reflects the Professional Literature on Health Education Curriculum Content

*Macmillan/McGraw-Hill Health & Wellness* was informed by and aligns with all of the major sources for health curriculum content cited in the leading research, including

- CDC DASH's six priority risk behaviors
- State curriculum standards and frameworks
- The National Health Education Standards (NHES)
- The Council of Chief State School Officers' SCASS Health Education Assessment Project framework

### Content Overview of Macmillan/McGraw-Hill Health & Wellness

*Macmillan/McGraw-Hill Health & Wellness* provides a curriculum that is organized into 10 content strands in which young people need to gain health knowledge, learn and practice life skills, and set and work to achieve health goals. The 10 content strands include:

1. Mental and Emotional Health
2. Family and Social Health
3. Growth and Development
4. Nutrition
5. Personal Health and Physical Activity
6. Violence and Injury Prevention
7. Alcohol, Tobacco, and Other Drugs
8. Communicable and Chronic Diseases
9. Consumer and Community Health
10. Environmental Health

*Macmillan/McGraw-Hill Health & Wellness* introduces key concepts and builds upon prior knowledge in all grades, Kindergarten through Grade 8, with developmentally appropriate instruction and practice provided through activities at each grade. Topics are introduced at age-appropriate depth that sequentially builds students' knowledge and skills.

A hallmark of *Macmillan/McGraw-Hill Health & Wellness* is its focus on 10 critical health-related life skills:

1. Access Health Facts, Products and Services
2. Practice Healthful Behaviors
3. Manage Stress
4. Analyze What Influences Your Health
5. Use Communication Skills
6. Use Resistance Skills
7. Resolve Conflicts
8. Set Health Goals
9. Make Responsible Decisions
10. Be a Health Advocate
- 11.

### Alignment with CDC DASH's Six Priority Risk Behaviors

**Macmillan/McGraw-Hill Health & Wellness** aligns to CDC DASH's six categories of risk behaviors in each grade level to introduce students to the risk factors and to adopt optimal health behaviors and practices in their lives'. The program provides instruction and effects of the risk behaviors so students learn to make healthy choices. The program was designed so that the effects of each risk behavior are covered in an age-appropriate manner.

**Table 1. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with CDC DASH's Six Priority Risk Behaviors**

<b>CDC DASH Risk Behaviors</b>	<b><i>Macmillan/McGraw Hill Health &amp; Wellness Materials</i></b>
Tobacco use	Chapter 7. Alcohol, Tobacco, and Other Drugs
Unhealthy dietary behaviors	Chapter 4. Nutrition
Inadequate physical activity	Chapter 5. Personal Health and Physical Activity
Alcohol and other drug use	Chapter 7. Alcohol, Tobacco, and Other Drugs
Sexual behaviors that may result in HIV infection, other sexually transmitted diseases, and unintended pregnancies	Chapter 3. Growth and Development Chapter 8. Communicable and Chronic Diseases
Behaviors that may result in violence and unintentional injuries	Chapter 6. Violence and Injury Prevention

As suggested in the research literature, certain risk behaviors receive greater emphasis and additional application at higher grade levels. For example, tobacco use is covered in Chapter 7 at grade 1 in four pages (pp. 164-167); while at grades 5 and 7, this topic takes eight pages (pp. D16-D23 in grade 5; pp. D18-D25 in grade 7).

### Alignment with State Standards and Frameworks

**Macmillan/McGraw-Hill Health & Wellness** was designed to address not only nationally recognized standards for Health, but also to align with specific state standards and frameworks. Specific state correlations can be secured through Macmillan/McGraw-Hill's Marketing Department.

### Alignment with National Health Education Standards

**Macmillan/McGraw-Hill Health & Wellness** lessons and activities for Kindergarten through Grade 8 were designed to expressly meet and address each of the content and skill areas specified in the National Health Education Standards, as shown in the following table.

**Table 4. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the National Health Education Standards (NHES)**

NHES Standard	<i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7
<p>1. Comprehend concepts related to health promotion and disease prevention.</p>	<p>Each of the 10 content areas in <i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides K–8 students with direct instruction and practice with key health concepts including:</p> <ol style="list-style-type: none"> <li>1. Mental and Emotional Health</li> <li>2. Family and Social Health</li> <li>3. Growth and Development</li> <li>4. Nutrition</li> <li>5. Personal Health and Physical Activity</li> <li>6. Violence and Injury Prevention</li> <li>7. Alcohol, Tobacco, and Other Drugs</li> <li>8. Communicable and Chronic Diseases</li> <li>9. Consumer and Community Health</li> <li>10. Environmental Health</li> </ol> <p>Covering the same general conceptual areas at progressive levels of depth as students move from grade to grade helps ensure a growing understanding of important concepts related to health promotion and disease prevention.</p> <p>Description of how a basic health concept is introduced and practiced in Grades 1, 5 and 7: <i>Example: Nutrition</i></p> <p>Grade 1</p> <p>The concept of Nutrition is introduced through the use of Big Ideas Book, pp. 16-17, then taught through reading and vocabulary development in the Reader entitled, Healthful Foods, pp. 4-15.</p> <p>The basic concept of the Food Guide Pyramid is reinforced in the Big Ideas Book pp. 18-19. A Life Skill is applied and practiced on pp. 10-11. Performance Assessment is provided on Teacher Edition p. 88 and Reader p. 16.</p>

(Table continued)



**Table 2. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the National Health Education Standards (NHES)**

<b>NHES Standard</b>	<b><i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7</b>
1. Comprehend concepts related to health promotion and disease prevention	<p>This model is used throughout all 10 chapters to teach the concepts related to health promotion and disease prevention.</p> <p>Grade 1, Chapter 1, Health and You</p> <ul style="list-style-type: none"> <li>• Teacher Edition pp. 1-22</li> <li>• Big Ideas Book pp. 4-5</li> <li>• Life Skills pp. 4-5</li> <li>• Reader, Health and You</li> </ul> <p>Chapter 2, Your Family, Your Friends, and You</p> <ul style="list-style-type: none"> <li>• Teacher Edition pp.23-42</li> <li>• Big Ideas Book pp. 8-9</li> <li>• Life Skills pp. 6-7</li> <li>• Reader, Your Family, Your Friends, and You</li> </ul> <p>Chapter 3, Your Growing Body</p> <ul style="list-style-type: none"> <li>• Teacher Edition pp. 43-66</li> <li>• Big ideas Book pp. 10-15</li> <li>• Life Skills Book pp. 8-9</li> <li>• Reader, Your Growing Body</li> </ul> <p>Chapter 4, Healthful Foods (see example outlined above)</p> <p>Chapter 5, Staying Clean and Fit</p> <ul style="list-style-type: none"> <li>• Teacher Edition pp. 89-112</li> <li>• Big Ideas Book pp. 20-25</li> <li>• Life Skills Book pp. 12-13</li> <li>• Reader, Staying Clean and Fit</li> </ul> <p>Chapter 6, Stay Safe</p> <ul style="list-style-type: none"> <li>• Teacher Edition pp. 113-154</li> <li>• Big Ideas Book pp. 26-33</li> <li>• Life Skills Book pp. 14-15</li> <li>• Reader, Stay Safe</li> </ul> <p>Chapter 7, Medicines and Drugs</p> <ul style="list-style-type: none"> <li>• Teacher Edition pp. 155-174</li> <li>• Big Ideas Book pp. 34-35</li> <li>• Life Skills Book pp. 16-17</li> <li>• Reader, Medicines and Drugs</li> </ul> <p>Chapter 8, Stay Well</p> <ul style="list-style-type: none"> <li>• Teacher Edition pp. 175-194</li> <li>• Big Ideas Book pp. 36-37</li> <li>• Life Skills Book pp. 18-19</li> <li>• Reader, Stay Well</li> </ul> <p>Chapter 9, Be Health Wise</p> <ul style="list-style-type: none"> <li>• Teacher Edition pp. 195-208</li> <li>• Big Ideas Book pp. 38-41</li> <li>• Life Skills Book pp. 20-21</li> <li>• Reader, Be Health Wise</li> </ul> <p>Chapter 10, A Clean Earth</p> <ul style="list-style-type: none"> <li>• Teacher Edition pp. 209-220</li> <li>• Big Ideas Book pp. 42-43</li> <li>• Life Skills Book 22-23</li> <li>• Reader, A Clean Earth</li> </ul>

