

A Historical Interpretation of How 19th and 20th Century Books Contributed an Early Language and Vocabulary for Health Literacy

Valerie A. Ubbes and Judith A. Ausherman

Abstract

The purpose of this historical project was to compare 19th and 20th century books that originated approximately 165 years apart from collections at Miami University (Oxford, OH) in order to interpret how an early language and vocabulary may have emerged from literacy practices of reading printed books to form an early conception of health literacy. The study involved a content analysis to compare approximately 500 pages of four McGuffey Eclectic Reader Books (n = 4) and 5800 picture book bibliographies in the Children's Picture Book Database at Miami University for three purposes: 1) to conduct a preliminary exploration of the early value of visual-textual material in the historical teaching of reading and oral language development, 2) to discern how a written and oral language constituting vocabulary from the stories may have helped to develop functional literacy for the readers of the books - and potentially a functional health literacy, and 3) to explore how a health literacy model with functional, interactive, and critical components might serve as a framework for studying historical reading material in health education.

Key Words: Health Education, Health Literacy, Historical Research, Content Analysis, Reading Materials

Introduction

The study of health education history uses critical inquiry into documents, archival materials, and past events to produce interpretations of those events and materials. Identification, selection, and preservation of historical documents in school health education are limited. If such materials exist, the documents are often difficult to access in one location. This project models how health education scholars can investigate archival materials in their university libraries to help uncover information on books and materials that support the trajectory of health education history over the years. Today, print materials found within special collections of university libraries and museums are kept intact as archived original resources, but

they can be photographed or scanned into electronic formats depending on their value for improved access, investigation, and dissemination.

Historical reviews of health education in schools are available in the United States (Black, 2006; Hein, 1962; Institute of Medicine Committee on Comprehensive School Health Programs, 1995; Means, 1975) and in the United Kingdom (Young, 2005), but are extremely limited. Other than health-related timelines and events, there are few historical records on health-related books, curricula, and archival materials accessible in printed or electronic forms. Historical recordkeeping is beneficial to current and future generations so we learn the early origins, problems, and solutions of professional practices in health education. Health educators who help to establish professional organizations with annual conferences afford people opportunities to get together in a common place to discuss events, study documents, plan programs, and write new histories of the profession. Professional dialogue and historical documents can help uncover how health education emerged as a separate school subject from science, social studies, and physical education, to name a few. When professionals gain access to the history of health education, there can be more informed discussions as to why there seems to be curricular challenges and policy roadblocks in schools today. Historical record keeping can guide health educators working in school communities to share a collective narrative while continuing to write history.

Purpose

The purpose of this project was to explore the applicability of content analysis at the crossroads of qualitative and quantitative methods which is a "set of techniques involv[ing] quantifying the frequency with which certain qualities appear in a sample of documents" (Duncan, 1989, p. 27). We used a content analysis process for comparing two sets of reading materials from different time intervals in educational history. This project focused on the comparison of health-related themes tagged in 5800 books from the Children's Picture Book Database at Miami University (CPBD@MU) and the McGuffey Readers series which were published for children in seven books beginning in 1830 to the present era. These two historical resources were both developed at Miami University (Oxford, OH) and are available as print and electronic materials at that institution. Historical records show that the reading materials were established and first made available to the public in 1995 and 1830, respectively. Miami University is the 10th oldest university in the United States, opening its doors in 1809, and located equidistant between the cities of Dayton and Cincinnati, Ohio (Ellison, 2009). Miami University, the second oldest university in Ohio, was founded five years after Ohio University was chartered through an act of Congress by the Northwest Ordinance of 1787.

*Valerie A. Ubbes, PhD, MCHES, Associate Professor, Department of Kinesiology and Health, Miami University, Phillips Hall 204D, Oxford, OH 45056. Phone: 513- 529-2736; Fax: (513) 529-5006; Email: ubbesva@miamioh.edu

Judith A. Ausherman, EdD, CHES, Associate Professor, Cleveland State University, Department of Health and Human Performance, Julka Hall 150, Cleveland, OH 44115. Phone: 216-687-4884; Fax: 216-687-5410; Email: j.ausherman@csuohio.edu

* Corresponding author

Our research compared the bibliographic records of 5800 picture books listed in the CPBD@MU with the illustrated scripts found in the 1879 Revised Edition of McGuffey's Primer, First Eclectic Reader, Second Eclectic Reader, and Third Eclectic Reader from John Wiley & Sons. Visual-textual narratives in the picture book collection include a variety of life situations for children to read via illustrations, photographs, and calligraphic fonts in a range of colors including black and white. Visual-textual narratives in the McGuffey Readers included a rich collection of available literature accented by lithographic black-and-white ink drawings showing outdoor scenes and some indoor activities of children, adults, and animals. Because the CPBD@MU and McGuffey's Eclectic Readers are still available for curriculum study in the 21st century, historical scholars can study the different topics, concepts, and skills (See Table 1) that were written about and published in the 19th and 20th centuries, especially how these books and their contents may have contributed to an early language and vocabulary for health generally and health literacy specifically.

Differences in definitions exist between literacy and health literacy. Nutbeam's (2000, p. 263-264) distinctions between literacy and health literacy can be summed up by the following:

Health literacy is clearly dependent upon levels of fundamental literacy and associated cognitive development. Individuals with undeveloped skills in reading and writing will not only have less exposure to traditional health education, but also less developed skills to act upon the information received. For these reasons, strategies to promote health literacy will remain inextricably tied to more general strategies to promote literacy.

For almost two decades, health educators have used Nutbeam's three levels of literacy then three levels of health literacy from his seminal paper entitled "Health Literacy as a Public Health Goal: A Challenge for Contemporary Health Education and Communication Strategies into the 21st Century". Figure 2 identifies the basic definitions for health literacy advocated by Nutbeam (2000) with our interpretations of health literacy using updated definitions. This is done to highlight the transitions between literacy and health literacy for purposes of this research.

Research Rationale

Historical research uses critical inquiry into past materials and events to produce descriptions, analyses, and interpretations of those materials and events for understanding the present and the future. The rationale for the project emerged from pragmatism which serves as an overarching paradigm for mixed-methods research (Creswell & Clark, 2007) and claims an orientation toward "what works" and real-world practice. According to Guba and Lincoln (2005), a paradigm or worldview is a basic set of beliefs or philosophical assumptions that guide research inquiries. Of the worldviews used in research, e.g., postpositivism, constructivism, participatory advocacy, and pragmatism, we focused on pragmatism, because it allowed us to pursue our own practical concerns through action and experience when conducting the current research study through prolonged engagement and triangulation (Owuegbuzie & Leech, 2005).

This paper explains how data were collected, how the historical documents underwent content analysis and how the construction of comparative historical information can shed new light on the changing conceptualization of health literacy. Health literacy uses the literacy skills of reading, writing, and speaking to inform the language of health with its oral, written, and embodied forms. The term health literacy was first coined in 1974 in a paper calling for minimum health education standards for all school grade levels (National Library of Medicine, 2000). Though health literacy has been advanced by both health education and medical professionals over four decades, the term is still evolving. As such, collaboration for a common understanding of health literacy is still being conceptualized (Allen, Auld, Logan, Montes, & Rosen, 2017).

