

INNOVATING HEALTH EDUCATION IN THE NATURAL STATE

THREE YEAR EVALUATION OF HEALTHTEACHER IN ARKANSAS SCHOOLS FINDS SIGNIFICANT IMPROVEMENTS IN HEALTH KNOWLEDGE AND SKILLS ACROSS ALL GRADES AND AGES, PARTICULARLY IN ELEMENTARY SCHOOL STUDENTS

INTRODUCTION

HealthTeacher provides online health education tools (including lessons, interactive presentations, and resources) that support the integration of health into any classroom. Designed to be used as either a comprehensive health education curriculum or to supplement an existing curriculum, HealthTeacher lessons are developed by experts and are relevant to the critical health issues facing kids today (such as bullying, obesity, and depression). HealthTeacher was founded on the philosophy that **improving the health literacy of students improves their performance in the classroom – and helps them build a lifetime of healthy habits.**

HealthTeacher received the opportunity to put this philosophy into practice as part of an innovative program for students in Arkansas (also known as the “natural state”). **Initiated and sponsored by Arkansas Children’s Hospital, as part of their appropriately named “Natural Wonders” program, this initiative is designed to improve quality-of-life, health status, and education for Arkansas children.** HealthTeacher was honored to be selected and supported by Arkansas Children’s Hospital as part of this unprecedented and industry-leading collaborative, to work with teachers in delivery of health education in the classroom.

This paper examines the outcomes (both quantitative and qualitative) of the use of HealthTeacher lessons and resources within the state of Arkansas, and expansion of the program over a span of four academic years.

BACKGROUND

School Participation:

HealthTeacher’s participation in the Natural Wonders program began with a limited-pilot, designed to explore the interest level of teachers and test the acceptance of the product suite within the classroom. This pilot was fully funded by Arkansas Children’s Hospital and took place during the 2009/10 academic year. A total of 271 schools were recruited to participate from the “Coordinated School Health” initiative of the Arkansas Department of Education, Department of Health, and the Centers for Disease Control (CDC).

Positive feedback from the users of this initial pilot (teachers, guidance counselors, nurses, and school administrators) demonstrated both acceptance and a need for the HealthTeacher curriculum. This feedback led to the expansion of the HealthTeacher program including additional sponsors who joined the Natural Wonders program led by Arkansas Children’s Hospital.

During the 2010/11 academic year, Mercy joined with Arkansas Children’s Hospital to co-sponsor HealthTeacher for 352 public K-12 schools in northwest Arkansas. Similarly, in the following (2012/13) academic year, CHRISTUS Saint Michael Health System co-sponsored HealthTeacher for 39 public K-12 schools in southwest Arkansas. Additionally, the Children’s Wellness Improvement Program, funded by the Arkansas Tobacco Settlement Commission, supported the use of HealthTeacher in 42 schools for the 2010/11 and 2011/12 academic years.

The widespread adoption of HealthTeacher across hundreds of classrooms within the state of Arkansas presented a unique opportunity to evaluate the efficacy of the HealthTeacher program in this “real world context”. To this opportunity, all teachers who had access to HealthTeacher were invited to participate in an initiative to objectively measure the effectiveness of the program on their students with a Pre/Post-test methodology.

The findings within this report reflect three full academic years (2010/11, 2011/12 and 2012/13) of data from the 243 teachers who elected to participate in the Pre/Post-test initiative across 183 schools. It is important to note that none of the teachers and schools who engaged in the HealthTeacher program received any material incentive for their participation, and self-selected to enroll in this optional measurement initiative.

Student Participation:

As students develop, their need for and ability to build healthy habits and skills around health literacy evolve. In order to account for this, and to match unique points of change in the HealthTeacher curriculum, the results from student participants were divided into three cohorts: Primary, Middle and High School (grade distributions detailed below).

The total number of students who participated in this evaluation of HealthTeacher content by grade cohort, across all academic years (2010/11 -2012/13) was as follows:

COHORT	GRADES INCLUDED	TOTAL NUMBER PARTICIPANTS
Primary	4th & 5th	N=2119
Middle School	6th - 8th	N=1751
High School	9th - 12th	N=609

It is worth noting that enrollment across all cohorts was lowest in the 2012/13 academic year, as school systems and teachers in Arkansas (and across the nation) implemented the new Common Core Standards. In addition, funding for the Children’s Wellness Improvement Program through the Arkansas Tobacco Settlement Commission ended, reducing the number of schools participating during the 2012/13 academic year by 42 schools.

EVALUATION: OBJECTIVES AND MEASURES

The primary objective for HealthTeacher, within the Natural Wonders Collaborative, was **to help schoolchildren in Arkansas improve their health literacy and develop the initial skills necessary to maintain healthy habits and a healthy lifestyle over the course of their lives.** An important secondary goal was to gather information on the impact improved student health literacy has on the classroom and school environment.

HealthTeacher includes content on ten key health domains reflected in the current scientific literature and evidence-based guidelines as fundamental for improving health literacy. While every grade is offered lessons on each of the ten domains, the content is adjusted to be appropriate based on a student's age, his or her developmental need, and capacity for understanding change. Additionally teachers have the flexibility to select lessons they deem to be relevant to their students.

Each of the HealthTeacher health domains included content designed to develop eight critical skills. These skills were selected because scientific evidence overwhelmingly supports the notion that **while knowledge is fundamental to improving health literacy and developing health skills, sustained behavioral change also requires changing attitudes, beliefs and preparedness around health.** With this mix of knowledge, attitudes and behaviors, a student can understand the best option for their health – while also building on their established skills and competence to make informed choices, and apply their growing knowledge and skills in real-world situations.

The chart below details the ten health domains provided to all of the youth participating in the Arkansas initiative:

To ensure improvements in knowledge, attitudes, and behavioral preparedness – eight core skills were addressed within each domain. These included:

HEALTH DOMAINS	
1	Alcohol & Other Drugs
2	Anatomy
3	Community & Environmental Health
4	Injury Prevention
5	Mental & Emotional Health
6	Nutrition
7	Personal & Consumer Health
8	Physical Activity
9	Family Health & Sexuality
10	Tobacco

CORE SKILLS ADDRESSED IN EACH DOMAIN	
1	Concepts
2	Analyzing Influences
3	Accessing Information
4	Interpersonal Communication
5	Decision Making
6	Goal Setting
7	Self Management
8	Advocacy

RESULTS

Detailed analysis of the entire data set was completed by Steven Schwartz, Ph.D. and Jeff Shane, M.S. (independent research consultants for HealthTeacher), and presented to Arkansas Children's Hospital for review. The data set revealed that **HealthTeacher programming delivered statistically significant improvements across a wide range of key domains of health knowledge and skill across all grades and ages**. As might be expected based on development, unique differences by age/grade were observed with details on the key differences highlighted below:

Primary School Outcomes (4th & 5th Grades)

Primary Grade participants in the HealthTeacher curriculum showed significantly positive gains across all ten health domains. This group also showed the strongest gains across all of the cohorts evaluated suggesting that, like with other skills (e.g. language), these younger students may be developmentally "ready" for these learnings.

Areas of particular impact for students in 4th and 5th grade include:

- A shift in the willingness of the children to "engage in a dialogue with a parent on health" – a fundamental behavioral skill for fostering, using, and maintaining, a strong support system for health and well-being upon which to build as they enter middle school.
- The most significant percentages of improvement were in the Family Health & Sexuality and Tobacco domains. These topics are also especially relevant for youth entering middle school, as risk data shows a significant increase in sexual activity and tobacco use among middle and high school students.
- Significant improvements were also made in awareness around the importance and value of Physical Activity – particularly improvements in goal setting for physical activity and knowledge around the benefits and value of stretching.
- Additionally, there were significant increases in the knowledge of Community & Environmental Health.

Middle School Outcomes (6th – 8th Grades)

The Middle School cohort also showed significant improvements across a wide range of health content, with the most notable gains in Mental & Emotional Health. Areas of particular improvement for middle school students, included:

- Improvements in Self-confidence – This is a critical finding as this age group is most vulnerable to peer influence and often experiences a higher incidence of bullying.

- Significant increases in Empathy, Assertiveness and Self-esteem – These are all important outcomes for this age range as socialization, interpersonal skills, and confidence play a key role in middle school adaptation and adjustment. Improvements in Self-assertiveness and Self-confidence were also reflected across specific health topics. For example, there was a statistically significant improvement in their ability to resist social pressure to smoke. Important to note, these are also skills that decrease the likelihood of bullying and violence.

High School Outcomes (9th – 12th Grades)

The findings also showed that HealthTeacher resources had an impact on the High School students - however, the pre/post gains were not as strong as those observed in the younger grades. The overall weaker impact is likely to be partially driven by “ceiling effects” (i.e. older students’ informational knowledge, cognitive development, and life experiences have more deeply fixed their health habits). In addition, the High School cohort had fewer participants overall.

Nonetheless, there were some very important changes in key functional areas relevant for this age group:

- Significant improvement in Interpersonal Control was noted. Particularly, improvements in knowledge around interpersonal issues of jealousy, control and abuse were identified.
- Significant improvement in Nutritional Knowledge – This increase was attributable to the improved knowledge regarding the risks and limitations of fad diets and increases in health-seeking behaviors (e.g. visiting the MyPlate website).
- A significant improvement was shown in Physical Activity, and positive trends were also shown for knowledge in Alcohol & Drugs, Community & Environmental Health, and Anatomy.

Overall, analysis of the pre/post **data shows significant improvements across all ages, and provides quantitative support for this initiative’s primary objective: Improving health literacy of K-12 students and developing the initial skills necessary to maintaining healthy habits and lifestyle over the course of their lives.** While this study cannot say how these students will continue to use what they learned over time, the findings do support this aim in two ways. First, the younger students appear to be more receptive to the information. Second, the HealthTeacher content that is most impactful appears to be consistent with the developmental challenges faced by the different grade cohorts regarding health.

TEACHER TESTIMONIALS

To examine the secondary goal of this initiative (evaluating the impact of improved health literacy in the classroom and school environment), we turn to qualitative feedback from the true experts...teachers.

An April 2013 survey of 299 Arkansas teachers using HealthTeacher in their classrooms found that...

- 85% of teachers agree that the quality of **“my health lessons have improved.”**
- 91% agree that **“my students’ health knowledge has improved.”**
- 85% agree that **“my students’ health behaviors have improved.”**

Teachers were also invited to provide individual feedback on their experience; here is just a sample of what we heard:

“Students are learning to calm themselves down.”

“Since the bullying lesson, the number of bullying issues has gone down.”

“They engage in the lessons because they are real life and easier to understand.”

“It improved the quality of student-student interaction.”

“Helped invigorate the health education experience for students.”

“They were more prepared for testing. Breathing exercise helped with stress.”

CONTINUING EFFORTS TO IMPROVE YOUTH HEALTH

Based on the results of the three-year evaluation of the impact of the HealthTeacher resources on Arkansas students, along with continued supportive feedback from Arkansas teachers, **the Arkansas Children’s Hospital is expanding the HealthTeacher program to an additional 500 public schools during the 2013/14 academic year.** With this expansion, all K-12 public schools in Arkansas — nearly 1,200 schools — will have access to the health education resources of HealthTeacher.