**Table 2. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the National Health Education Standards (NHES)**

NHES Standard	<i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7
1. Comprehend concepts related to health promotion and disease prevention	<p>Lessons are developed in the intermediate grades in the following manner. Concepts are introduced through objectives and vocabulary preview; student reading is incorporated throughout and guided by headings and comprehension questions with activities throughout the lesson, including Curriculum Links; On your Own Activities; Life Skills Critical Thinking Activities; Consumer Wise Activities; and Lesson Review of concepts and critical thinking.</p> <p>Grade 5            Chapter 1 Mental and Emotional Health pp. A2-A43            Chapter 2 Family and Social Health pp. A44-A87            Chapter 3 Growth and Development pp. B2-B33            Chapter 4 Nutrition pp. B34-B63            Chapter 5 Personal Health and Physical Activity pp. C2-C39            Chapter 6 Violence and Injury Prevention pp. C40-C79            Chapter 7 Alcohol, Tobacco, and Other Drugs pp. D2-D41            Chapter 8 Communicable and Chronic Diseases pp. D42-D79            Chapter 9 Consumer and Community Health pp. E2-E29            Chapter 10 Environmental Health pp. E30-E55</p> <p>Grade 7            Chapter 1 Mental and Emotional Health pp. A2-A39            Chapter 2 Family and Social Health pp. A40-A79            Chapter 3 Growth and Development pp. B2-B41            Chapter 4 Nutrition pp. B42-B79            Chapter 5 Personal Health and Physical Activity pp. C2-C39            Chapter 6 Violence and Injury Prevention pp. C40-C79            Chapter 7 Alcohol, Tobacco, and Other Drugs pp. D2-D41            Chapter 8 Communicable and Chronic Diseases pp. D42-D79            Chapter 9 Consumer and Community Health pp. E2-E35            Chapter 10 Environmental Health pp. E36-E71</p>
2. Demonstrate the ability to access valid health information and health-promoting products and services	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides direct instruction and introduces and practices the Life Skill, <i>Finding Valid Health Information, Products, and Services</i> at grades K–8.</p> <p>At each grade, the Life Skill is developed through a Learning Life Skill feature and practiced in the Life Skills Activities found throughout the lessons of the book.</p> <p>In Grade 1, this skill is referenced as Find Health Facts. Get Help. The following sample pages reflect how the skill is developed: Direct instruction: Teacher Edition pp. 172-173; Life Skills Book pp. 16-17</p>

(Table continued)

**Table 2. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the National Health Education Standards (NHES)**

<b>NHES Standard</b>	<b><i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7</b>
2.Demonstrate the ability to access valid health information and health-promoting products and services	<p>Life Skills Activities Teacher Edition pp. 81, 119, 141, 147, 167, 172-173, 174 183, 201</p> <p>At Grade 5, <i>Access Health Facts, Products and Services</i>, teaches the standard. Direct instruction Pupil Edition pp. E4-E15 Life Skills Activities Pupil Edition pp. A73, B17, B39, C36-C37, C5, C59, D55, E 13.</p> <p>In Grade 7, <i>Access Valid Health Information, Products, and Services</i>, is taught on the following pages: Direct instruction Pupil Edition pp. C4-C9, E4-E1 1 Life Skills activities Pupil Edition pp. A77, B25, D9, E10.</p> <p>To address various learning styles, health concepts are addressed in multiple formats throughout the program. For example, the Health Online Feature in Grades 3–8 allows students to access health information online in a secure web environment. Examples include: Grade 5 Pupil Edition pp. A25, A78, B16, B52, C31, C56, D38, D73, E12, E42 Grade 7 Pupil Edition pp. A36, A68, B7, B74, C18, C44, D34, D60, E30, E59</p> <p>Consumer Wise features provide multiple opportunities for students to find valid health-related information: Grade 5 Pupil Edition pp. A7, A30, A47, B15, B41, C25, C67, D5, D64, D75, E 11, E41 Grade 7 Pupil Edition pp. A19, A60, B6, B23, B51, C12, C71, D5, D48, E 1 6, E61</p>
3.Demonstrate the ability to practice health-enhancing behaviors and reduce their health risks	<p><b><i>Macmillan/McGraw-Hill Health &amp; Wellness</i></b> provides direct instruction and practice of the Life Skills, Practice Healthful Behaviors and Manage Stress, at grades K-8. (Note: in Grades K-2, Practice Healthful Behaviors is called Practice Healthful Habits.) Life skills activities provide opportunities for students to practice what they have learned. At each grade, these skills are developed in Learning Life Skill features and practiced in the Life Skills Activities throughout the lessons of the book.</p> <p>Grade 1 Practice Healthful Habits Direct instruction: Teacher Edition pp. 104-105; Life Skills Book pp. 12-13</p>

(Table continued)

**Table 2. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the National Health Education Standards (NHES)**

<b>NHES Standard</b>	<b><i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7</b>
<p>3. Demonstrate the ability to practice health-enhancing behaviors and reduce their health risks</p>	<ul style="list-style-type: none"> <li>• Life Skills Activities: Teacher Edition pp. 5, 7, 57, 59, 71, 79, 85, 103, 104-105, 112, 1217, 123, 131, 133, 137, 151, 179, 189, 203, 215</li> </ul> <p>Grade 1 Manage Stress</p> <ul style="list-style-type: none"> <li>• Direct instruction: Teacher Edition pp. 192-193; Life Skills Book pp. 18-19</li> <li>• Life Skills Activities: Teacher Edition pp. 192-193, 194</li> </ul> <p>Grade 5 Practice Healthful Behaviors</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A6-A7 B30-B31</li> <li>• Life Skills Activities: Pupil Edition pp. A9, B30-B31, B55, C21, D49, E49</li> </ul> <p>Grade 5 Manage Stress</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A34-A41 D70-D71</li> <li>• Life Skills Activities: A39, B9, D29, D70-71</li> </ul> <p>Grade 7 Practice Healthful Behaviors</p> <ul style="list-style-type: none"> <li>• Direct Instruction: Pupil Edition pp. A5-A7, D70-D71</li> <li>• Life Skills Activities: Pupil Edition pp. B37, B63, C49, D70-D71, E63</li> </ul> <p>Grade 7 Manage Stress</p> <ul style="list-style-type: none"> <li>• Direct Instruction: Pupil Edition pp. A30-A37, C22-C23</li> <li>• Life Skills Activities: Pupil Edition pp. A35, C22-C23, D48</li> </ul>

(Table continued)

**Table 2. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the National Health Education Standards (NHES)**

NHES Standard	<p style="text-align: center;"><i>Macmillan/McGraw Hill Health &amp; Wellness</i>  <b>Representative Examples from Grades 1, 5 and 7</b></p>
<p>4. Analyze the influence of culture, media, technology, and other facts on health</p>	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides direct instruction and extensive practice of the Life Skill, Analyze What Influences Your Health (Culture, Media, Technology and other factors) at grades K-8. At each grade, this critical skill is developed through a Learning Life Skill feature and practiced in the Life Skills Activities throughout the lessons of the book.</p> <p>For example, in Grade 3 students build upon and reinforce skills they encountered in previous grades on pages E8 and E9, which demonstrates the role of advertising and how it may influence product purchasing decisions. A Consumer Wise activity is incorporated into the lesson in which students choose an advertisement for a health product from a newspaper, a magazine, or television, and then analyze whether the ad gives enough information to make a responsible decision. A subsequent Life Skill activity, <i>Make Responsible Decisions</i>, provides another opportunity for students to analyze advertising. The students see a commercial for an expensive toothbrush and then follow the four steps to making a healthful decision to determine what actions to take regarding the advertisement.</p> <p>Every grade incorporates explicit instruction, activities, practice, built-in assessment and follow up to help students make positive health choices.</p> <p>Representative examples:</p> <p>Grade 1: Think About Your Health Choices</p> <ul style="list-style-type: none"> <li>• Direction instruction: Teacher Edition pp. 206-207; Life Skills Book pp. 20-21</li> <li>• Life Skills Activities: Teacher Edition pp. 135, 165, 206-207, 208</li> </ul> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A82, B48-B49; D14-D15</li> <li>• Life Skills Activities: Pupil Edition pp. A67, B29, D21, D77, E21</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A14-A15; B48-B49; B54-B55, B63, B70-B71, D22-D23, D30: B70-B71</li> <li>• Life Skills Activities: Pupil Edition pp. A15, A29, B70-B71, C11, E6</li> </ul>
<p>5. Demonstrate ability to use interpersonal communication skills to enhance health</p>	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> teaches students to communicate effectively, including verbal communication, non-verbal communication, body language, and active listening. The program also provides direct instruction and practice in interpersonal communication skills, including Use Communication Skills, Resolve Conflict and Use Resistance Refusal skills throughout Grades K–8. At each grade, communication skills are developed in a Learning Life Skill feature and practiced in the Life Skills Activities throughout the lessons of the book.</p>

(Table continued)