The next section will explain the two curricular materials that we used to investigate literacy and language practices in the recent and distant past. Our assumptions about health literacy will be developed later.

Children's Picture Book Database at Miami University

The Children's Picture Book Database at Miami University (CPBD@MU) (<https://dlp.lib.miamioh.edu>) is a bibliographical database of developmentally appropriate literature for use with children, preschool to grade three and beyond. Developed and launched in 1995 as one of the first educational websites on the internet, the CPBD@MU reached 1 million users in 2008 and continues to be used throughout the United States and 167 foreign countries. The collection of 5800 picture books are abstracted and represented online in a digital

Table 1.

Building Blocks of Curriculum Knowledge

Building Blocks of Curriculum Knowledge	Definition
Concept	Declarative knowledge that is a "big idea" or an abstract thought.
Topic	Declarative knowledge that is a categorical example or a type of concept.
Skill	Procedural knowledge that shows action or proficiency.

database and as hard copy books in the Instructional Materials Center of Miami University's King Library. The picture book collection gives educators, librarians, parents, and students a way to select, analyze, and study reading materials for use in health education, physical education, and other academic disciplines.

The development of the CPBD@MU began under the design and direction of a health educator, Valerie A. Ubbes, PhD, MCHES, who made an early explicit attempt to use children's picture books for health education curriculum and instruction. At the time, children's picture books were housed in the university library and represented in a card catalog, but the books were not organized on the library shelves alphabetically. In order to access books for health education, a systematic pulling of over 3800 books occurred so the stories could be read, abstracted, and assigned keywords for searching topics, concepts, and skills in the collection. As a result, a health literacy project emerged with four purposes in mind: 1) to establish a thesaurus with a controlled vocabulary of keywords for accessing picture books shared between health education and other academic subjects, 2) to tag any health-related topics, concepts, and skills that were identified in the visual-textual storylines of the picture books to support the writing of literature-based health education lessons and interdisciplinary unit plans, 3) to promote health-related themes in an inclusive way across the broader academic curriculum to support elementary teachers, parents, and librarians who might have limited background knowledge and vocabulary in health education and physical education, and 4) to increase access and use of picture books with health-related themes when implementing comprehensive and categorical health curricula, so children could continually build their background knowledge and vocabularies about health situations found throughout storied life narratives in the books.

From its inception, the CPBD@MU has served as a searchable electronic database for finding books on different topics, concepts, and skills across eight academic disciplines, e.g., science, math, social studies, language arts, music, art, physical education, and health education. The primary users of the CPBD@MU are teachers, faculty, librarians, parents, authors, and publishers. Users now have access to more than 5,800 picture book abstracts and bibliographies that are searchable by 1,244 keywords organized by six subject headings: Literature, Language, & Communication; Mathematics; Health and Medicine; Natural History and Natural Science; Social Studies; and Visual and Performing Arts. Users can also search alphabetically by keywords or by an open search box on the website. The project director created a dynamic but controlled thesaurus over 20 years to represent a variety of topics, concepts, and skills that form a multidisciplinary curriculum while being inclusive to health education, physical education, as well as music and art which are too often called "specials" in elementary schools in the United States. In the past, and especially during the No Child Left Behind Policy (NCLB) era from 2002 to 2015, those four academic subjects were marginalized in the school curriculum and were under supported nationally across the country with funding and curriculum time, resulting in insufficient teaching and learning across the preK-12 developmental perspective (Tingey, 2009). Historically, the NCLB policy was introduced in the House of Representatives by John Boehner (R-OH) on

March 22, 2001 and was signed into law by President George W. Bush on January 8, 2002 in a ceremony at Hamilton High School in Butler County, Ohio – the same county where Miami University is located.

In 2005 the CPBD@MU, produced and still maintained by a master health education specialist today, was cited by the International Society for Technology in Education as one of the 101 Best Web Sites for Elementary Teachers (Lerman, 2006). Two main reasons for this recognition could be highlighted: 1) the database gave educators access to a wide collection of reading books across all eight academic subjects, and 2) each book in the 5800 picture book collection could be accessed by 10 to 15 keywords to describe a storyline instead of the three keywords assigned by the Library of Congress to catalog and shelf a book in a U.S. library. Hence, access to an increased variety of picture books could be expanded for use in the elementary curriculum for all subjects and was inclusive to health-related keywords by design. Such access and equity issues would be considered a form of critical health literacy today (Figure 2), because the database provides users with an inclusive list of keywords when searching picture book bibliographies for health education and physical education purposes.

In 2013, the CPBD@MU merged temporarily with a new website called Health Literacy Spectrum, but one year later, the CPBD@MU became one of three databases and one curriculum (See Figure 1) on the Digital Literacy Partnership (DLP) in cooperation with the Center for Digital Scholarship of the Miami University Libraries (Tzoc & Ubbes, 2017). In 2019, Google Analytics data for the DLP indicated 47,460 world-wide users with 215,476 page views. The United States represents 71% of the total online sessions with 167 different countries representing the remaining 29% of the total sessions, depending on the year. The top 7 countries with the greatest access hits are the United States, Australia, Canada, United Kingdom, India, Japan, and China. The majority of the 5,800 picture books in the current collection are written in English, but 49 different languages can also be found in some of the books by searching on the keyword "language" then sorting through the collection for a preferred multicultural theme or non-English language. Of the 1,244 keywords available to search for a book's content by category or alphabetically, 306 of them are health-related keywords.

McGuffey Readers

The McGuffey Readers are a series of six books prepared and written by William Holmes McGuffey to teach reading, rhetoric, and oral elocution to schoolchildren in the 19th century. William Holmes McGuffey was professor, minister, and first librarian of Miami University. He was responsible for the compilation of the first four Readers, but it is likely that the fifth and sixth readers were compiled by his brother Alexander (Westerhoff, 1982, p. 17). A summary of lessons, themes, and topics from an original 1836 Version of the McGuffey Readers is provided in Table 5.

The McGuffey series began to appear in 1836 and 1837 prompted by a Cincinnati publishing house, Truman and Smith, who wanted another textbook to accompany the successful *Ray's Arithmetic* (Ray, 1885). The McGuffey Readers were widely used in the 1800's and are still in use in some regions of the country especially among students who are homeschooled



Figure 1.

The Digital Literacy Partnership (DLP) at Miami University which houses the Children’s Picture Book Database at Miami University (CPBD@MU)

(Bennett, 2017). William Bennett, the U.S. Secretary of Education from 1985 to 1988, recommended the McGuffey Readers as a useful educational resource to accompany and/or support his values-based publication called the *Book of Virtues* (1993), which sold over two million copies.

McGuffey’s books were not the only school books during the 19th century. According to William H. Venable (1891, p. 193), the typical schoolbooks used in frontier academies were Noah Webster’s *An American Selection*, Lindley Murray’s *English Reader*, Albert Pickett’s *American School Class Books*, James Ross’ *Latin Grammar*, Ruther’s *Arithmetic*, Jedidiah Morse’s *Geography*, and *Walker’s Readers*. When the McGuffey Readers were organized, they became a way to learn about American culture with themes of childhood, family, virtues, vices, character, education, men and women, religion, work ethic, citizenship, history, and literature (Gorn, 1998).

