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A TAXONOMY OF INSTRUCTIONAL REPRESENTATIONS
IN HISTORY INSTRUCTION

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ABSTRACT

The change in history instruction has shifted from a rote memorization, lectured-based style of social studies instruction to an inquiry-based method of instruction. Inquiry methodology in history education is used to engage students in higher-order thinking skills, and to bring students closer to the practice of “doing” history as the expert historians do on a daily basis. The purpose of this study was to see what resources teachers have already available in their classroom, representations in textbooks, and how these resources can be used to support this inquiry-based history instruction. It was discovered that these resources are available in history textbooks that exist in our classrooms today. Though textbooks present some of the same representations differently within the text itself, teachers and students can use them in the manner that best meets the needs of an inquiry classroom. For example, a primary source document such as a photograph can be used in the text just to reiterate the information explained in the text by design, but students and teachers can use this photograph as a base for discussion, analysis, and interpretation, engaging students in higher-order thinking skills. Teachers could take this a step further and develop a Document-Based Question that requires the use of prior knowledge of the subject matter, interpretation, and analytical skills to answer the question posed, an activity that closely mimics the work of an expert historian. Often, we teachers feel the need to constantly “reinvent the wheel” when it comes to lesson planning an instruction. While it is important to push for innovation in our classrooms, it is difficult to do that on a daily basis. These textbook resources allow us to “work smarter, not harder” to maximize productivity in the classroom. The materials are already in our classrooms and with instruction, students and teachers can use these textbook resources in inquiry-based instruction.

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Introduction

Overview

Change has come to history education. No longer is the rote memorization of facts, people, and dates the accepted practice of teaching and learning history. Instead, there is a movement toward “doing” history (Levstik, 2000). This idea of “doing” history refers to the constructivist form of history, in which students are taught history through inquiry-based instruction. This is also an attempt to bring the practice of history in the classroom closer to the experts’ practice of history found in universities.

The way history was taught before Levstik’s vision of history education arrived in the K-12 classroom was a basic lecture style. A teacher stood in the front of the classroom and drilled dates and facts according to what that teacher deemed important. It was a practice of indoctrination, not exploration. Success in that type of classroom was dependent upon a good memory. There were few classroom activities that encouraged students to analyze and interpret historical information. These are higher-order thinking skills that children need in their future to reason through and solve problems. Levstik’s inquiry-based method to teaching history challenges old methods. Students can learn history the way the experts study history to develop those advanced skills in analysis, problem solving, and higher-order thinking.

Teaching students how to “do” history through inquiry-based instruction, however, requires more than simply asking students higher-order questions. It also requires engaging students in the study and comparisons of multiple historical documents (Wineburg, 2001). The purpose of this study is to consider how classroom textbooks can be used to support inquiry-based history instruction. Specifically, this descriptive study examines the types of representations that are provided in common history textbooks as a first step in thinking about how classroom teachers

may incorporate representations to support students' inquiry into history. Representations are being defined in this case as supplements to the central verbal text. These representations may be either verbal or nonverbal in nature and serve as multiple external representations (Ainsworth, 2006) from which students can learn.

In Search of Content Area Reading Skills

To “do” history, as Levstik describes, history experts explore primary sources to construct ideas and make arguments for historical questions that are left to be answered. Historians must examine multiple representations and think not only of what these representations convey individually, but also how the documents relate to one another. How does the classroom teacher take the novice historians that sit in his or her classroom, and take them to an expert (or even proficient) level of historical analysis? A variety of possible solutions have surfaced in research in recent years, but there are still some issues plaguing the “doing” of history, including one important issue concerning content area reading skills (VanSledright, 2002; Wineburg, 2001).

VanSledright (2002) explores this problem in his study of a classroom of fifth grade students in his book “In Search of America’s Past.” He explains many K-12 students are still working toward mastering basic reading comprehension skills. For those who have mastered basic reading skills, they must learn to apply these reading practices directly to reading and interpreting a historical text. That is, students must learn to read using content area reading skills. These skills are necessary to ensure success in the inquiry-based history classroom.