**Table 2. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the National Health Education Standards (NHES)**

<b>NHES Standard</b>	<b><i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7</b>
5. Demonstrate ability to use interpersonal communication skills to enhance health	<p>Representative Examples:</p> <p>Grade 1: Communicate</p> <ul style="list-style-type: none"> <li>• Direct instruction: Teacher Edition pp. 218-219; Life Skills Book pp. 22-23</li> <li>• Life Skills Activities: Teacher Edition pp. 17, 27, 107, 205, 218-219, 220</li> </ul> <p>Grade 1: Resolve Conflicts</p> <ul style="list-style-type: none"> <li>• Direct instruction: Teacher Edition pp. 38-39, 40-41; Life Skills Book pp. 6-7</li> <li>• Life Skills Activities: Teacher Edition pp. 38-39, 40-41, 42</li> </ul> <p>Grade 1: Say “No”</p> <ul style="list-style-type: none"> <li>• Direct instruction: Teacher Edition pp. 12-13, 152-153; Life Skills Book pp. 14-15</li> <li>• Life Skills Activities: Teacher Edition pp. 12-13, 143, 145, 152-153, 154, 161, 171</li> </ul> <p>Grade 5: Use Communication Skills</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A52-A57, E14-E15</li> <li>• Life Skills Activities: Pupil Edition pp. A24, A57, C35, C67, D35, E35</li> </ul> <p>Grade 5: Resolve Conflicts</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A58-A63, C72-C73</li> <li>• Life Skills Activities: Pupil Edition pp. A63, C72-C73</li> </ul> <p>Grade 5: Resistance Skills</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A32, A84-A85, C69</li> <li>• Life Skills Activities: Pupil Edition pp. A33, A84-A85B47, C77, D39</li> </ul> <p>Grade 7: Use Communication Skills</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A42-A47</li> <li>• Life Skills Activities: Pupil Edition pp. A45, A46-A47, E22, E43</li> </ul> <p>Grade 7: Resolve Conflicts</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A64-A69, C50-C51</li> <li>• Life Skills Activities: Pupil Edition pp. A67, C37</li> </ul> <p>Grade 7: Resistance Skills</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A60-A63, A74-A75, D15, D21, D24-D25, D31, D59</li> </ul>

(Table continued)

**Table 2. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the National Health Education Standards (NHES)**

<b>NHES Standard</b>	<b><i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7</b>
6. Demonstrate ability to use goal-setting and decision-making skills to enhance Health	<p><b><i>Macmillan/McGraw-Hill Health &amp; Wellness</i></b> provides direct instruction and practice of the Life Skills, Set Health Goals and <i>Make Responsible Decisions</i> at Grades K–8. At each grade, these skills are developed through a Learning Life Skill feature and practiced in the Life Skills Activities throughout the lessons of the book.</p> <p>Setting health goals is an ongoing part of <b><i>Macmillan/McGraw-Hill Health &amp; Wellness</i></b>. One example found in Grade 3 (Chapter 3), demonstrates how students learn about muscles and the care of muscles. Students are taught that regular physical activity makes muscles thicker and strong and then practice the learning through Practicing the Life Skill: <i>Set Health Goals</i>. Students set a goal to get plenty of exercise and then explain how the goal might affect their health. Students describe a plan to reach the goal and then evaluate how well their plan is working (14-B15).</p> <p>Representative Examples:</p> <p>Grade 1: Set Health Goals</p> <ul style="list-style-type: none"> <li>• Direct instruction: Teacher Edition pp. 20-21; Life Skills Book pp. 4-5</li> <li>• Life Skills Activities: Teacher Edition pp. 20-21, 22, 29, 31, 49, 95, 139, 181</li> </ul> <p>Grade 1: Make Wise Decisions</p> <ul style="list-style-type: none"> <li>• Direct instruction: Teacher Edition pp. 10-11, 64-65, Life Skills Book pp. 8-9</li> <li>• Life Skills Activities: Teacher Edition pp. 10-1 1, 37, 64-65, 66</li> </ul> <p>Grade 5: Set Health Goals</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A12-A15 (includes making a Health Behavior Contract), E38-E39</li> <li>• Life Skills Activities: Pupil Edition pp. A15, A77, C29, C47, D15, D65, E27, E38-E39</li> </ul> <p>Grade 5: Make Responsible Decisions</p> <ul style="list-style-type: none"> <li>• Direct Instruction including the Guidelines for Making Responsible Decisions™: Pupil Edition pp. A28-A29, A40-A41</li> <li>• Life Skills Activities: Pupil Edition pp A40-A41, A83, B25, B60, C 14, C65, D9, D59, E7, E43</li> </ul> <p>Grade 7: Set Health Goals</p> <ul style="list-style-type: none"> <li>• Direct instruction including Making a Health Behavior Contract: Pupil Edition pp. A8-A9, A10-A11</li> </ul>

(Table continued)



**Table 2. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the National Health Education Standards (NHES)**

NHES Standard	<i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7
6. Demonstrate ability to use goal-setting and decision-making skills to enhance Health	<ul style="list-style-type: none"> <li>• Life Skills Activities: Pupil Edition pp. A9, A10-A11, A63, A73, B15, B49, B69, C9, C31, C63, C65, D13, D31, D54, D67, E27, E32, E49, E66</li> </ul> <p>Grade 7: Make Responsible Decisions</p> <ul style="list-style-type: none"> <li>• Direct instruction including the Guidelines for Making Responsible Decisions™: Pupil Edition pp. A18-A21, B236-B27</li> <li>• Life Skills Activities: Pupil Edition pp. A20, A53, B9, B54, C 17, C55, D22, D73, E 15, E55</li> </ul>
7. Demonstrate the ability to advocate for personal, family, and community health	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides direct instruction and practice in the Life Skill, Be a Health Advocate (for personal, family, and community health). Direct instruction occurs in the Learning Life Skills feature and practice is found in the Life Skills Activities throughout the lessons of the text in each grade.</p> <p>Grade 1: Help Others be Healthy</p> <ul style="list-style-type: none"> <li>• Direct instruction: Teacher Edition pp.86-87; Life Skills Book 10-1 1</li> <li>• Life Skills Activities: Teacher Edition pp 51, 55, 61, 75, 83, 86-87, 88-, 99, 127, 129, 149, 163, 191, 217</li> </ul> <p>Grade 5 Be a Health Advocate</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A50-A51, D22-D23</li> <li>• Life Skills Activities: Pupil Edition pp. A21, A51, B13, C51, D22-D23, D69, E53</li> </ul> <p>Grade 7 Be a Health Advocate</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition Pp. A60-A61, E56-E57</li> <li>• Life Skills Activities: Pupil Edition pp. B33, B77, C75, E56-E57</li> </ul> <p>The Coordinated School Health System involves students, families, community, and school. A good coordinated school health program, with effective health education, can help ensure students are fit, healthy, and ready to learn every day.</p>



**Table 3. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the CCSSO/SCASS Health Education Assessment Project Framework**

<b>CCSSO/SCASS Content Area</b>	<b><i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7</b>
Alcohol and other Drug Use Prevention	Chapter 7: Alcohol, Tobacco, and Other Drugs Grade 1 Teacher Edition Chapter 7, pp. 155-174, Reader: <i>Medicines and Drugs</i> Grade 5 Pupil Edition Chapter 7, pp. D1-D43 Grade 7 Pupil Edition Chapter 7, pp. D1-D43
Community Health	Chapter 9: Consumer and Community Health Grade 1 Teacher Edition Chapter 9, pp. 195-201, Reader: <i>Be Health Wise</i> Grade 5 Pupil Edition Chapter 9, pp. E16-E27, E22-E28 Grade 7 Pupil Edition Chapter 9, pp. E12-E17, E28-E34
Consumer Health	Chapter 9: Consumer and Community Health Grade 1 Teacher Edition Chapter 9, pp.200-208, Reader: <i>Be Health Wise</i> Grade 5 Pupil Edition Chapter 9, pp. E1-E15 Grade 7 Pupil Edition Chapter 9, pp. E18-E27; also Chapter 5, pp. C10-C13
Environmental Health	Chapter 10: Environmental Health Grade 1 Teacher Edition Chapter 10, pp. 209-220, Reader: <i>A Clean Earth</i> Grade 5 Pupil Edition Chapter 10, pp. E30-E56 Grade 7 Pupil Edition Chapter 10, pp. E36-E70
Mental and Emotional Health	Chapter 1: Mental and Emotional Health Grade 1 Teacher Edition Chapter 1, pp. 1-22, Reader: <i>Health and You</i> Grade 5 Pupil Edition Chapter 1, pp. A1-A43 Grade 7 Pupil Edition Chapter 1, pp. A1-A39
Nutrition and Dietary Behavior	Chapter 4: Nutrition Grade 1 Teacher Edition Chapter 4, pp. 67-88, Reader: <i>Healthful Foods</i> Grade 5 Pupil Edition Chapter 4, pp. B34-B64 Grade 7 Pupil Edition Chapter 4, pp. B42-B80
Physical Activity Promotion	Chapter 5: Personal Health and Physical Activity Grade 1 Teacher Edition Chapter 5, pp. 106-112, Reader: <i>Staying Clean and Fit</i> Grade 5 Pupil Edition Chapter 5, pp. C16-C38 Grade 7 Pupil Edition Chapter 5, pp. C14-C38

(Table continued)

**Table 3. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the CCSSO/SCASS Health Education Assessment Project Framework**