According to Gorn (1998, p.19), 35 percent of white children between the ages of 5 and 19 spent time in school in 1830 when the first edition of the McGuffey Readers was released. By 1850, 50 percent of children went to school, which increased to 61 percent of children in 1870. In contrast, the first legal requirement of literacy through compulsory education, was introduced by the Education Acts of 1870 in England and Wales and of 1872 in Scotland (Stubbs, 1980). By 1890, two out

of three American children were enrolled in school during the years when the McGuffey Readers had the greatest popularity for use in classroom instruction. Gorn (1998, p. 18) states:

By the time of the 1879 McGuffey edition, age-grading had come to many school districts so that children of roughly the same age and ability shared a teacher, classroom, and curriculum. But in both one-room schoolhouses and age-graded districts, memorizing passages, copying out of texts in longhand, and reciting poetry and prose with proper elocution were the typical daily classroom activity. Teachers grouped their students so that the more advanced ones acted as tutors for the less skilled. At any given time, most students might be sitting at their desks doing slate work, memorizing paragraphs, diagramming sentences, or solving arithmetic problems, while a few others stood before the teacher’s desk and demonstrated what they had learned. Throughout the nineteenth century, the spoken word was highly valued, and teachers spent considerable time instructing on proper oratorical skills. In larger classrooms, recitations occurred in unison...

The 1879 edition of The McGuffey Readers taught “good” moral character to an emerging middle class and provided children with a common knowledge and worldview. Referring to the Readers, Gorn (1998, p. 9) stated that “the basics of grammar, spelling, punctuation, and pronunciation were

Table 5.

Summary of Lessons, Themes, and Topics Included in the Original 1836 Version of the McGuffey Readers

Original 1836 Version of the McGuffey Readers	Number of Lessons	Themes in Reader	Other Topics Included
McGuffey Primer	52*	Play safely and courteously, use good manners, dress warmly for cold weather to stay healthy, be kind to animals, God sees all that we do.	Alphabet is written in upper case, lower case, and pre-cursive. New letters and words are listed at the start of each story with diacritical pronunciation symbols.
First Reader	55	Children are prompt, good, kind, honest, and truthful. Choose happiness, be grateful, and live a good life.	Phonics charts and diacritical pronunciation symbols are at the start of each story.
Second Reader	85	Table manners, behavior toward family, attitude toward God, teachers, and the poor, hope, optimism, self-determination.	Contains topics from history, biology, astronomy, zoology, botany.
Third Reader	57	Work versus idleness, nature, writings from Addison, Irving, and Bryon.	Contains rules for oral reading.
Fourth Reader	90*	Napoleon Bonaparte, Puritan fathers, God, women, education, religion, philosophy.	Contains British poetry and Biblical passages.
Fifth Reader	117*	Poetry and prose from Sigourney, Montgomery, Addison, Irving, Young, and Byron.	Practice of elocutionary lessons to increase articulation, accent, inflection, pitch, rate, emphasis and gesture.
Sixth Reader	186	111 authors were quoted such as Dickens, Shakespeare, Longfellow, and Addison, including 17 sessions from the Bible.	Contains forms of narration, composition, description, argumentation, and exposition.

*1879 Version

embedded into a middle-class morality”. Historical and current documents claim that the Readers made a profound influence on public education in the United States (Conway, 1993). From a literary point of view, the McGuffey Readers taught children recitation, penmanship, spelling, and reading. Today, we call those same skills “reading, writing, and speaking”, also collectively referred to as language arts or functional literacy. Functional literacy was coined 60 years ago for the United Nations Educational, Scientific and Cultural Organization (UNESCO) by William S. Gray (The Teaching of Reading and Writing, 1956, p. 21) in the training of adults to “meet independently the reading and writing demands placed on them” and as stated by Stubbs (1980), “the functions of literacy in a society”. In this paper, we define functional *health* literacy is defined as the ability to read, write, and speak about health (See Figure 2).

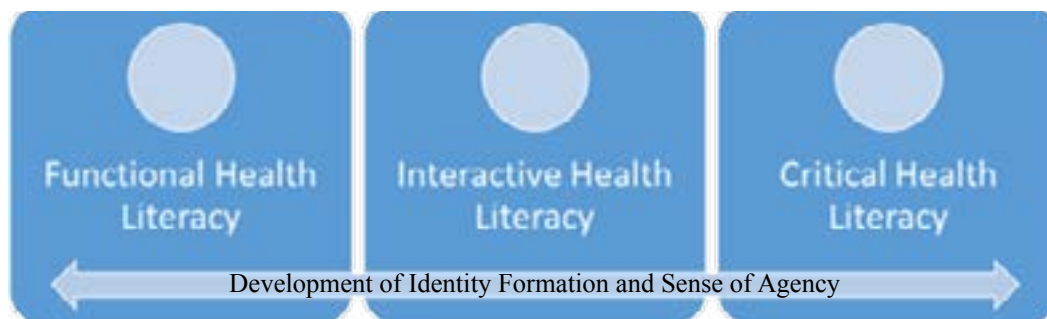
Research Design

Content analysis is a method for identifying, organizing, analyzing, and describing patterns within data. Content

analysis was conducted in the current study based on a six-step cyclical method outlined by Braun and Clarke (2006) which involves: 1) becoming familiar with the data; 2) generating initial codes; 3) transforming codes into grouped data and organizing into categories; 4) reviewing themes to determine representativeness; 5) defining and labeling categories, and 6) linking themes to existing literature.

Data for this study were collected using an exploratory mixed-method design (Creswell & Clark, 2007). The CPBD@MU data were collected via quantitative objective methods, and the McGuffey Eclectic Reader data were collected via qualitative subjective methods. Both curriculum materials went through a content analysis which examines words and phrases used in a document as a basis for data analysis. Specifically, we compared the CPBD@MU with the McGuffey Readers on three curriculum categories, e.g., topics, concepts, and skills.

Topics, a type of declarative knowledge, refer to a body of related facts or conceptual categories to be learned. Topics help to organize the content of a profession and are often unique to a discipline. Concepts are abstract words that are broad,



Updated Definition by Ubbes & Ausherman	Updated Definition by Ubbes & Ausherman	Updated Definition by Ubbes & Ausherman
Functional Health Literacy is the ability to read, write, and speak about health.	Interactive Health Literacy is interpersonal communication between people, including their interactive use of print and electronic materials for health enhancement.	Critical Health Literacy addresses issues of access and equity for health information and services. This process includes critical problem posing with creative solutions to empower people who have a variety of backgrounds, health needs, and interests.
Nutbeam's Definitions for Health Literacy	Nutbeam's Definitions for Health Literacy	Nutbeam's Definitions for Health Literacy
Functional Health Literacy: communication of information	Interactive Health Literacy: development of personal skills	Critical Health Literacy: personal and community empowerment
Nutbeam's Definitions for Literacy	Nutbeam's Definitions for Literacy	Nutbeam's Definitions for Literacy
Basic or Functional Literacy —sufficient basic skills in reading and writing to be able to function effectively in everyday situations.	Communicative or Interactive Literacy —more advanced cognitive and literacy skills which, together with social skills, can be used to actively participate in everyday activities, to extract information and derive meaning from different forms of communication, and to apply new information to changing circumstances.	Critical Literacy —more advanced cognitive skills which, together with social skills, can be applied to critically analyze information, and to use this information to exert greater control over life events and situations.

Figure 2.

New Interpretations of Health Literacy Types Based on Nutbeam's (2000) Definitions of Literacy and Health Literacy

universal, and timeless (Erickson, 1995). As a declarative knowledge, concepts are shared by two or more disciplines and help to bridge subject matter in more sophisticated ways through higher-order thinking. In contrast to topics and concepts, skills are a form of procedural knowledge that are usually action words classified as either cognitive, behavioral, social, or psychomotor. For example, health education skills defined as Habits of Mind (Ubbes, 2008) include cognitive skills such as goal setting, decision making, communication, stress management, and conflict resolution. In the CPBD@MU, these keywords help to identify picture book storylines with the following frequencies: goal setting themes are tagged in 911 picture books; decision making themes are tagged in 1,596 picture books; verbal communication themes are tagged in 2,003 picture books; non-verbal communication themes are tagged in 1,621 picture books; stress management themes are

tagged in 772 picture books; and conflict resolution themes are tagged in 1,764 picture books. Health educators can use these picture book tags (or keywords) to design skill-based instruction across health-related topics or skills.

Data Collection

Data collection for the CPBD@MU focused on an objective counting of the user "hits" for 306 keywords that are identified as health-related among a total of 1,244 total keywords across all subjects. User "hits" were tallied electronically and collected in Excel spreadsheets as patterns for analysis.

Data collection for the 1879 edition of the McGuffey Eclectic Readers One, Two, Three, and Primer were gathered via weekly telephone conversations with three researchers. The third researcher listened to the conversations to moderate the validation process between the two researchers who were

responsible for health education teacher preparation programs at their institutions.

Methodology

According to Johnson & Christensen (2008), there are multiple steps in the mixed-method research process. The researcher first determines whether a mixed-method research design is appropriate, then determines the rationale for using the design. Then the data are collected, interpreted, and described in writing.

In our exploratory content analysis, we began by first talking about the health-related themes of the picture book abstracts. Since health-related keywords were available online in the form of frequency counts when searching on a keyword, we reasoned that a mixed-research design would be warranted. When determining if the McGuffey Readers had any health-related vocabulary in the previous century, three researchers participated in weekly phone calls for one year working page-by-page to identify any topics, concepts, or skills across the Primer, First, Second, and Third Readers that were potentially health-related. Researchers were guided by the following research question: What vocabulary or language patterns did McGuffey use for teaching literacy and would any of the topics, concepts, and skills be examples of early vocabulary words for health?

After collecting and charting the comparison data for both curricular collections, the main goal was to interpret the data for any historical trends in vocabulary words or phrases. Specifically, 306 health-related keywords (e.g., topics, concepts and skills) were selected from the 1244 available keywords aligned to the storylines in 5800 children's picture books at that point in time. The McGuffey Readers were cross-examined for any occurrence of those same 306 health-related keywords that shared the same name. Decisions on which words to include were both explicit and implicit. While explicit health-related terms were easy to identify in the Readers as objective words like food and mouth, coding for other health-related terms were based on a more implicit and subjective approach. Words like garden and snowman were identified from the Readers, because these words were implied to have a relationship to health-related practices or seasonal activities.

Data Analysis

Tables 2 to 4 shows the comparison of the two different data sets and how the health-related data were organized and grouped for analysis. Themes were carefully studied and placed first into groupings with corresponding notes and page numbers, then secondly into categories by topics, concepts, and skills. The categories developed did not derive only from the data, but were also influenced by the professional experiences and values of the researchers, including the reading of the professional literature on content analysis. Care was taken to ensure that the categories reflected the data and were not manipulated to force the data to fit within the categories. Obviously, we could not interview or interact with the authors of the McGuffey Readers written by people living in the 1800's so we had to interpret the textual content (vocabulary) as if we were interviewing the books for health-related messages.

Results

Content themes of the four McGuffey Readers are organized and presented in Tables 2, 3, and 4 with comparisons to books in the CPBD@MU. Results show that the McGuffey Readers had very few topics or concepts that could be relatable to current health content without having to imply a current framework of physical health, social health, and/or emotional health vocabulary. When a word like "bed" was cited two times in the McGuffey Reader (Table 4), the word may have changed in semantic form and written in another context as a grapheme (e.g., letters or combinations of letters in a given language that serve to distinguish one word from another). Whereas the Third McGuffey Reader included the topical word "bed" two times, the CPBD@MU showed zero "hits" on the word "bed" but included the concept of "bedtime" (n = 213) one century later. This demonstrates the arbitrary and changing nature of linguistics (Linguistic Society of America, 2017) from which language and literacy are constructed.

Discussion

Content analysis research was used for this study to identify health-related themes in different reading materials that originated in the early 19th and late 20th centuries at Miami University (Oxford, OH). The study is unique because we compared historical documents that are extant and available today as digital materials for ongoing interpretation and analysis. The 19th century McGuffey Readers, known for its early inclusion of lithographic images with textual narratives for teaching reading and elocution (speaking) to school children, were compared with 5800 children's picture books from the 20th century. To our knowledge, this is one of the first historical projects to explore the value of visual-textual messages in books for children learning to read. By respecting the value of books as historical documents, we investigated the written themes available to Americans during the two centuries to determine if children and their teachers were exposed to similar health-related topics, concepts, and skills across the centuries, including the extent to which textual language and vocabulary patterns repeated across documents.

The project highlights the value of books as vehicles for transporting curriculum ideas into teaching and learning. The study of books in health education seems important because textbooks were used as the first curricula in the field before categorical and comprehensive curricula emerged in the last 40 years. The use of books in scholarly research is supported by Adams & Barker (1993) who suggest that there are three stages in the life of a book:

The first includes its creation and initial reception: this is the period during which it is used to perform the function for which it was brought into existence. The second is the period during which it comes to rest without any use or at least intensive use. It is during this period that it is in the most danger of disappearing. If circumstances are right, then it will survive until the third period. This is when it is discovered that it is a book desirable as an object, either in its own right or because of the text it contains. It documents the age that brought it into existence and thus enters the world of collecting and scholarly research.

Table 2.

Frequencies of Primer and First McGuffey Reader Vocabulary Words Compared to the CPBD@MU

Primer Vocabulary	Primer Frequency of Words	CPBD@MU Frequency of Words	CPBD@MU with Related Graphemes or Semantic Form
Baby	1	318	
Blind	2	12	Blindness= 22
Child	1	155	
Doll	4	33	
Dolls	1	68	Dolls = 1
Grief	1	37	Grief = 1
Hard Work	1	1	
Kind	6	36	
Love	1	480	Kindness = 103
Pet	1	0	Pets = 251
Play	1	581	
Snowman	1	11	
Time	1	447	
Woods	1	91	
Word	2	261	
Work	1	261	

1st Reader Vocabulary	1st Reader Frequency of Words	CPBD@MU Frequency of Words	CPBD@MU with Related Graphemes or Semantic Form
Ball	3	64	
Beach	1	117	
Bedtime	2	213	
Boats	1	14	Boat = 180
Children	2	505	
Day	1	54	
Doll	5	68	Dolls = 1
Dolls	3	68	
Friends	1	514	Friendship = 1092
Garden	1	239	
Glasses	1	34	
Grandma	1	86	Grandparents = 559
Kite	1	29	
Market	1	82	
Mother	2	434	Parents = 1342
Pet	1	0	Pets = 251
Pets	1	251	
Pond	2	87	
Safe	1	25	Safety = 149
School	1	454	
Sea	1	105	

Because the McGuffey Eclectic Readers are the oldest books in this study, another key research question guided the work: Do the McGuffey Readers make any significant contributions to the development of a health vocabulary during the 19th century and early 20th century schooling? Four patterns are considered below. First, the McGuffey Readers were a common text found across American schools. Before 1850, McGuffey Readers sold over seven million copies and by 1890, the Readers had become the basic school readers in 37 states (Clifton, 1933, p. 35). The 1879 edition of the Readers sold 60 million copies (Conway, 1993) and a total of 120 million copies sold from 1836 to 1960 with sales close in numbers to the Bible and Webster’s Dictionary (Bennett, 2017). Since 1961, approximately 30,000 copies a year have been sold in two formats: eAudiobooks were first sold by Mission Audio in 2010 and traditional printed versions are sold by General Books and Applewood Books (Bennett, 2017). Homeschooled students can download a McGuffey app called “Phonics and

Reading” based on the original McGuffey Readers and listen to the McGuffey Readers on iTunes (Bennett, 2017). These aural developments seem important since McGuffey wrote his Readers to improve oral communications (elocutions) and reading.

One could argue that the McGuffey Readers helped to set up the precedent that textbooks would become the way to study school subjects. Health education history shows that textbooks were used in classrooms along with some health curriculum kits in the 1970’s, but textbooks grew out of favor because they became outdated with ever changing facts and health topics. Since 1995, health education has focused more on skill-development, performance indicators, and standards-aligned curricula (Joint Committee on Health Education Standards, 2007). Picture books have also been used to extend and compliment health curricula, especially integrated and categorical approaches (Ubbes & Spillman, 2000).

Table 3.

Frequencies of Second McGuffey Reader Vocabulary Words Compared to the CPBD@MU

2nd Reader Vocabulary	2nd Reader Frequency of Words	CPBD@MU Frequency of Words	CPBD@MU with Related Graphemes or Semantic Form	2nd Reader Vocabulary	2nd Reader Frequency of Words	CPBD@MIU Frequency of Words	CPBD@MU with Related Graphemes or Semantic Form
Apples	1	24		Eyes	5	35	
Apron	1	3		Face	3	35	
Arms	1	11		Faces	1	12	
Aunt	2	68		Father	9	281	Parents= 1342
Baby	2	318		Father's	1	1268	Parents= 1342
Ball	1	64		Feet	2	29	
Be Careful	1	10		Finger	1	5	
Beasts	1	3		Flour	1	5	
Bedtime	1	213		Free	1	53	Freedom= 65
Birds	1	745		Friend	2	274	Friendship= 1092
Book	2	393		Friends	3	514	Friendship= 1092
Boy	7	0		Fun	1	157	
Boys	6	70		Gentleman	1	1	
Brave Boy	1	38		Girl	5	525	
Bread	3	22		Girls	3	53	
Brother	1	163	Siblings = 648	Glutton	1	0	
Brothers	2	68		Grandchildren	1	15	
Butter	1	10		Grandfather	2	114	Grandparents= 559
Cheeks	3	1		Grandmother	1	130	Grandparents= 559
Child	4	155		Grave	1	5	
Children	9	505		Hair	1	29	
Clothes	1	31	Clothing= 306	Hand	4	28	
Coat	2	11		Hands	8	21	
Comfort	1	16		Happier	2	4	Happiness= 631
Cook	1	56	Cooking= 99	Happy	4	160	Happiness = 631
Cousin	2	26		Hard	1	118	
Dark	1	46		Hat	1	0	
Dead	1	15		Head	3	51	
Dinner	3	76		Heart	1	28	
Doctor	1	62		House	1	519	
Dogs	1	37	Dog= 573	Hymn	1	0	
Doll	1	33	Dolls= 68	Joy	1	0	
Dress	1	25		Kitchen	1	28	
Ear	1	0		Knee	1	1	
Ears	1	11					
Eye	1	0					

Table 3 cont.

Frequencies of Second McGuffey Reader Vocabulary Words Compared to the CPBD@MU

2nd Reader Vocabulary	2nd Reader Frequency of Words	CPBD@MU Frequency of Words	CPBD@MU with Related Graphemes or Semantic Form
Knees	1	0	
Lashes	1	1	
Laughter	1	4	
Mama	1	57	Parents = 1342
Mamma	1	4	Parents= 1342
Man	8	0	
Men	4	0	
Milk	1	27	
Mother	18	434	Parents = 1342
Mother's	1	1268	Parents = 1342
Neck	1	1	
Noice	1	110	
Nose	1	16	
Nut	1	4	

Second, the McGuffey Readers engaged young readers to explore more complex vocabulary. According to Reeves (2010), very few students graduated from high school in 1879, but many of those students would have read the McGuffey Fourth Reader which has passages written at a ninth-grade level. Reeves (2010, p. 42) suggested that a “21st century student [today] would require twice as many years of schooling as a 19th century student to grasp the same text”. This quote emphasizes the early focus on literacy and vocabulary development as the main subject of schooling in an era when work demands often kept many children out of school.

Third, McGuffey Eclectic Readers were released in an age when public speeches were meaningfully expressed with intonation and gesture – and school children were expected to give speeches. The McGuffey Readers offered elaborate instructions on how to read and use the speaking voice at a time when there was no radio or television - only a growing production of newspapers. According to Clifton (1933), children often recited “pieces” memorized out of the Fourth Reader.

Fourth, during the 21st century, the transition from print to electronic materials has produced a variety of digital technologies (e.g., laptops, tablets, cellular phones) that have changed the way we access and use screens for leisure and for education. Because *Healthy People 2020* (USDHHS, 2010) indicates the need for more valid and reliable websites in health education, these digital changes raise the following question in the context of the current study: What was occurring in health education between the release of the McGuffey Readers in

southwestern Ohio in the 19th century and the launch of the CPBD@MU on the World Wide Web in the 20th century?

It wasn’t until 1932 when President Hoover initiated the first White House Conference on Child Health that school health education was advocated as a subject in our nation’s schools. Fifty years later as a professor in the School of Public Health at the University of Michigan, Scott K. Simonds (1974) argued that “health education is a matter of social policy” and much more health education policy formation needed to be made in the United States within the health care system, the school system, and the mass communication system. Two of the three systems had direct goals for the health of children, but all three systems impact them today.

In 1974, Simonds (1974, p. 9) argued that “Minimum standards for ‘health literacy’ should be established for all grade levels K through 12. Those school districts that fall below standards should be provided with Federal aid to develop programs with teachers qualified to teach health education”. Furthermore, Simonds (1974, p. 9) opined that “...radio and television frequencies carried with it the requirement that a portion of public service time be allocated to health education and that equal time be made available for responsible groups to counter misleading information about health”.

Today, the health “education” system is guided by the National Health Education Standards which advocate for only one hour of health instruction for children in pre-kindergarten to grade 2 and for three hours a week for children in grades 3 to 12. These minimal guidelines remain our “code of practice relating to dissemination of health information” in today’s

Table 4. *Frequencies of Third McGuffey Reader Vocabulary Words Compared to the CPBD@MU*

3rd Reader Vocabulary	3rd Reader Frequency of Words	CPBD@M1U Frequency of Words	CPBD@MU with Related Graphemes or Semantic Form
Anger	1	175	
Bed	2	0	Bedtime= 213
Bookds	1	1353	Book = 393
Child	2	155	
Children	1	505	
Courage	2	136	
Different	1	0	Differences = 256
Doctor	1	62	
Education	1	23	
Father	6	281	Parents = 1342
Folks	1	3	
Friends	2	514	Friendship= 1092
Fruit	1	42	
Fun	1	157	
Garden	3	239	
God	3	27	
Grandmother	1	130	Grandparents = 559
Grief	2	37	
Happiest	2	5	Happiness = 631
Home	2	544	
Honest	3	5	Honesty= 38
Humor	1	94	
Kind	2	36	Kindness= 103
Kite	1	29	
Lesson	1	45	
Lessons	1	32	
Lonely	2	72	Loneliness= 240
Loss	1	158	
Mother	11	434	
Neighbors	1	230	Parents = 1342
Poor	4	41	
Rain	1	205	
Sadness	1	537	
Safe	1	25	Safety= 149
School	4	454	
Snow	1	218	
Sport	1	1	Sports = 179
Teacher	2	79	
Time	3	447	
Water	1	152	
Words	4	67	

classrooms (Simonds, 1974, p. 9). As such, it seems important to advocate for printed books, electronic materials, and digital curricula as extensions to current school health education and to move these resources into community and clinical settings where children and their families also spend their time.

Applications to Literacy Development and Health

McGuffey's approach to reading grew in sophistication and complexity so that children and adults could learn to function with print and become literate and articulate (via speech practice called elocution). We chose a contemporary conceptualization of health literacy (Nutbeam, 2000) to study historical curriculum material in health education, because it has three levels of health literacy beginning with functional health literacy. Nutbeam's health literacy framework (Figure 2) is a useful way to think about the contribution of the McGuffey Readers to vocabulary development. Unless health-related words were written about and read, citizens in the 19th century would not have had an efficient way to demonstrate health literacy – the ability to read, write, and speak about health.

In the early school books of the McGuffey Readers, few notions or ideas about explicit health topics are shown. However, the language and vocabulary in the story narratives described activities about life. For example, the McGuffey stories shaped our understanding of ways in which children and their families lived out their daily activities, routines, and social interactions. The stories also showed people practicing manners and courtesies, which gave children ideas for making friends and maintaining personal relationships. In McGuffey's Second Reader, the concept of "proper", the topics of "playmates" and "playthings", and the skills of "played", "skipping", "throwing", and "asking" were introduced (Scott & Blewett, 1886).

McGuffey used a basic vocabulary that developed into more meaningful sentence constructions and applications with each advancing reader. Scott and Blewett (1886, p. iii) indicated that "The pupil should be able to use the words intelligently in sentences, to recognize and pronounce them at sight, and to spell them, before he attempts to express, by reading, the thought of the reading lesson".

The visual-textual representations written in the Readers challenged readers to explore and interact with nature, with each other, and their communities. The physical activities portrayed by characters in the lithography and in the story narrative represented an early movement vocabulary of the body in certain environments and settings. In the First Reader, McGuffey wrote word instances of beach, garden, school, and woods into his sentence constructions, laying the foundation for the same vocabulary written into picture books 100 years later. For example, the picture book database had 117 visual-textual examples of beach, 239 examples of garden, 454 examples of school, and 91 examples of woods. Hence, a proliferation of examples became available to teachers in the 20th century to help children understand the topics of beach, garden, school, and woods.

The CPBD@MU serves as a digital bibliography of children's picture books that are abstracted, organized, and accessed by keywords. When the CPBD@MU migrated to the World Wide Web in 1995, it would be only six years before the start of the 21st century which also began a new millennium. For the current study, the CPBD@MU afforded us the ability

to view the content of 5800 picture book patterns as topics, concepts, and skills, which now form the building blocks of health curricula (Ubbes & Spillman, 2000). This represents a significant proliferation of ideas beyond the previous century when McGuffey wrote his Readers with 52 vocabulary lessons for the Primer, 63 vocabulary lessons for the First Reader, 71 vocabulary lessons for the Second Reader, and 79 vocabulary lessons for the Third Reader (Scott & Blewett, 1886).

During the 19th century, concepts of wellness were not yet understood or discussed. Nor was the word health ever written into the first four Readers. However, when picture books were first read and abstracted for the database in the 20th century, the category of Health and Medicine was organized by the following 23 themes: aging, body, drugs, exercise, feelings, five senses, identification, intelligence, motivation, nutrition, play, recreation, reproduction, safety, violence, discipline, sleep, stress management, medicine, diseases, disability, disorders, and illness. Within each of the 23 themes, multiple keywords were listed and represented by dozens of books. Of this list of themes in the CPBD, only the words "play" and "safety" appeared a century earlier in the first four books of the McGuffey Primer and Readers. Hence, picture books can be valuable ways to learn health-related topics, concepts, and skills and to develop an overall vocabulary for health. As such, the health-related keywords of the CPBD@MU enable children, teachers, parents, and librarians to develop a language fluency and a functional health literacy when reading from the vast collection of book titles in the database.

Reading words and images in picture books with a 21st century modern lens illuminates how people, places, and things play an instrumental role in our concepts of life. Picture book narratives allow readers to see the myriad ways that children and their families can live a generally happy life, including how to resolve any life conflicts by the end of the book. Picture books often involve people, plants, and animals interacting within different settings and environments to depict activities of daily living. Even physical objects like toys, clothing, tools, and food are manipulated in the story narrative.

As investigators, we were careful to take the McGuffey Readers at face value and not interpret the words. For example, in Table 3, the Second McGuffey Reader shows the word "dinner" was used three times. However, the picture book database includes the word 76 times in storylines. In contrast to children who read the McGuffey Readers, today's children have multiple ideas for how people and animals experience dinner within multicultural contexts as long as teachers, parents, and librarians provide access to those multiple representations. This is true for other topics like friends and the concept of friendship. Through books, children of any time period can gain understanding about a variety of social and cultural patterns. Oral, written, and embodied forms of language can be cultivated through reading and can be understood as "situated in and shaped by different actors operating in specific social and cultural contexts" (Papen, 2017).

McGuffey lacked a proliferation of health-related topics with his Readers. For example, grandma is a topic in the First Reader and grandmother is a topic in the Second Reader. McGuffey's Second Reader also includes references to grandfather two times and grandchildren two times. The reader is left to interpret the concept of family because the word family is not written as a word choice in any of the four

Readers that were reviewed. Hence, the concept and the word “family” is assumed if we retrofit our understanding of family on the past. The words “father, sister, brother, cousin, child, and baby” are all selected vocabulary in the McGuffey Readers, but the concept family is never introduced as a word. Therefore, we must assume that the concept of family was understood quite differently in the 19th century.

Limitations

Historical documents with health-related themes are informed by cultural, sociological, moral, and political perspectives that need to be analyzed through the lens of access and equity. Unfortunately, critical health literacy was minimally explored in this study except that there was an emphasis on accessing books both in archival hard copy and digital formats to characterize how health is represented in available collections. Future analyses of historical reading materials in health education are needed with respect to gender, race ethnicity, and socioeconomic status, to name a few. Ironically, even though the McGuffey Readers were used as key curriculum texts before, during, and after the Civil War, no content about the war, slavery, or geographical North-South tensions in the United States were included. Because written texts “serve as anchors” for literacy practices (Papen, 2017), historical and contemporary topics should be interrogated. To what extent was literacy made possible from the McGuffey Readers and was it equitable for all people? By today’s standards, to what extent are diverse populations and languages represented in children’s picture books? These questions represent an important aspect of critical health literacy.

We had no models to follow regarding content analysis although we borrowed from a thematic analysis of health conference themes by Black & Ubbes (2009). Future studies will need to refine and systematize the content analysis method for historical research in health education. After we conducted our study, we found an exceptional book on critical content analysis of children’s and young adult literature (Johnson, Mathis, and Short, 2017). Future health education studies should adopt the methodology offered by these educators and scholars toward critical content analysis as a possible lens to explore critical literacy, and ultimately critical health literacy.

Implications

Public health undergraduate programs seeking accreditation from the Council on Education for Public Health are required to include coursework about health-related historical events and documents. One of the nine required curriculum standards focuses on the history and philosophy of public health as well as its core values, concepts and functions across the globe and in society. This paper might be included as a potential reading in such a course, including the use of historical books as cultural artifacts for public health - instead of only digital materials on the internet.

The current investigation sought to compare historical book collections before health education was articulated as a profession and not yet codified for instruction (Means & Nolte, 1987). By comparing the vocabulary used in four McGuffey Readers (which have been American textbooks for almost 200 years) with 5800 children’s picture books abstracted and organized online in a bibliographic database, we looked for common themes and major differences.

Our comparative analysis sought to bridge the knowledge gap between instructional resources that were used to educate for health across two centuries and raise questions about the role of reading practices and book patterns during those time periods. Undergraduate college students of today are more often steeped in contemporary issues with access to mediated news around the clock, so public health courses might outline some historical reading materials that informed the evolution of health education, then work to shed light on current inequities and disparities in the three systems, e.g., health care, school, and mass communication, outlined by Simonds (1974).

Furthermore, health education practices are often implemented in these systems through health literacy which is the number one predictor of health status (WHO Europe, 2013) with literacy and education considered social determinants of health (Centers for Disease Control & Prevention, 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. Undergraduate and graduate courses in health education could investigate the emergence of health education and health literacy initiatives to see how they have overlapped historically and still continue to inform one another. For example, current U.S. Objective AH-531 in *Healthy People 2020* focuses on increasing reading skills at or above the proficiency levels for 4th, 8th, and 12th grade students. Hence, these federal guidelines promote reading skills as important to one’s health status (USDHHS, 2010). Other examples highlight the role of oral language and written language skills when implementing approximately 100 clinical assessments to determine health literacy of clients and patients (See Health Literacy Tool Shed: A Database of Health Literacy Measures at Boston University @ <https://healthliteracy.bu.edu/all>).

Health educators could also study a few historical textbooks mentioned earlier in this paper in addition to the McGuffey Readers, then explore a variety of contemporary picture books from different time periods to provide the basis for an “extended curriculum” that promotes skill development in literacy and health. Since health education still lacks adequate time in the school curriculum, it may be important to teach health educators how to find health-related topics, concepts, and skills in a variety of reading materials for children from different cultural, linguistic, and geographic backgrounds to increase connections to critical health literacy.

Conclusion

More research is needed on the role of historical and contemporary reading materials for children in health education. The historical McGuffey Readers from the 1800’s, written by William Holmes McGuffey, included both words and some pictures. Although our current study found that health-related language and vocabulary were included in real-life contexts for the McGuffey Primer and first three McGuffey Readers, future studies should investigate other health-related words that may exist in historical documents used by children to build an early understanding of health. Because functional health literacy involves our ability to read, write, and speak about health (Figure 2), health educators can use a variety of children’s picture books to promote health-related storylines and messages through words, pictures, numbers, body language,

environmental cues, and rhythms (Ubbes, 2008). The CPBD@MU provides an online searchable tool for helping teachers, parents, and children to find books on a variety of topics, concepts, and skills in order to build a richer understanding of health-related vocabulary and illustrations. Additional studies could use the Children's Picture Book Database at Miami University as a historical tool to explore how picture books may have proliferated certain topics, concepts, and skills for health and for other academic subjects and whether those materials are authentic and realistic for children in the 21st century.

References

- Adams, T.R. & Barker, N. (1993). A New Model for the Study of the Book." In A Potencie of Life: Books in Society; The Clark Lectures, 1986-1987. Ed. Nicolas Barker. The British Library Studies in the History of the Book. London: British Library, pp. 5-43. [Whereas the historians would make the new field of the history of the book a history of people in relation to books (relegating the history of the book to a branch of social history, and thus generally dismissing and ignoring as irrelevant the work of bibliographers during the last hundred years), Adams and Barker insist that the physical object of the book--its publication, manufacturing, distribution, reception and survival--should be central to this field.]
- Allen, M.P., Auld, E., Logan, R., Montes, J.H., Rosen, S. (2017). Improving collaboration among health communication, health education, and health literacy. *NAM Perspectives*. Discussion Paper, National Academy of Medicine, Washington, DC. <https://nam.edu/improving-collaboration-among-health-communication-health-education-and-health-literacy>.
- Baker, D.W. (2006). The meaning and the measure of health literacy. *Journal of General Internal Medicine*. 21(8): 878-883. DOI: 10.1111/j.1525-1497.2006.00540.x
- Barzun, J. & Graff, H.F. (1992). *The modern researcher*. (5th Ed.). Fort Worth, TX: Harcourt Brace Jovanovich College Publishers.
- Bennett, L.D. (2017). *Readin' the old-fashioned way*. Marlinton, WV: The Pocahontas Times. Retrieved November 10, 2018 from <https://pocahontastimes.com/readin-the-old-fashioned-way/>
- Black, J.M. & Ubbes, V.A. (2009). Historical research: A thematic analysis of convention or conference themes for selected professional health education associations from 1975 to 2009. *The International Electronic Journal of Health Education*, 12: 33-47.
- Black, J.M. (2006). Approaches and resources for examining the history of health education. *Health Education Monographs*, 23(1):1-6.
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2):77-101.
- Busha, C. & Harter, S.P. (1980). *Research methods in librarianship: Techniques and interpretations*. New York, NY: Academic Press.
- Conway, J.N. (1993). The McGuffey Eclectic Readers, 1836-57. In *American literacy: Fifty books that define our culture and ourselves*. (pp. 69-74). New York: William Morrow and Company.
- Clifton, J.L. (1933). *Ten famous American educators*. Columbus, OH: R.G. Adams and Company.
- Creswell, J.W. & Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.
- Duncan, D.F. (1989). Content analysis in health education research: An introduction to purposes and methods. *Health Education*, 20(7), 27-31.
- Ellison, C.W. (2009). *Miami University, 1809-2009: Bicentennial perspectives*. Athens, OH: Ohio University Press.
- Erickson, L. (2002). *Concept-based curriculum and instruction: Teaching beyond the facts*. Thousand Oaks, CA: Corwin Press.
- Gorn, E.J. (1998). *The McGuffey Readers: Selections from the 1879 edition*. In Davis, N.Z. and May, E.R., Eds., *The Bedford Series in History and Culture*, Boston: Bedford/St. Martin's Press.
- Guba, E.G. and Lincoln, Y.S. (2005) *Paradigmatic controversies, contradictions, and emerging confluences*. In Denzin, N.K. and Lincoln, Y.S., Eds., *The Sage Handbook of Qualitative Research*, 3rd Edition, Thousand Oaks, CA: Sage., pp. 191-215.
- Johnson, H., Mathis, J. & Short, K.G. (2017). *Critical content analysis of children's and young adult literature: Reframing perspective*. New York: Routledge.
- Johnson, R.B. & Christensen, L.B. (2008). *Educational research: Quantitative, qualitative, and mixed approaches* (4th Ed.). Thousand Oaks, CA: Sage.
- Hein, F.V. (1962). A history of health education in the United States. *JAMA*.182(11):1139. doi:10.1001/jama.1962.03050500071030
- Institute of Medicine (U.S.) Committee on Comprehensive School Health Programs. (1995). Chapter 2: The evolution of school health programs. Allensworth, D., Wyche, J., Lawson, E., et al., editors. *Defining a Comprehensive School Health Program: An Interim Statement*. Washington (DC): National Academies Press (US). Available from <https://www.ncbi.nlm.nih.gov/books/NBK231148/>
- Linguistic Society of America (2017). Language variation and change. Retrieved December 22, 2017 from <https://www.linguisticsociety.org/resource/language-variation-and-change>
- Lerman, J. (2005). *101 best websites for elementary teachers*. Washington, DC: International Society for Technology in Education.
- McArthur, T. (1998). Functional literacy. *Concise Oxford companion to the English language*. Retrieved June 27, 2016 from Encyclopedia.com: <http://www.encyclopedia.com/doc/1O29-FUNCTIONALLITERACY.html>
- Means, R.K. (1975). *Historical perspectives on school health*. Thorofare, NJ: Charles B. Slack.
- Means, R.K. & Nolte, A.E. (1987). Fifty years of health education in AAPHERD: A chronology, 1937-1987. *Health Education*.18(1), 21-36.

- National Library of Medicine. (2000). *Current bibliographies in medicine: Health literacy*. Bethesda, MD: National Institutes of Health, U.S. Department of Health and Human Services.
- Nutbeam, D. (2000). Health literacy as a public health goal: A challenge for contemporary health education and communication strategies into the 21st century. *Health Promotion International*, 15(3), 259–267.
- Onwuegbuzie, A. J., & Leech, N. L. (2005). On becoming a pragmatic researcher: The importance of combining quantitative and qualitative research methodologies. *International Journal of Social Research Methodology*, 8, 375-387.
- Papen, U. (2017). Hymns, prayers and Bible stories: The role of religious literacy practices in children’s literacy learning. *Ethnography and Education*, 13(1), 119-134.
- Paul, L. (1991). *The children’s book business: Lessons from the long eighteenth century*. New York: Taylor and Francis.
- Payne, S. (2018). *The McGuffey Readers – 1836 Version*. Notre Dame, IN: University of Notre Dame. Retrieved on November 10, 2018 at <https://www3.nd.edu/~rbarger/www7/mcguffey.html>
- Pringle, H.F. & Pringle, K. (nd). He scared the devil out of grandpa. *The Saturday Evening Post*, 30, 112-114.
- Ray, J. (1885). *Ray’s arithmetic: Primary lessons and tables in arithmetic for young learners*. Boston, MA: Harvard University and The American Book Company.
- Reeves, D. (2010). Mr. McGuffey doesn’t teach here: Brand name fallacy. In *Transforming Professional Development into Student Results*. Alexandria, VA: ASCD.
- Scott, H. & Blewett, B. (1886). *A list of the words in McGuffey’s Primer and Readers: Given in regular order, as they first occur, by lessons*. Cincinnati: American Book Company.
- Simonds, S.K. (1974). Health education as social policy. *Health Education Monographs*, 2, Supplement 1:1-10.
- Stubbs, M. (1980). *Language and literacy: The sociolinguistics of reading and writing*. London: Routledge & Kegan Paul.
- Tingey, R.A. (2009). *High-stakes testing under the No Child Left Behind Act: How has it impacted school culture?* All Theses and Dissertations. Provo, UT: Brigham Young University. Accessed at <https://scholarsarchive.byu.edu/etd/1864>
- Tzoc, E. & Ubbes, V.A. (2017). The Digital Literacy Partnership Website: Promoting interdisciplinary scholarship between faculty, students, and librarians. *New Review of Academic Librarianship*, <https://doi.org/10.1080/13614533.2017.1333013>
- Ubbes, V.A. (2008). *Educating for health: An inquiry-based approach to preK-8 pedagogy*. Champaign, IL: Human Kinetics, p. 113.
- U.S. Department of Health and Human Services. (2010). *Healthy People 2020*. Washington, DC: U.S. Government Printing Office.
- Venable, W.H. (1891). *Beginnings of literary culture in the Ohio Valley: Historical and bibliographic sketches*. Cincinnati, OH: R. Clark & Company.
- Walker, T. (2014). The testing obsession and the disappearing curriculum. *NEA Today*. Retrieved December 22, 2017 from <http://neatoday.org/2014/09/02/the-testing-obsession-and-the-disappearing-curriculum-2/>
- Westerhoff, J.H. (1982). *McGuffey and his readers: Piety, morality, and education in nineteenth-century America*. Fenton, MI: Mott Media. <http://www.mottmedia.com/mcguffey-s-readers>
- Young, I. (2005). Health promotion in schools – A historical perspective, *Global Health Promotion*, 12 (3-4), 112-117.

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