VanSledright’s (2004) concern regarding the students’ development of content area reading skills has led to his call for collaborations between history and literacy education researchers to

address this issue. VanSledright (2002) points out that the teacher must take the very necessary step of explaining how the process of inquiry-based learning is performed. In VanSledright's (2002) study, he creates "historical detective" guides to prompt students with the questions historians are trained to ask themselves when studying a historical document (VanSledright, 2002). This is a single example of how researchers can bridge the gap between basic reading skills and content area reading skills to support the success of an inquiry-based history classroom.

Using Representations in History Instruction

The text supplements, or representations, present in textbooks are one potential resource to assist students in the transition from basic reading comprehension skills to the content area reading skills required to analyze and interpret sources in the study of history. Text supplements can be described as representations that are adjunct to the text; some of which are non-verbal (e.g., photographs, artistic renditions, artifacts, or maps) but others that are verbal (e.g., documents or graphic organizers). The potential to support history learning exists because representations could be used in combination with the verbal text. When students must think of how the verbal text and representations relate to one another, these comprehension processes may assist in the development of the content area reading skills.

Ainsworth (2006) illustrates how representations can be used in combination with the verbal text to complement, constrain, and construct deeper understanding. The *complementary* function is used when multiple representations differ in either process or information (Ainsworth, 2006). In combination, representations offer a variety of ways for the learner to benefit from the representations. Representations can also work in combination to *constrain*

understanding. This constraint function occurs either through familiarity with the representation, or by the inherent properties of that representation. Finally, representations used in combination with one another can also encourage students to *construct a deeper understanding* that cannot be achieved by using a single representation.

These functions are important to the novice history student when faced with the variety of problems the study of history presents. The section below describes some of these main problems and how the functions of multiple representations could be used to address them.

Problems Facing the Novice Historian

There are a number of issues facing teachers and students in the history classroom that slow the development of content area reading skills, even after basic reading skills are mastered. These include an understanding of chronology, the separation of American history from world history, the problem of presentism, and the students' constructed prior knowledge from secondary sources and Hollywood depictions of history (Wiley & Ash, 2005; Wineburg, 2001). Many of the issues can be addressed with the use of representations within textbooks.

Chronology

To begin, chronology is a difficult concept for many K-12 students to grasp. Understandably so with the way history is often presented. With the breadth and depth of history, history textbooks are forced to select events and topics that seem to be the most important to a student's education. History is then presented in chunked events or topics in textbooks, and presented in terms of a chapter. Chapters, which are usually broken down further by individual sections, create a knowledge base that is fragmented. The connections across time and events

can be made, however, if the student has an understanding of chronology.

One representation that could be used to create an understanding of chronology is the timeline. This representation could serve to fill in the mental gaps in history and make the connections by spatially organizing events. In this respect, timelines would help constrain (Ainsworth, 2006) the understanding of when events took place and where events took place. For example, if there were a representation of overlapping timelines to show the rise of different civilizations, the constraining function would serve to show how the histories of these civilizations connect. By making connections between events in a unit, the goal of understanding a unit as a whole can be met.

Separation of American History and World History

The breadth and depth of history presents another problem in history education regarding the structure of the history curriculum. Curriculum designers must select specific time periods and geographical locations in order to create a course in which a teacher can cover the content in a single school year. This creates disconnect between the world's historical events. Specifically, American history often is presented in the form of strictly American history classes and world history classes, which places American history in isolation with no regard to world events. This curriculum structure is understandable given the goal of transmitting American culture and ideas to the youth, but it does create an "us" and "them" mentality.

For example, the presentation of the French and Indian War can serve to illustrate this problem. Students may only learn about the events that took place in America. What students fail to realize, by no fault of their own, is that the French and Indian War was part of another conflict. The Seven Years War, a war waged in Europe that was fought by Europeans, filtered

out into the colonies of these European countries. This war would later have huge implications for the French people as France sank deeper into debt, setting the stage for the French Revolution. It was also this mounting debt that ultimately led to the selling of the Louisiana Territory to the United States in 1803.

As this example illustrates, understanding the connections between American history and world history are important to make for the deeper understanding of history as a whole. The representations available in students' textbooks could be used to help students construct this deeper understanding (Ainsworth, 2006) of how events happened on a global scale and not in isolation. As described above, for example, students could use timelines to organize important events around the world. Timelines may promote an understanding of how events are connected.