CCSSO/SCASS Content Area	<i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7
Sexuality and Family Life	Chapter 2: Family and Social Health Chapter 3: Growth and Development  Grade 1 Reader: <i>Your Family, Your Friends, and You</i> ; also Chapter 3, pp. 43-66, Reader: <i>Your Growing Body</i> Grade 5 Pupil Edition Chapter 2, pp. A46-A88; also Chapter 3, pp. B1-B33; also <i>Your Body Book</i> component Grade 7 Pupil Edition Chapter 2, pp. A40-A80; also Chapter 3, pp. B1-B40; also Chapter 8 D56-D61; <i>Your Relationships</i> component
Tobacco Use Prevention	Chapter 7: Alcohol, Tobacco, and Other Drugs  Grade 1 Teacher Edition Chapter 7, pp. 164-167 Grade 5 Pupil Edition Chapter 7, pp. D16-D23 Grade 7 Pupil Edition Chapter 7, pp. D18-D25
Unintentional and Intentional Injury Prevention	Chapter 6: Violence and Injury Prevention  Grade 1 Teacher Edition Chapter 6, pp. 1 13-154, Reader: <i>Stay Safe</i> Grade 5 Pupil Edition Chapter 6, pp. C40-C80 Grade 7 Pupil Edition Chapter 6, pp. C40-C80

*The Macmillan/McGraw-Hill Health & Wellness* program includes a variety of assessment strategies, including performance-based assessments, which are recommended by the SCASS Health Education Assessment Project. Grades K-2 include all performance-based assessment. For example in Grade 1 (pp. 35) teachers will direct students to work at the Activity Corner: Build Character, Be Caring allowing partners take turns acting out the following situation: A child from another state is new to your classroom. The child seems frightened and alone. Show what you would say or do to make this child feel included. Teachers observe, evaluate and build upon student knowledge where applicable.

Grades 3-8 include End-of-Lesson assessment, End-of-Chapter assessment, and End-of-Unit Projects. The Assessment Book for grades 3-8 includes traditional assessment as well as performance based assessment. In an example of performance-based assessment in Grade 3 (pp. 66) students are directed to make a booklet for students that shows the first aid steps for four different injuries. Students may use words, pictures, or both words and pictures. The project involves ensuring student booklets shows what the injury is, the correct first aid steps for the injury, and information that students can understand when reading each other's work.

SCASS Health Education Assessment Project

*Macmillan/McGraw-Hill Health & Wellness* provides direct instruction on and practice building conceptual knowledge, positive attitudes, and skills related to all ten content areas identified by the Council of Chief State School Officers' (CCSSO) SCASS Health Education Assessment Project. Specific examples from *Macmillan/McGraw-Hill Health & Wellness* are cited in the following table.

## Assessment:

### Grade 1

*Macmillan/McGraw-Hill Health and Wellness* incorporates developmentally appropriate assessment at the lesson and the chapter levels.

Each lesson includes an “After Reading” or “SUM IT UP” assessment strategy.

Representative Examples: Teacher Edition pp. 5, 7, 9, 11, 13, 15, 17, 19, 21, 27, 29, 31, 33, 35, 37, 39, 41, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 71, 73, 75, 77, 79, 81, 83, 85, 87, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 159, 161, 163, 165, 167, 169, 171, 173, 179, 181, 183, 185, 187, 189, 191, 193, 199, 201, 203, 205, 207, 213, 215, 217, 219

Each chapter in the Teacher Edition includes Performance Assessment.

Representative Examples: Teacher Edition pp. 22, 42, 66, 88, 112, 154, 174, 194, 208, 220

Each chapter in the Health Masters offers a Chapter Review.

Representative Examples: pp. 10, 19, 30, 40, 51, 71, 80, 89, 95, 100.

Each Reader includes Performance Assessment.

Representative Examples: Health and You, p. 16, Your Family, Your Friends, and You, p. 16, Your Growing Body, p. 16; Healthful Food, p. 16, Staying Clean and Fit, p. 16; Stay Safe, p. 32; Medicines and Drugs p. 16; Stay Well p. 16; Be Health Wise, p. 8; A Clean Earth, p. 8.

### Grades 3–8

Each Pupil Edition lesson has a Lesson Review and in the Assessment Book a Lesson Quiz.

Grade 5 Representative Examples:

Lesson Reviews: Pupil Edition pp. A9, A15, A21, A27, A33, A41, A51, A57, A63, A67, A73, A79, A85, B9, B13, B19, B25, B31, B41, B49, B55, B61, C9, C15, C21, C29, C37, C47, C53, C59, C65, C73, C79, D9, D15, D23, D29, D35, D39, D49, D55, D59, D65, D71, D79, E9, E15, E21, E27, E39, E45, E49, E55  
Assessment Book Lesson Quizzes pp. 5-10, 16-19, 25-29, 35-38, 44-49, 55-61, 67-70, 76-78, 84-86, 92-93

Grade 7 Representative Examples:

Lesson Reviews: Pupil Edition pp. A11, A17, A21, A29, A37, A47, A55, A63, A69, A77, B9, B17, B27, B33, B39, B512, B57, B63, B71, B77, C9, C13, C23, C31, C37, C51, C55, C63, C69, C77, D9, D17, D25, D31, D39, D49, D55, D61, D71, D77, E11, E17, E23, E27, E33, E43, E49, E57, E63, E69  
Assessment Book Lesson Quizzes pp. 1-5, 11-15, 21-25, 31-35, 41-45, 51-55, 61-65, 71-75, 81-85, 91-95  
Each Pupil Edition chapter incorporates a Chapter Review including the following features: Use Vocabulary, Concept Review, Reading Comprehension, and Critical Thinking/Problem Solving. The Assessment Book for each chapter provides a chapter test which includes Health Vocabulary, Health Concepts, and Critical Thinking/Problem Solving. Also found in the Assessment Book are the features, Writing in Health and a Performance Assessment opportunity which includes a task and a rubric for self-assessment

*(Assessment continued)*

## Grade 5 Representative Examples:

- Chapter Review Pupil Edition pp. A42-A43, A86-A87, B32-B33, B62-B63, C38-C39, C78-C79, D40-D41, D78-D79, E28-E29, E54-E55
- Chapter Tests in AB: 1 1-13, 20-22, 30-32, 39-41, 50-52, 62-64, 71-73, 79-81, 87-89, 94-96
- Writing in Health in AB: 14, 23, 33, 42, 53, 65, 74, 82, 90, 97
- Performance Assessment: 15, 24, 34, 43, 54, 66, 75, 83, 91, 98

## Grade 7 Representative Examples:

- Chapter Review Pupil Edition pp. A38-A39, A78-A79, B40-B41, B78-B79, C38-C39, C78-C79, D40-D41, D78-D79, E34-E35, E70-E71
- Chapter Tests in AB: pp. 6-7, 16-17, 26-27, 36-37, 46-47, 56-57, 66-67, 76-77, 86-87, 96-97
- Writing in Health in AB: pp. 8, 18, 28, 38, 48, 58, 68, 78, 88, 98
- Performance Assessment n AB: pp. 9, 19, 29, 39, 49, 59, 69, 79, 89, 99

The Pupil Edition provides performance assessment in every unit in the Unit Activities and Project page.

Grade 5 Representative Examples: pp. A88, B64, C80, D80, E56 Grade 7 Representative Examples: pp. A80, B80, C80, D80, E72

#### Skills-Based Curriculum

As previously noted, *Macmillan/McGraw-Hill Health & Wellness* introduces and provides practice in ten life skills associated with maintaining and improving students' health and promoting health in others. Many of these life skills closely match the "generic skills" identified by researchers as effective in promoting health enhancing behavior, as shown in the following table.

**Table 4. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the Research-Based Effective “Generic Skills”**

<b>Research-Based Effective Skill</b>	<b><i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7</b>
Refusal skills	<p>Addressed through the Life Skill: <i>Use Resistance Skills</i></p> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A32, A84-A85, C69</li> <li>• Life Skills Activities Pupil Edition pp. A33, A84-A85B47, C77, D39</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A60-A63, A74-A75, D 15, D21, D24-D25, D31, D59</li> <li>• Life Skills Activities Pupil Edition pp. D24-D25, D39, D61</li> </ul>
Problem solving	<p>Addressed through the Life Skills: <i>Critical Thinking/Problem Solving</i></p> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Pupil Edition pp. A43, A87, B33, B63, C39, C79, D41, D79, E29, E55</li> <li>• Assessment Book pp. 13, 22, 32, 41, 52, 64, 73, 81, 89, 96</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Pupil Edition pp. A39, A79, B41, B79, C39, C79, D41, D79, E35, E71</li> <li>• Assessment Book pp. 7, 17, 27, 37, 47, 57, 67, 77, 87, 97</li> </ul>
Decision making	<p>Addressed through the Life Skill: <i>Make Responsible Decisions</i></p> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Direct Instruction including the Guidelines for Making Responsible Decisions™: Pupil Edition pp. A28-A29, A40-A41</li> <li>• Life Skills Activities Pupil Edition pp A40-A41, A83, B25, B60, C 14, C65, D9, D59, E7, E43</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Direct instruction including the Guidelines for Making Responsible Decisions™: Pupil Edition pp A18-A21, B236-B27</li> <li>• Life Skills Activities Pupil Edition pp. A20, A53, B9, B54, C 17, C55, D22, D73, E 15, E55</li> </ul>
Media analysis	<p>Addressed through the Life Skill: <i>Analyze What Influences Your Health</i></p> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A82, B48-B49; D14-D15</li> <li>• Life Skills Activities: Pupil Edition pp. A67, B29, D21, D77, E21</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp.A14-A15; B54-B55, B63, B70-B71, D22-D23, D30</li> <li>• Life Skills Activities: Pupil Edition pp. A15, A29, B70-B71, C11, E6</li> </ul>

(Table continued)

**Table 4. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the Research-Based Effective “Generic Skills”**

Research-Based Effective Skill	<i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7
Media analysis	<p>Addressed through the Life Skill: <i>Access Valid Health Information, Products, and Services</i></p> <p>Grade 1 (Find Health Facts. Get Help) Teacher Edition pp. 81</p> <p>Grade 5 (<i>Access Health Facts, Products and Services</i>)</p> <ul style="list-style-type: none"> <li>• Direct instruction Pupil Edition pp. E4-E15</li> <li>• Life Skills Activities Pupil Edition pp. A73, B17, B39, C36-C37, C5, C59, D55, E 13.</li> </ul> <p>Grade 7 <i>Access Valid Health Information, Products, and Services</i></p> <ul style="list-style-type: none"> <li>• Direct instruction Pupil Edition pp. C4-C9, E4-E1 1</li> <li>• Life Skills activities Pupil Edition pp. A77, B25, D9, E10.</li> </ul>
Assertiveness	<p>Addressed through the Life Skills: <i>Use Communication Skills; Use Resistance Skills; Resolve Conflicts; Be a Health Advocate</i></p> <p><b>Resolve Conflicts</b></p> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A58-A63, C72-C73</li> <li>• Life Skills Activities: Pupil Edition pp. A63, C72-C73</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp.A64-A69, C50-C51</li> <li>• Life Skills Activities: Pupil Edition pp. A67, C37</li> </ul> <p><b>Be a Health Advocate</b></p> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A50-A51, D22-D23</li> <li>• Life Skills Activities Pupil Edition pp. A21, A51, B13, C51, D22-D23, D69, E53</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition Pp. A60-A61, E56-E57</li> <li>• Life Skills Activities: Pupil Edition pp. B33, B77, C75, E56-E57</li> </ul>
Communication	<p>Addressed through the Life Skill: <i>Use Communication Skills; Be a Health Advocate</i></p> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Direct Instruction: Pupil Edition pp. A52-A57, E14-E15</li> <li>• Life Skills Activities Pupil Edition pp. A24, A57, C35, C67, D35, E35</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Direct Instruction: Pupil Edition pp.A42-A47</li> <li>• Life Skills Activities Pupil Edition pp. A45, A46-A47, E22, E43</li> </ul>

(Table continued)

**Table 4. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the Research-Based Effective “Generic Skills”**

<b>Research-Based Effective Skill</b>	<b><i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7</b>
Coping strategies for stress	<p>Addressed through the Life Skill: <i>Manage Stress</i></p> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp.A34-A41 D70-D71</li> <li>• Life Skills Activities: A39, B9, D29, D70-71</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Direct Instruction: Pupil Edition pp.A30-A37, C22-C23</li> <li>• Life Skills Activities: Pupil Edition pp. A35, C22-C23, D48</li> </ul>
Goal setting	<p>Addressed through the Life Skill: <i>Set Health Goals; Practice Healthful Behaviors</i></p> <p>Set Health Goals</p> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Direct Instruction: Pupil Edition pp. A12-A15 (includes making a Health Behavior Contract), E38-E39</li> <li>• Life Skills Activities Pupil Edition pp. A15, A77, C29, C47, D15, D65, E27, E38-E39</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Direct instruction: including Making a Health Behavior Contract: Pupil Edition pp.A8-A9, A10-A1 1</li> <li>• Life Skills Activities: Pupil Edition pp. A9, A10-A11, A63, A73, B 15, B49, B69, C9, C31, C63, C65, D 13, D31, D54, D67, E27, E32, E49, E66</li> </ul> <p><b>Practice Healthful Behaviors</b></p> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A6-A7 B30-B31</li> <li>• Life Skills Activities: Pupil Edition pp. A9, B30-B31, B55, C21, D49, E49</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Direct Instruction: Pupil Edition pp. A5-A7, D70-D71</li> <li>• Life Skills Activities: Pupil Edition pp. B37, B63, C49, D70-D71, E63</li> </ul>
Behavioral contracts	<p>Addressed through the Life Skill: <i>Set Health Goals</i></p> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Direct instruction: Pupil Edition pp. A12-A15 (includes making a Health Behavior Contract), E38-E39</li> <li>• Life Skills Activities Pupil Edition pp. A15, A77, C29, C47, D15, D65, E27, E38-E39</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Direct instruction including: Making a Health Behavior Contract: Pupil Edition pp.A8-A9, A10-A1 1</li> <li>• Life Skills Activities: Pupil Edition pp. A9, A10-A11, A63, A73, B 15, B49, B69, C9, C31, C63, C65, D 13, D31, D54, D67, E27, E32, E49, E66</li> </ul>

## Consistency

Each grade level of *Macmillan/McGraw-Hill Health & Wellness* is organized around the same ten content areas and the same ten Life Skills so that students will gain a consistent message across all grade levels to ensure acquisition of healthy habits, healthful decision-making skills, and strong problem solving skills. The following table shows the consistency from primary through intermediate grade levels

**Content Areas**

<b>Grade 1 chapters</b>	<b>Grade 5 chapters</b>	<b>Grade 7 chapters</b>
1. Health and You	1. Mental and Emotional Health	1. Mental and Emotional Health
2. Your Family, Your Friends, and You	2. Family and Social Health	2. Family and Social Health
3. Your Growing Body	3. Growth and Development	3. Growth and Development
4. Healthful Foods	4. Nutrition	4. Nutrition
5. Staying Clean and Fit	5. Personal Health and Physical Activity	5. Personal Health and Physical Activity
6. Stay Safe	6. Violence and Injury Prevention	6. Violence and Injury Prevention
7. Medicines and Drugs	7. Alcohol, Tobacco, and Other Drugs	7. Alcohol, Tobacco, and Other Drugs
8. Stay Well	8. Communicable and Chronic Diseases	8. Communicable and Chronic Diseases
9. Be Health Wise	9. Consumer and Community Health	9. Consumer and Community Health
10. A Clean Earth	10. Environmental Health	10. Environmental Health



### Life Skills

Grade 1 Life Skills	Grade 5 Life Skills	Grade 7 Life Skills
1. Find Health Facts. Get Help.	Access Health Information, Products, and Services	Access Valid Health Information, Products, and Services
2. Practice Healthful Habits	Practice Healthful Behaviors	Practice Healthful Behaviors
3. Manage Stress	Manage Stress	Manage Stress
4. Think About Your Health Choices	Analyze What Influences Your Health	Analyze What Influences Your Health
5. Communicate	Use Communication Skills	Use Communication Skills
6. Say “No”	Use Resistance Skills	Use Resistance Skills
7. Resolve Conflicts	Resolve Conflicts	Resolve Conflicts
8. Set Health Goals	Set Health Goals	Set Health Goals
9. Make Wise Decisions	Make Responsible Decisions	Make Responsible Decisions
10. Help Others Be Healthy	Be A Health Advocate	Be A Health Advocate

#### Reflecting Diversity

**Macmillan/McGraw-Hill Health & Wellness** includes visual representation of people from a variety of ethnicities and social backgrounds. The program also offers a balance of both genders in photos and illustrations. The variety of photos and illustrations throughout **Macmillan/McGraw-Hill Health and Wellness** reflect our nation’s rich multicultural population and representations are based upon the 2000 Census Bureau data. Through the strength of the illustrations and the photos, children see themselves immersed in learning health concepts and participating in each activity in every grade level. In addition, specific strategies for English Language Learners are provided throughout the lessons in the Teacher’s Editions (e.g., Grade 5 Teacher Edition p. B34D, D42D), as well as in a separate component, the *ELL Activity Guide*. The Pupil Editions for grades 3-8 include a Glossary for both English and Spanish-speaking students (e.g., Grade 5 Pupil Edition pp. R10-R20). The *School to Home Connection Book* provides home activities and letters in English and Spanish. The core components of the entire program are also available in Spanish.

Finally, the Teacher’s Editions for grades 3-8 also supply leveled activities to meet the needs of students with diverse literacy levels (e.g., Grade 7 Teacher Edition pp. D5, E5), as well as activities that encompass diverse modalities, such as spatial, linguistic, and kinesthetic.

# RESEARCH-BASED INSTRUCTIONAL STRATEGIES AND METHODS IN HEALTH EDUCATION

According to research, school health instruction that is based on skills training, social-learning theory, peer involvement, and community involvement has the greatest impact on student outcomes (Botvin & Eng, 1982, Glider, Kressler, & McGrew, 1992, Hansen, Johnson, Flay, & Graham, 1988, Johnson, 1992, Murray, Richards, Luepker, & Johnson, 1987, Schinke, Gilchrist, & Snow, 1985, Thomas, Fick, & Henderson, 1992, all as cited by Gold, 1994, p. 554).

## Peer Instruction

Researchers have concluded that peer instruction is the most effective instructional strategy for changing students' health behavior, or as Benard's review of prevention research calls it, "the lodestone of prevention" (Benard, 1990a, Dreyfoos, 1990, all as cited by Allensworth, 1994, p. 182; Tobler, 1986, p. 555). In a comprehensive review of utilizing peers as resources, Benard (1990a) asserts, . . . *the rationale for a peer resource model of education is so multifaceted and grounded in research from so many disciplines and the research evidence for the effectiveness of peer resource programs on a youth's academic and social development is so compelling*, . . . that health education curricula having as part of its goals prevention of risky health behaviors need to include environments that support this instructional strategy (Benard, 1990, as cited by Allensworth, 1994, p. 182).

For example, a meta-analysis of 143 adolescent drug-prevention programs found that peer programs are "highly effective" with average students for all categories of drugs, including cigarettes, alcohol, soft and hard drugs (Tobler, 1986, p. 555, 557). "The [mean] effect size of 44 [in this analysis], would be equivalent to an increase in success from 39.3% to 60.8% as a result of participation in the program, or a 21.5% difference" (Tobler, 1986, p. 561).

Successful peer instruction comprises these components: positive interdependence, face-to-face interactions, individual responsibility, training in social skills, time for group processing, heterogeneous composition of student groups, each child having a helper, adequate duration, and youth involvement in implementation (Benard, 1990, as cited by Allensworth, 1994, p. 182-183). Effective peer programs involve positive peer influence, cross-age and peer teaching to help maintain a drug-, alcohol- and/or tobacco-free status, peer counseling and helping, and training in specific skills (Tobler, 1986, p. 540, 559). Research suggests that for maximum effectiveness, intervention programs should include an "outreach" component where students, subsequent to their instruction, serve as change agents with friends and relatives, and use the techniques of peer instruction and cross-age mentoring (Elder, 1991, as cited by Allensworth, 1994, p.185).

## Student-Centered Instruction

Research suggests that student-centered instructional methods are highly effective in health education curricula (Seffrin, 1990, p. 153). Such methods frequently involve discovery-based approaches with ample opportunities for hands-on experiences, use of small groups and/or learning stations, and cooperative learning techniques (Slavin & Madden, 1989, as cited by Seffrin, 1990, p. 153). Additionally, they emphasize the affective domain and offer recurring opportunities for students to build their self-esteem and establish self-efficacy (Allensworth & Symons, 1989, Seffrin, 1980, Seffrin & Bailey, 1985, Stone, Perry, & Luepker, 1989, all as cited by Seffrin, 1990, p. 153).

## Focusing on the Concrete and the Near Term

According to research, children and adolescents are more interested in concrete information and “here-and-now experience” rather than hypothetical and far-off consequences (Mussen, Conger, & Kagen, 1979, as cited by Dusenbury & Falco, 1995, p. 421). Thus effective drug-prevention curricula contain information that emphasizes short-term and negative social consequences of use. This seems applicable to health education curricula that target other risky behavior as well.

## Teaching Avoidance of Risky Behaviors

Research suggests that health instruction that helps students to avoid risky health behaviors is effective. For example, according to one meta-analysis, health education programs that directly focus on changing behavior, rather than on changing attitudes, have proved effective in drug-abuse prevention education (Tobler, 1986, p. 559-560). Another meta-analysis of 84 studies found that smoking prevention programs that use social reinforcement (i.e., recognizing pressures to smoke and developing social-resistance skills) and social norms (i.e., focusing on positive, socially acceptable alternatives to smoking that increase self-esteem and/or reduce boredom or alienation) orientations consistently and significantly affect students' behavior (weighted mean effect sizes of .39 for social reinforcement and .30 for social norms) (Bruvold, 1993, pp. 875-876).

Social-resistance skills rely on interactive teaching techniques such as role-playing, discussions and small-group activities, and promote active student participation (Dusenbury & Falco, 1995, p. 421). Health education programs designed to prevent drinking and driving were found to be more effective when they use such interactive techniques (Tobler, 1994, as cited by Dusenbury & Falco, 1995, p. 421). Furthermore, research suggests broad-based programs that teach social-resistance skills can reduce drug use through high school and into young adulthood (Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995, as cited by Dusenbury & Falco, 1995, pp. 420-421).

## Multiple Intervention Strategies

Research indicates that a multiple intervention strategies approach is most likely to affect students' behavior as cited by Allensworth, 1994, p. 180). For example, two studies found that a minimum of three strategies should be employed for each targeted behavior (Green, Krueter, Deeds, & Partridge, 1980, Vincent, Clearie, & Schlucter, 1987, all as cited by Allensworth, 1994, p. 181). Additionally, a meta-analysis of 143 adolescent drug-prevention programs showed that multimodal programs were more effective at preventing drug use than those employing single modalities (. Tobler, 1986, p. 559)

## How *Macmillan/McGraw-Hill Health & Wellness* Reflects the Research on Effective Instructional Strategies and Methods

*Macmillan/McGraw-Hill Health & Wellness* incorporates the instructional strategies and methods supported in the research literature cited above, as shown in the following table.

**Table 5. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the Research-Based Effective “Generic Skills”**

Recommendation from Research	<i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7
Skills training	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides direct instruction on and multiple opportunities for students to practice ten health-related Life Skills in every grade level:</p> <ul style="list-style-type: none"> <li>• Access Valid Health Information, Products and Services</li> <li>• Practice Healthful Behaviors</li> <li>• Manage Stress</li> <li>• Analyze What Influences Your Health</li> <li>• Use Communication Skills</li> <li>• Use Resistance Skills</li> <li>• Resolve Conflicts</li> <li>• Set Health Goals</li> <li>• Make Responsible Decisions</li> <li>• Be a Health Advocate</li> </ul>
Peer involvement & peer Instruction	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides a variety of group activities for students, ranging from partners to small groups. One example in Grade 7 on pp. A16 in which students Practice Life Skills: Use Resistance Skills. The teacher directs students to work in pairs. Each pair select a situation in which people might feel pressured, and students role-play that scenario for the class, having one student apply pressure and the other demonstrate effective resistance skills.</p> <p>Activities provide opportunities for peers to investigate solutions to situations and learn steps of life skills from each other. Peers learn by investigating possible solutions; such as when they role-play situations, or evaluate choices together in a group.</p>

(Table continued)

**Table 5. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the Research-Based Effective “Generic Skills”**

Recommendation from Research	<i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7
Peer involvement & peer Instruction	<p>Representative examples of peer-involved group activities and/or peer instruction are found in:</p> <p>Grade 1</p> <ul style="list-style-type: none"> <li>• Teacher Edition: pp. 61, 73 43</li> <li>• Center Activity: How Tall? Children will explore and learn together how tall bean plants grow.</li> </ul> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Teacher Edition: pp. 33, 35, 39, 43, 55, 57, 73, 75</li> <li>• Pupil Edition p. C21, C65, A47</li> <li>• Life Skills Activity: Top Ten Risk Behaviors in TV shows — students work together to analyze TV programs for the portrayal of risk behaviors.</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Teacher Edition: pp. B9, B54 B9, Make Responsible Decisions: students role-play to investigate making a responsible decision in a safety situation.</li> <li>• Additional examples include: A45, A53, B9, B54, C1 1, C37, C55, D22, D39, E 15, E22</li> </ul> <p>Peer instruction includes training in social skills. <i>Macmillan/McGraw-Hill Health &amp; Wellness</i> offers Life Skill Activities that help students to build healthful relationships, resolve conflicts, resist negative peer pressure, and express emotions in healthful ways. Representative Examples:</p> <ul style="list-style-type: none"> <li>• Grade 1 Teacher Edition: pp. 17, 27, 31, 33, 35, 37, 39, 49, 73,152, 218</li> <li>• Grade 5 Pupil Edition: pp. A24, A33, A57, A63, A84, B47, C35, C69, C72-C73C77, D35, D39, E 14, E35</li> <li>• Grade 7 Pupil Edition: pp. A46, A67,C37, C50-C51,, D24-D25, D39, D61, E22, E43</li> </ul> <p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> helps students learn to advocate for one another’s health. Representative examples:</p> <p>Grade 1 Teacher Edition: pp. 8-9, 36-37, 86-87</p> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Pupil Edition: pp. A16-A21, A74-A89, D22-D23</li> <li>• Life Skills Activity, p. A21 in which students give each other good character awards and explain why.</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Pupil Edition pp. A12-A17, A56-A63, B33, B77, C75, E56-E57</li> </ul>

(Table continued)

**Table 5. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the Research-Based Effective “Generic Skills”**

Recommendation from Research	<i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7
Integration of social learning Theory	<p>The <i>Analyze What Influences Your Health</i> Life Skill which recurs throughout the lessons of the program is an approach based on social-learning theory. In Grade 7, one example found on pp. 29 encourages students to work in small groups to brainstorm a list of people they see in the media or read about who might influence the way the student expresses anger. If the media representative expresses anger in healthful ways, you might follow that example. If a person’s way of expressing anger was harmful, the student explains how he/she can keep from modeling that example.</p> <p>Representative Examples include:</p> <p>Grade 1</p> <ul style="list-style-type: none"> <li>• Teacher Edition: pp. 206-207</li> <li>• Life Skills Book pp. 20-21</li> </ul> <p>Grade 5</p> <ul style="list-style-type: none"> <li>• Teacher Edition pp. 20-21, 135, 165, 206-207</li> <li>• Pupil Edition A67, B29, E21, B48-49, A67, B29, B48-B49, D21, D77, E21</li> </ul> <p>Grade 7</p> <ul style="list-style-type: none"> <li>• Pupil Edition and Teacher Edition: pp. A29, A15, B70-B71, C11, E6</li> </ul>
Integration of community Involvement	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> devotes lessons in Chapters 9 and 10 and an entire chapter in every grade to community involvement (K-8), as well as providing a recurring Life Skill, <i>Be a Health Advocate</i>. In Grade 7 on page E32 the Build Character activity provides an opportunity for students to work with a group to identify volunteering opportunities in their neighborhood. Students may volunteer at their schools as a tutor or visit a patient at a hospital and read to them. After discussing with their parents or guardians, students offer their help on some project.</p> <p>Representative Examples:</p> <ul style="list-style-type: none"> <li>• Grade 1: Students learn health services that are in their community; Teacher Edition: pp. 198-199; they learn how to reduce pollution and conserve energy, Teacher Edition pp. 212-217; Big Ideas Book 86-87, 209-220, and Life Skills Book, pp. 10-11</li> </ul>

(Table continued)

**Table 5. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the Research-Based Effective “Generic Skills”**

<p><b>Recommendation from Research</b></p>	<p><b><i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7</b></p>
<p>Integration of community Involvement</p>	<ul style="list-style-type: none"> <li>• Grade 5: Teacher Edition: pp. 42-43; Reader, A Clean Earth. D22-D23, E30-E56</li> <li>• Grade 7: Pupil Edition students learn the health needs of their community and how they can volunteer to contribute to their community; Students learn how groups and individuals can reduce pollution (land, air, water); Students learn to help make a positive environment, Pupil Edition and Teacher Edition: pp. E16-E21; E32-E55B77, E38-E72; Students learn how to select health care providers in their community; Students learn how to reduce pollution in their community and how to promote a healthful, social/emotional environment, Pupil Edition pp. E12-E 17, E36-E71</li> </ul>
<p>Student-centered instruction</p>	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides ample opportunities for hands-on experiences by K-8 students, use of small groups and cooperative learning techniques, and opportunities for students to build self-esteem. Also, at the K-2 levels, Center Activities in the Teacher's Editions employ the use of learning stations.</p> <p>Representative Examples of Hands-On Activities:</p> <ul style="list-style-type: none"> <li>• Grade 1 Teacher Edition: p. 42 Students make a fan as a strategy to enjoy calm and quiet moments together. Other examples include: Teacher Edition p. 22, 66, 88, 1 12, 154, 174, 194, 208, 220</li> <li>• Grade 5 Pupil Edition/Teacher Edition: pp. A40-A41 Students make a 3-D graphic organizer to learn the steps in Making a Responsible Decision. Other examples include: Teacher Edition pp. A84-A85, A88, B30-B31, B64, C36-C37, C80, D70-D71, D80, E38-E39, E56</li> <li>• Grade 7 Pupil Edition/Teacher Edition: pp. C62. Students make a survey to find out how many students wear a seat belt, and compare results from a small group and a large group. Other hands-on activities include: Teacher Edition pp. A 10-A 11, A31. A80, B6, B 12, B 13, B 19, B24, B26-B27, B57, B65, B80, C23-C23, c58, c62, C80, D1 6, D24-D25, D80, E 10-E 11, E72. B26-B27</li> </ul>

(Table continued)

**Table 5. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the Research-Based Effective “Generic Skills”**

Recommendation from Research	<i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7
Student-centered instruction	<p>Representative Examples of Small Groups/Cooperative Techniques:</p> <ul style="list-style-type: none"> <li>• Grade 1 Teacher Edition: p. 79</li> <li>• Grade 5 Pupil Edition/Teacher Edition: pp. A7, A21, A24, A33, A39, A41-A42, A49, A51, A57, A63, A70, A73, A84-A85, B7, B25, B47, B48-B49, B55, C35, C36, C37, C65, C69, C72-C73, C77, D21, D29, D35, D39, D70-D71, E 14-E 15, E35, E38-E39, E43, E49, E53</li> <li>• Grade 7 Pupil Edition/Teacher Edition: pp. A10-A1 1, A29, A45, A46-A47, A53, A63, A67, B9, B25, B26-B27, B32, B70-B71, B77, C22-C23, C34, C35, C37, C47, C50-C51, D 11, D22, D24-D25, D39, D70-D71, E 10-E 11, E 15, E56-E57, E66, E68</li> </ul> <p>Representative Examples of Self-Esteem Activities Grade 1 Teacher Edition: pp. 48-49</p> <ul style="list-style-type: none"> <li>• Grade 5 Pupil Edition: pp. A15, A17, A21, A26, B28, B29,A 16-A21</li> <li>• Grade 7 Pupil Edition: pp. A22-A29A23, A26, A73, B73, B76, B77</li> </ul> <p>An example of using Learning Station students use manipulative materials in group-centered activities:</p> <ul style="list-style-type: none"> <li>• Grade 1 Teacher Edition: pp. 1, 23, 43, 67, 89, 113, 155, 175, 195, 209</li> </ul>
Focusing on the concrete and the near term	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides instruction that focuses on short-term effects and negative consequences, such as in the case of lessons on drug abuse. As an example in Grade 7 (pp. D21) students are directed to use resistance skill to resist pressure to use tobacco:</p> <ol style="list-style-type: none"> <li>1.Say “no” in a firm voice. Be assertive.</li> <li>2.Give reasons for saying “no.”</li> <li>3.Be certain your behavior matches your words. Do not pretend to take a puff. Avoid situations where teens are smoking.</li> <li>4.Ask an adult to help if you need help.</li> </ol> <p>Representative examples of other such lessons:</p> <ul style="list-style-type: none"> <li>• Grade 1 Teacher Edition: pp. 162-169, Students learn that alcohol can cause them to hurt themselves. Other examples: pp. 1 66-167 students learn that buying tobacco and alcohol at their age is against the law.</li> </ul>

(Table continued)



**Table 5. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the Research-Based Effective “Generic Skills”**

Recommendation from Research	<i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7
Focusing on the concrete and the near term	<ul style="list-style-type: none"> <li>• Grade 5 Pupil Edition: pp. D12, D14–D15, D1, Students learn short-term effect of tobacco, including stains, smells, fires and burns. Students also learn on p. D19 that buying tobacco at their age is against the law. On pages D24–D29 students learn about illegal drugs.</li> <li>• Grade 7 Pupil Edition: pp. D13, D14, D21, D30, Students learn that smokeless tobacco can produce bad breath, tooth decay, black and hairy tongue, and stained fingers and teeth. On pages D30 students learn that alcohol at their age is against the law, and that teen use of alcohol can result in fatal car crashes.</li> </ul>
Teaching avoidance of risky Behaviors	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> gives students ample and varied opportunities to plan health behavior contracts and practice healthful behaviors. In the feature Set Health Goals, health behavior contracts are consistently developed in four steps throughout the program.</p> <p>Step 1: Students write the health goal that he or she wants to set.            Step 2: Student tells how the health goal will affect their health.            Step 3: student describes a plan to follow and a means to track progress (i.e., a weekly calendar is filled in as necessary).            Step 4: After a given period of time, the student assesses progress.</p> <p>Representative Examples include:</p> <ul style="list-style-type: none"> <li>• Grade 1 Teacher Edition pp. 20--21, 29, 49, 95, 139, 181 21, 104-105, and Life Skills Book pp.4-5, 4-5, 12-13</li> <li>• Grade 5 Pupil Edition pp. A9-A15, A77, B30-B31, C29, C47, D15, D65, E27, E38-E39</li> <li>• Grade 7 Pupil Edition pp. A8-A1 1, A63, A73, B37, B63, C9, C31, C63, C65, D 13, D31, D54, D67, E29, E32, E49, E66</li> </ul> <p>Practice Health Behaviors is consistently developed in 4 steps:            Step 1: Students learn about a healthful behavior            Step 2: Students practice a healthful behavior in a correct way.            Step 3: Students ask for help if they need it.            Step 4: Students explain how they make their behavior a habit.</p>

(Table continued)

**Table 5. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the Research-Based Effective “Generic Skills”**

Recommendation from Research	<i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7
Teaching avoidance of risky Behaviors	<p>Representative Examples:</p> <ul style="list-style-type: none"> <li>• Grade 1 Teacher Edition pp. 5, 7, 57, 59, 71, 79, 85, 104-105, 131, 133, 137, 151, 179, 189, 203, Life Skills Book pp. 12-13</li> <li>• Grades 5 Pupil Edition pp. A9, B30-B31, B55, C21, D49, E49</li> <li>• Grade 7 Pupil Edition pp. B37, B63, C49, D70-D71, E63</li> </ul> <p>Strategies that emphasize social reinforcement to help adolescents to avoid risky behaviors (such as smoking: Grade 7 Pupil Edition pp. D18-D25) are also provided. These activities build positive peer influences through advocacy. Advocacy is taught consistently in four steps.</p> <p>Step 1: Students select a health-related concern            Step 2: Students gather reliable information            Step 3: Students develop their purpose and target audience            Step 4: students develop a convincing message</p> <p>Representative Examples:</p> <ul style="list-style-type: none"> <li>• Grade 1 Teacher Edition pp. 164-165 51, 55, 61, 75, 83, 86-87, 88, 99, 127, 129, 149, 163, 191, 217, Life Skills Book pp. 10-1 1</li> <li>• Grade 5 Pupil Edition pp. D16-D22 A21, A51, A81, B13, D22, D23</li> <li>• Grade 7 Pupil Edition pp. D20-D25 B33, B77, C75, E56-E57</li> </ul> <p><i>Macmillan/McGraw-Hill Health and Wellness</i> includes strategies for adhering to positive social norms that result in increasing students’ self-esteem and reducing their boredom. At each grade level, guidelines are provided for promoting positive self-esteem and specific strategies are provided for reducing boredom.</p> <p>Representative Examples:</p> <ul style="list-style-type: none"> <li>• Grade 1 Teacher Edition pp. 18-19, 48-49</li> <li>• Grade 5 Pupil Edition pp. A16, A21, A26-A27</li> <li>• Grade 7 Pupil Edition pp. A22-A37</li> </ul>

**Table 5. Alignment of *Macmillan/McGraw-Hill Health & Wellness* with the Research-Based Effective “Generic Skills”**

Recommendation from Research	<i>Macmillan/McGraw Hill Health &amp; Wellness</i> Representative Examples from Grades 1, 5 and 7
Teaching avoidance of risky Behaviors	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides opportunities for students to acquire social resistance skills by role-playing, discussion, and small group activities. Resistance skills are taught in four consistent steps.</p> <p>Step 1: Say No in a firm voice.            Step 2: Give reasons for saying NO.            Step 3: Match one's behavior with one's words.            Step 4: Ask an adult for help if needed.</p> <p>Representative Examples:</p> <ul style="list-style-type: none"> <li>• Grade 1 Teacher Edition pp. 12-13, 143-145, 152, 153, 154, 161, 171; Life Skills Book pp. 14-15</li> <li>• Grade 5 Pupil Edition pp. A32-A33, A84-A85, B47, C77, D39</li> <li>• Grade7 Pupil Edition pp. D24-D25, D39, D61</li> </ul> <p>In addition, <i>Macmillan/McGraw-Hill Health &amp; Wellness</i> provides ample opportunities for students to acquire social-resistance skills by role-playing, discussions, and small-group activities. Examples are found in:</p> <ul style="list-style-type: none"> <li>• Grade 1 Teacher Edition pp. 14-15</li> <li>• Grade 5 Pupil Edition pp. A32-A33, A84-A85</li> <li>• Grade 7 Pupil Edition pp. A62-A63, D15, D21, D24-D25, D31</li> </ul>
Multiple Intervention Strategies	<p><i>Macmillan/McGraw-Hill Health &amp; Wellness</i> supplies multiple strategies to help students avoid risky health behaviors.</p> <p>Representative Examples:</p> <p>To help youth resist tobacco use, the curriculum provides information on the harmful effects of tobacco products and laws on tobacco use (Grade 7 Pupil Edition pp. D18-D21), group activities including role-playing for making responsible decisions and building a 3-D graphic organizer to learn the use of resistance skills (Grade 7 Pupil Edition p. D22), and instruction and skills practice on societal influences (Grade 7 Pupil Edition pp. D22-D23).</p> <p>Strategies to help teenage students reduce their risk of pregnancy include providing information (Grade 7 Pupil Edition pp. A74-A77, B28-B31), group activities (Grade 7 Pupil Edition p. B33), and instruction on societal influences (Grade 7 Pupil Edition pp. A76-A77, B32-B33).</p>

# RESEARCH-BASED RECOMMENDATIONS FOR EDUCATOR PROFESSIONAL DEVELOPMENT

As noted previously in this paper, research has identified teacher professional development as one of the common characteristics of effective health education programs (Marx, Wooley, & Northrop, (Eds.), 1998, p. 44). This finding is supported by Gold's review of the science base supporting comprehensive health education, in which it was found that teacher training was critical for effective health education programs at both the primary and middle school grade levels (Koenig, 1992, Ross, Luepker, Nelson, Saavedra, & Hubbard, 1991, Taggart et al., 1990, all as cited by Gold, 1994, p. 556).

The importance of staff development at the elementary level may be at least partially explained by a finding of the School Health Education Evaluation—that relatively few K-6 teachers are familiar with the full range of health instruction methods and objectives (Connell, Turner, & Mason, 1985, p. 318).

Two large-scale evaluations suggest that teachers who complete a targeted professional development program for health education are able to implement a health education curriculum “with more fidelity and achieve more positive effects” on their students' learning and behaviors than teachers who receive no training or who only partially complete a training program (Connell, Turner, & Mason, 1985, p. 318; Ross, Luepker, Nelson, Saavedra, & Hubbard, 1991, as cited by Institute of Medicine, 1997, p. 103).

Additionally, a meta-analysis of research on the effectiveness of staff-development practices indicates that professional development helps teachers to match their instructional strategies with their health education goals (Bennett, 1987, as cited by Allensworth, 1994, p. 182).

Just as students significantly benefit from sequential years of health education, teachers also gain from follow-up professional development, indicates the research. Gingiss, Smith, & Buckner found that “the more complex the required outcomes, the greater the need for and benefits of follow-up teacher training programs” (Gingiss, Smith, & Buckner, 1991, as cited by Institute of Medicine, 1997, p. 109). Avoidance of risky health behaviors—such as drug, alcohol or tobacco use or unprotected sexual activity—qualifies as complex outcomes. Similarly, demonstrating health-enhancing behaviors, such as nutritious dietary practices and frequent vigorous physical activity, are also complex health outcomes. All of these involve students making everyday choices about their personal lives, not merely being able to recite facts about good health.

## Characteristics of Effective Professional Development

A review of the research on school-based drug-prevention programs and interviews with leading experts in prevention research provide some details on what constitutes effective professional development for health education. For example, during training sessions, staff developers should model appropriate interactive teaching techniques, such as role-playing and small-group activities.

Teachers should also be given plenty of opportunities to practice these new techniques, and should receive feedback and reinforcement during practice. Ideally, “booster sessions” should follow initial training (Dusenbury & Falco, 1995, pp. 421-422).

## How *Macmillan/McGraw-Hill Health & Wellness* Reflects the Research on Educator Professional Development

*Macmillan/McGraw-Hill* recognizes the critical role that professional development for teachers has in an effective health education program. The authors of *Macmillan/McGraw-Hill Health & Wellness*, Professor Linda Meeks and Dr. Philip Heit, are Emeritus Professors at The Ohio State University and are coauthors of one of the leading professional-preparation textbooks for pre-service and in-service health education, *Comprehensive School Health Education with PowerWeb* (Meeks, Heit, & Page, 2001).

Meeks and Heit are also master teacher trainers. To prepare teachers to effectively implement the *Macmillan/McGraw-Hill Health & Wellness* program, the authors have developed Totally Awesome Teaching Training Workshops®. They also have instituted a Totally Awesome Train the Trainers Model for training workshop leaders.

Their professional development model stresses the importance of choosing instructional strategies to match health education goals. Furthermore, the approach to staff development is based on the assumption that teachers will teach as they were taught. Totally Awesome workshop leaders demonstrate interactive instructional techniques with teacher participants, including role-playing and small group activities. Then the participants are provided opportunities to demonstrate the interactive teaching techniques within the workshop, within ample opportunity for feedback and reinforcement.

*Macmillan/McGraw-Hill Health & Wellness* supplies additional professional development through its comprehensive and detailed Teacher's Editions. These include lesson plans that involve interactive teaching techniques and instructional strategies that align with, for example, the California Grade-Level Emphases. The Teacher's Editions also offer guidance on incorporating health education into the K-8 teacher's busy schedule. Examples of different instructional strategies are found on the following representative TE lesson pages:

- Gr. 1 TE: pp. 46-47, 60-61
- Gr. 5 TE: pp. A58-A63
- Gr. 7 TE: pp. A22-A29.

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