HEALTH EDUCATION: Evidence-Informed Practice Brief

WHAT DO WE MEAN?

*Health Education* refers to structured learning experiences during which students acquire knowledge to engage in health-informed decision making and adopt lasting healthy behaviors.\(^1\) Curricula topics commonly include alcohol and drug use, violence prevention, sexual health, nutrition, mental and emotional health, safety and injury prevention, and physical activity. Although these are typical areas of focus, health education should be based on an assessment of student and community health needs, planned in collaboration with the community, and include an assortment of topics that address relevant health needs. Instruction should be offered for students in grades pre-kindergarten through 12 and provided by qualified and trained teachers.\(^1\) In addition to the structured classroom setting, students may obtain health information during a visit to the school nurse, through posters or public service announcements, and via general conversations with peers and family.

As health education is wide-ranging and extensive, it is essential to establish curricula that effectively and efficiently guide student learning. Successful curricula focus on well-defined health goals and outcomes using a research-based and theory-driven approach.\(^1\) As such, certified instructors are encouraged to participate in continued professional development and training in health education.\(^1\) In general, health education instruction must be age-appropriate and developed using culturally-sensitive materials, learning strategies, and teaching methods. More specifically, an appropriate school-based health education program will address the *National Health Education Standards* (NHES).\(^6\) These standards can support teachers, administrators, and policymakers in promoting healthy behaviors and health-based decision-making through curriculum development, teaching strategies, and student assessment. Further, NHES provides an accepted conceptualization across students, families, and communities of what comprises health education. Together, the standards support teachers, other school staff, parents, and community members in fostering student ability to understand health promotion and disease prevention, analyze the effect of social influences on health behaviors, and access valid health-promoting information and services.\(^6\) Students should also be able to apply health-promoting knowledge to interpersonal communication, decision-making, and goal-setting to enhance and advocate for health and reduce health risks.\(^6\)
WHY IS IT RELEVANT TO CHILD OUTCOMES?

Physical Health Outcomes

School-based health education positively impacts students’ physical health, extending beyond physical activity in gym classes. For instance, education around nutrition and healthy eating habits is associated with increases in student fruit and vegetable consumption,\textsuperscript{11, 14, 16} while simultaneously reducing fat consumption and increasing physical activity.\textsuperscript{16} Further, health education seeks to promote prevention of chronic diseases, such as cardiovascular disease and cancer.\textsuperscript{16} Education surrounding risk-taking behaviors is also associated with positive physical health benefits. For example, sexual health education has been found to reduce the likelihood of teen pregnancy and successfully prevent sexually transmitted infection.\textsuperscript{15, 19} Substance use education has been linked to reduced use of substances such as alcohol, marijuana, and other drugs.\textsuperscript{20, 27} Effective health education can both prevent and reduce the negative, long-lasting, and sometimes life-threatening physical effects associated with unhealthy behaviors.

Social, Emotional, and Behavioral Outcomes

Health education is also associated with positive social, emotional, and behavioral outcomes. For example, prevention and health promotion programs surrounding alcohol and substance use are associated with reduced symptoms of depression, anxiety, and antisocial behavior.\textsuperscript{25} Additionally, students have reported feeling less inclined to engage in substance use and sexual activity as a result of health education programs.\textsuperscript{4, 20, 23} Programs targeting healthy eating behavior have also been effective in improving students’ attitudes toward healthy foods and preferences that can lead to healthy food choices.\textsuperscript{11} Not only does health education have the capacity to impact student behavior and physical health, but it plays a role in students’ emotions and attitudes that impact the mind.

Academic Outcomes

Research demonstrates a strong connection between healthy behaviors and academic achievement, including improved grades, standardized test scores, graduation rates, and attendance.\textsuperscript{2, 3, 21, 24} For example, students with higher grades are more likely to regularly eat breakfast and vegetables, engage in physical activity, and get 8 or more hours of sleep compared to students with lower grades.\textsuperscript{18} Additionally, such students are less likely to smoke cigarettes, use electronic vapor products, or drink alcohol at an early age (i.e. before the age of 13).\textsuperscript{7, 24} These behavioral habits and choices are all components of health education curricula that, if developed and implemented properly, are taught and practiced with students in schools. Since unhealthy behaviors such as poor eating habits, physical inactivity, and drug and alcohol use are commonly associated with lower academic achievement,\textsuperscript{5, 24} health education is a critical means for intervening on any negative effects such behavior may have on student success.
HEALTH EDUCATION: EVIDENCE IN ACTION

The strategies provided here summarize a review of available evidence and best practice recommendations in this domain summarized to apply broadly across health education topics. *Strategies are grouped by anticipated resource demand for implementation (e.g., funding, time, physical space, training, materials).

**Level 1 Strategies: Low resource demand**

**Utilize the Health Education Curriculum Analysis Tool (HECAT)**
- HECAT can help schools select and/or develop appropriate and effective health education curricula, as well as improve the delivery of health education for student and community needs.\(^8\)
- Schools can use this tool to review curriculum, score the accuracy, acceptability, and feasibility of curriculum content, and track scores over time.\(^8\)

**Match health education curriculum to community needs**
- Health education focused on cultural fit and the integration of multiple community systems is associated with improved outcomes in risk behavior\(^5, 23\) – that is, two different school districts may need education surrounding the same health topic, but the information may be delivered in different ways. For example, research has found that interventions targeting sexual health may be more successful with students of Hispanic or Latino backgrounds when focused on delaying sexual intercourse, whereas interventions focused on contraceptive use may be more successful with white adolescents.\(^23\)
- Schools should deliver health education curriculum in a culturally-tailored, culturally-sensitive, and community-focused manner.\(^23\)

**Level 2 Strategies: Moderate resource demand**

**Promote family involvement**
- Available evidence points to the pivotal role that family involvement can play in delaying the onset and use of alcohol and other drugs among children.\(^9, 23, 26\)
- Health education can promote parent and family involvement by including family-student homework assignments, family-student information sessions, and family information sessions in health education curriculum.\(^22\)

**Utilize interactive and active-learning components**
- Instructional programs with interactive components are associated with reduced risk-taking behaviors, including decreased drunk driving and delayed initiation of sexual activity.\(^10, 12, 23\)
- Health education lessons should include interactive and active-learning components, such as physical (e.g. role-playing, skills training) and emotional (e.g., guest speaker sharing personal experience related to the topic) involvement.\(^23\)

**Level 3 Strategies: High resource demand**

**Incorporate social learning approaches into curricula**
- Social learning theory- the idea that people learn by observing others’ behavior, attitudes, and outcomes of those behaviors- approaches are associated with positive impacts on student attitudes and reductions in risk-taking behavior.\(^13, 17, 23\) For example, a tobacco prevention curriculum should incorporate lessons on unpacking media messages promoting tobacco use, identifying influences that encourage smoking, and refusing peer pressure to smoke.\(^10\)
- Health educators can incorporate aspects of social learning theory into lessons, such as the value of relationships, impact of social media and other social influences, and resistance-skills training.\(^10, 23\)

**Extend health education across grade levels**
- Comprehensive health education is recommended across pre-K through 12th grade. For example, research suggests that interventions targeting sexual education should account for students' biological and psychological maturity and should begin before students become sexually active.\(^23\)
- Health education programming should be developmentally appropriate and introduce students to health education curricula before risk-taking behaviors begin.\(^17, 23\)

*For more information about the systematic review process we used to identify evidence-based practices, please refer to our overview brief which can be found here.*
ADDITIONAL RESOURCES

**Appropriate Practices in School-Based Health Education**
Society of Health and Physical Educators
This 2015 guide of best practices was created to assist teachers and administrators in developing and delivering health education that meets local, state, and national standards.

**Characteristics of an Effective Health Education Curriculum**
Centers for Disease Control and Prevention
https://www.cdc.gov/healthyschools/sher/characteristics/index.htm
This website, reviewed in 2015, provides a detailed list and description of important health education curriculum characteristics developed by experts in the field.

**Comprehensive School Health Education**
Connecticut State Department of Education
https://portal.ct.gov/SDE/Health-Education/Comprehensive-School-Health-Education
Updated by the Connecticut Department of Education in 2018, this website includes an overview of health education, health education teacher evaluation resources, guidelines to curriculum development, and other related resources.

**Health Education**
Alliance for a Healthier Generation
https://www.healthiergeneration.org/take-action/schools/wellness-topics/health-physical-education/health-education
This 2017 webpage includes health education assessment tools for evaluating health education in your school, suggestions for improvement, and resources covering essential topics such as healthy eating, physical activity, and more.

**Health Education Best Practices**
University of Northern Colorado Active Schools Lab
This resource includes information about health education and includes examples of health education programs.

**Health Education in Schools: The Importance of Establishing Healthy Behaviors in our Nation's Youth**
American Cancer Society, American Diabetes Association, and American Heart Association
https://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_308679.pdf
This statement from the American Cancer Society, American Diabetes Association, and American Heart Association outlines why health education is important in the schools, what quality school health education should look like, and suggested strategies to support implementation.

**Healthy Schools Program**
Alliance for a Healthier Generation
https://schools.healthiergeneration.org/tools__resources/
Updated in 2018, this webpage offers a list of links to tools and resources to help schools take action in health education, including a virtual training center for school leaders to connect with advisors, funding opportunities, success stories, a resource database, and a 6-step program to help embed health in school culture.

**School Health Education and Services**
American Public Health Association
https://www.apha.org/apha-communities/members-sections/school-health-education-and-services
Become a member here to join discussions, debates, and receive up-to-date news and research findings related to school health education.
SOURCES


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