The Problem of Presentism

Another issue that faces history education is the issue of presentism (Wineburg, 2001). Presentism is when a modern person places judgment on another time period using the values of today's society (Wineburg, 2001). This mindset is usually unintentional, and even the best students fall victim to it. Wineburg's (2001) study using primary sources shows how even the brightest students can fall into the presentism trap. In that study, an Advanced Placement history student is presented with primary documents from the Battle of Lexington (Wineburg, 2001). That primary text described the colonial army in a disorganized state. After reading the primary sources the subjects were to pick a picture "that best reflected the written evidence he/she had reviewed" (p. 8). Wineburg (2001) describes how Derek, a student in the course, worked through the task:

Derek did not choose the one that showed the colonists in disarray, which would have been the logical choice given his earlier observations, Instead,

he chose the picture that showed the colonists hiding behind walls, reloading muskets, and taking aim at the Redcoats (p. 8).

Derek had fallen victim to presentism. He let his modern ideas and influences construct this misinterpreted view of history (Wineburg, 2001).

This is another instance in which representations could be used to support students' understanding. If the picture of the colonists in disarray had been included as part of the instructional material, for example, the evidence available in that representation may have constrained (Ainsworth, 2006) Derek's understanding. This constraint may have prevented the problem of presentism by illustrating precisely how the colonial army appeared.

Learning and Teaching History in the 21st Century

An additional problem in history learning is created by the world of technology and multimedia that exists beyond the school's control. Prior to setting foot in a history classroom, many students have watched films that are thought of as being historical, but in reality, are only loosely based on historical fact. Take for example, Disney's *Pocahontas*, a film released in the mid-1990s that many students have watched over the years. When learning about the Jamestown settlement in school, this oversimplified "Disnification" of a historical event creates interference in the students' learning. This interference occurs because the prior representation is inconsistent with the one presented in the school (Schnotz & Bannert, 2003).

VanSledright (2002) reported a problem created by the *Pocahontas* movie in his study of a fifth grade history classroom. In this class, students were presented with the task of reading and interpreting documents from the Jamestown starving time. His students frequently responded with remarks about Mr. Percy's weight and how "greedy" he was. They continuously place

blame on Mr. Percy without any consideration of the primary sources and the causes presented in those documents. VanSledright (2002) realized that this interpretation came from their prior knowledge based on the Disney film *Pocahontas*.

When students are presented with conflicting information, between what they think they know to be true and the information they are being taught, they experience what Wineburg (2001) calls cognitive dissonance. This cognitive dissonance is interference that prevents the student from reaching the “right” answer by being limited by what they know. Schnotz & Bannert (2003) suggest this may be one reason why many students with lower prior knowledge benefit from using visual representations: They are not limited by their prior knowledge constructions.

The example above demonstrates a negative effect of technology, but when it is used to generate multiple representations for instruction, it can also be positive for student learning. Multimedia learning, in which verbal and non-verbal representations are combined, is perfectly suited for inquiry learning as described earlier as the act of “doing” history (Wiley & Ash, 2005). Wiley and Ash (2005) point out that students also find multimedia and technology more engaging, and understandably so as students continue learn in the digital era. By structuring multimedia activities and using proper historical films, it is possible to teach students how to use multimedia and graphics available through technology. This effort may support the learning of historical content (Wiley & Ash, 2005). Additionally, Ainsworth (2006) argues that working with multiple representations that complement each other may help to overcome the limitations of some individual differences, such as prior knowledge differences, by helping students to construct deeper understandings across a variety of mediums (Ainsworth, 2006).

Despite the potential, there are some financial setbacks to relying on technology for classroom education (Wiley & Ash, 2005). It may be possible, however, to achieve the same effects by using the representations available in the classroom textbook. The purpose of this study is to examine the possibility that appropriate multimedia materials are already available to the classroom teacher through the classroom textbook.

Research Questions

Education in the twenty-first century has pushed teachers towards using more technology in the classroom to meet student needs, but that may not be economically feasible for all districts. Teachers in the twenty-first century also face additional challenges given both current budget cuts and the focus on standardized testing. Alongside these challenges, history teachers are also faced with the need to improve their students' ability to "do" history. In most cases, teaching methods that coincide with the "doing" of history involve the development and use of multiple sources of history knowledge (Levstik, 2000).

One possible solution to these challenges rests with the resources that are already present in our classrooms. This study is a first step in research to explore the potential of representations that are readily available in classroom history textbooks. Through the exploration of the nature of the representations that are available, it may be possible to improve instruction without seeking out expensive technology or spending hours of precious preparatory time gathering outside materials to use for today's history instruction methods. To explore these possibilities the author seeks to answer the following questions:

1. What types of visual representations are present in typical American history textbooks?
2. What are the sources for the representations included in American history textbooks?

3. How are representations related to the verbal text?
4. How are the types of representations, the sources of representations, and their relationships to the text distributed across the textbook?

These four questions are addressed through a descriptive analysis of the representations available in three different textbooks that are used to teach American history. Determining the types of representations that are included in these resources leads to consideration of how these representations might be used in inquiry-based history instruction.

Methods

Materials

Three American History textbooks served as the data sources for this study. The three textbooks all cover topics of American History and are appropriate for high school classrooms. Criteria used to guide the selection included (1) wide use in high school classrooms, (2) high quality, and (3) representative of typical history content. The three textbooks selected were initially identified through consultation with the American Textbook Council database. The Council's database was initiated in 1986 and has been continuously updated since. This database reports the most widely adopted high school history textbooks in the United States. In addition, the Council's website provides quality indicators of each textbook by marking those determined to be of satisfactory or superior quality and those found to be of an unsatisfactory quality. The American Textbook Council database reported 10 textbooks that cover 80% of the textbook market for grades 8-12. Of those 10 textbooks, we selected the three that were judged to be satisfactory or superior.

The three textbooks selected were *The American Anthem* (Holt), *A History of the United States* (Pearson/Prentice Hall), and *America: Pathways to the Present* (Pearson/ Prentice Hall). Table 1 contains descriptive information for those textbooks.

Table 1

Descriptive Information of Textbooks Used in the Study

	American Anthem	A History of the United States	Pathways to the Present
Publication Date	2007	2002	2003
Total # pages	1112	1000	1207
Years of American History covered	1400-2007	1400-2000	1754-2002
Number of Chapters	33	36	34

Coding

Development of Coding Scheme

Several steps were taken to develop the final rubrics for coding the textbook representations. First, we consulted the literature on multiple representations to examine existing taxonomies of representations (e.g., Ainsworth, 2006; Levin, 1979; Marsh, 2003). Readings drew our attention to the variety of forms that representations may take as well as different functions these may serve. In writing about the documents used in history, for example, Wineburg (2001) points out the importance of students having the opportunity to see and interpret primary documents just as historians do. Levstik (2000) addresses this same issue with the idea that these documents encourage the practice of “doing history” in history education. Wineburg (2001) also points out the importance of using timelines to study chronology. Ainsworth’s (2006) taxonomy of external representations was also consulted to draw attention to instructional design perspectives on representations including the various functions that representations are intended

to serve.

Although no single existing taxonomy fully addressed the coding needs for this study, those approaches did influence initial ideas regarding the elements that should be considered. Specifically, that literature led to the idea that the rubric developed for this study should address both the form and function of textbook representations. The resulting coding scheme captures the form of representations by coding for the type of representation. Functions are addressed by coding for both the source and the relation of the representation to the verbal text.

The second step in developing the rubric was to inspect the representations found in a sample of American History textbooks. Sample textbooks were obtained from the University library and differed from those used for the final coding. Textbooks provided a variety of representations to start a coding process.

Development of the rubrics occurred over several meetings between the author of this study and an expert on student learning from external representations. We sampled pages from the textbooks and discussed the patterns that could be seen in these representations. Throughout the discussions, we sought the identification of categories and labels that would capture the form and function of the textbook representations. A complete coding scheme for this study emerged from these discussions. This coding scheme contained three specific rubrics for coding the type of representation, sourcing, and the relation of the representation to the verbal text.

Finally, the author of this paper and the expert tested the viability of the coding scheme for capturing the representations used in the three textbooks selected as the data source for this study and the extent to which the coding scheme could be reliably applied. This process occurred by going through a random selection of representations from each of the three textbooks. Both the author and the representation expert independently coded each representation and discussing

any disagreements. This process continued until consistent agreement was reached on the coding of each representation. From this meeting, it was determined that the existing coding rubrics did capture the representations from the selected textbooks, and that the coding rubric could be consistently applied by a single rater.

Coding Rubrics

Three rubrics were developed to code specific characteristics of the representations and each rubric was independently applied during coding. As a result, there is some overlap between the coding rubrics. For example, the ‘types of representation’ rubric contains codes for documents and these documents are nearly always primary sources; graphic organizers, by contrast are secondary sources. The decision was made to retain the separate rubrics, however, because (1) each addresses a distinct characteristic of the representations that may be relevant to instructional decisions and (2) efforts to combine the characteristics into a single coding tool made it difficult to discern specific characteristics.

Type of Representation

The first coding rubric is labeled “type of representation” and is intended to descriptively capture the types of representations that are provided to students. The categories for this rubric are shown in Table 2. Numerical codes were applied to each category for ease of studying the descriptive codes.

Table 2

Coding rubric for Types of Representations

Category Label	Category Description	Numerical Code
Graphic Organizers	<p>Graphics that help to arrange ideas and make connections</p> <p>(Gil-Garcia & Villegas, 2003) Representations may include verbal information shown in a spatial array</p> <p>Examples include timelines, charts, concept webs, and graphs</p>	1
Maps	<p>Geographical representations of earth</p> <p>Examples include maps that depict political boundaries, physical characteristics of the land, or human population data</p>	2
Photographs	<p>Photographs taken from a historical time period or from a present day event</p> <p>Examples include photographs of war, social life, artifacts, locations, or people</p>	3

Table 2 (con't.)

Coding rubric for Types of Representations

Artists Renditions	Depict historical events through an artistic work	4
	Examples include paintings, photography, sculptures, and/or drawings	
Documents	Pictures or copies of original documents that are presented apart from the running verbal text Documents may be presented in their original form or be reproduced to be clearly read Examples include an image of the original Declaration of Independence, political cartoons, or newspaper articles	5
Artifacts	Images of objects that are native to the particular time period Examples include an image of a musket from the Revolutionary War, a cannon from the Civil War, or the first television set	6

Sourcing

There are two types of sources that are used in history education. Primary sources are created within the historical time period the item represents (Princeton, 2008). For example, an advertisement for Ford's Model T from the Industrial Revolution is a primary source. Secondary sources are created in reference to a historical event or time period and interpret a primary source (Princeton, 2008). For example, a historian's account of the creation of Ford's Model T and how it was advertised is a secondary source.

Sourcing is important in the study of history. Knowing what time period and who created the representation (e.g., document, artifact, map, etc.) is crucial to understanding the historical context that influences the significance of the item. Knowing the source of a representation is important because historical understanding is like a puzzle and each piece of information fits into a larger picture. Sourcing allows historians to determine each piece's significance and where it fits in the puzzle. Thus, although there is some overlap between the information obtained through application of the 'types of representation' rubric and this 'sourcing' rubric, we determined it was important to separate the information obtained from the two rubrics. The rubric for coding sources is described in Table 3. Categorical numerical codes were also developed.

Table 3

Coding Rubric for Sources of Representations

Category Label	Category Description	Numerical Code
Primary	<p>Any representation of an original document or artifact</p> <p>All primary sources were originally developed during the historical time period</p> <p>Examples include copies of the original Declaration of Independence, time period paintings or photographs</p>	1
Secondary	<p>Any representation that is not primary</p> <p>Secondary sources may have been developed specifically for the textbook</p> <p>Secondary sources may be original works but these were not developed during the time period</p> <p>Examples include timelines, maps that depict political boundaries, battle information and strategy, and/or climate data, artists renditions that were made during a later time period</p>	2

Relation to the Text

All representations were also coded to show the relationship to the text. This coding rubric is used to determine how representations align with the verbal text the students are using. