



Exhibit Booth for the Oral Health Literacy Curriculum (Miami University)



Oral Health Literacy eBook

<https://dlp.lib.miamioh.edu/new-etexts/>





User Interactions and Multisensory Responses to the Oral Health Literacy Curriculum

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FACT 1: Our academic website, the Digital Literacy Partnership at Miami University, promotes materials for literacy, health, and technology on learning.

Digital Literacy Partnership at Miami University

Literacy is the number one predictor of our quality of life and health status. Communication research shows that increasing access to written materials that are valid, reliable, authentic, and available for children, youth, and adults.

We invite you to explore our following three interdisciplinary databases:

- Children's Picture Book Database at Miami University**
Digital collection of picture book materials available for public, academic, and adult for building literacy skills, reading, writing, and oral communication skills, and promoting oral language.
- Health Literacy Database at Miami University**
Digital collection of educational texts for Health Literacy which promote cognitive behavioral skills to improve health status, including oral health, nutrition, and dental care.
- Health Advocacy Database at Miami University**
Digital collection of health advocacy materials that promote for health and oral care.

We welcome partnerships in digital literacy. Our current partners are found here.

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In partnership with the University Libraries
Center for Children, Youth, and Families
Materials Provided by Children

<http://dip.lib.miamioh.edu>

Healthy People 2020 lists 2 objectives relating directly to our goals in "Health Communication and Health Information Technology":

1. HC/HIT-8: Increase the proportion of quality, health-related websites.
2. HC/HIT-13: Increase social marketing in health promotion and disease prevention.

The Digital Literacy Partnership is a website compiled of 3 health-related databases, including children's picture books, public service announcements, and health literacy materials @ <https://dip.lib.miamioh.edu/>

In the Health Literacy Database at Miami University (2nd database above), a new genre of literature is available for people with low and emergent literacy. Our study focuses on an eBook for Oral Health Literacy®.



FACT 2: The eBook for Oral Health Literacy is a digital curriculum that promotes a new genre of literature for people with low and emergent literacy.

Our eBook for Oral Health Literacy® is a free, online curriculum of picture stories showing children demonstrating positive oral health habits with family, friends, and health professionals.

eBook chapter themes include: oral hygiene, nutrition, healthy beverage consumption, dental visits, and medication safety.

Realistic child-centered photographs are supported by written and spoken scripts to promote self efficacy and prosocial norms about brushing, flossing, and going to the dentist.

Our digital curriculum aims to boost reading and talking about oral health in one-minute intervals while enhancing child-patient interactions in school-based health clinics and/or community dental clinics.

Health Literacy

• Health literacy is the number one predictor of health status (WHO Europe, 2013) and a social determinant of health (U.S.CDC, 2017).

• People with limited health literacy are at risk of having less health knowledge, lower health status, higher use of health services, and higher health care costs.

• Similar to our own project, the U.S. Healthy People 2020 document is focused on reading skills:

AH-5.3.1 Increase the proportion of 4th grade students whose reading skills are at or above the proficient achievement level for their grade.

A similar objective is stated for grade 8 and grade 12.



An Electronic Text for Health Literacy® promotes functional health literacy which is one's ability to read, write, and speak about health (Ubbes, 2014).



FACT 3: Eye Tracking methodology provides a useful way to conduct process evaluation when pretesting a multisensory oral health literacy curriculum.

Eye Tracking Methodology

Eye tracking technology allows usability researchers to go beyond self-reported attitudinal data to better understand how users visually process interface content. Specifically, eye tracking can help researchers determine what users are looking at, for how long, and the visual paths taken. An important underlying assumption made in eye tracking research is the mind-eye hypothesis, which suggests that people will cognitively process what they visually attend to (Just and Carpenter 1984).

Previous eye tracking research has looked at the effectiveness of different processing strategies when text and pictures are presented together as stimuli. In these contexts, much learning occurs via textual processing (Hannus and Hyona 1999; Schmidt-Weigand et al. 2010), and people tend to attend more to the text than pictures (Rayner et al. 2001). However, integration of information gathered from text and pictures tends to lead to the best learning outcomes (Koc-Januchta et al. 2017).

Research Goal:

Our primary goal was to evaluate the usability of a curriculum prototype for improving oral health literacy. We conducted usability testing on preK-12 teachers and professional parents by collecting eye tracking data from participants after they experienced the digital curriculum under testing conditions. A collection of E-Texts comprises 12 chapters in an online eBook for Oral Health Literacy. Our two-phase pilot study describes user interactions and experiences on one E-Text chapter prototype entitled "Decisions to Keep My Teeth Health and Strong" located as an open source document at <https://dip.lib.miamioh.edu/etext/>.

Results:

We found significant differences in how the two groups, parents and teachers, visually processed slide content.

When the text and picture both appeared on the slides, teachers spent 63% of their time looking at the text and 13% of their time looking at the picture.

In comparison, parents spent 57% of their time looking at the text and 21% of their time looking at the picture.

After the audio icon was clicked for narration, teachers spent 62% of their time looking at the text and 15% of their time looking at the picture, while parents spent 55% of their time looking at the text and 26% of their time looking at the picture.

Teachers read the text word for word during narration without looking at the picture much or at all. Parents, on the other hand, would spend time looking at the picture more during the narration.

Conclusion:

Process evaluation is a necessary step in a health literacy curriculum design to determine audience preferences in multisensory processing.

Future Plans:

We plan to incorporate feedback from dental professionals and from elementary children (our target audiences) now that we have piloted the eye tracking procedures.

Other Exhibitors Across from Oral Health Literacy Curriculum





mouthwatch
Visually Connect Patients To Care
enhancing clinical outcomes

AMERICAN SOCIETY OF DENTISTRY
THE ORAL AUTHORITY on little teeth

astdd
Where oral health lives

ASTDD is committed to improving the nation's oral health by:

- Promoting strong state dental programs
- Formulating oral health policy
- Increasing awareness of oral health
- Preventing oral health disparities

Association of State and Territorial Dental Directors

Envisioning a strong and effective governmental oral health presence in states and territories to assure optimal oral health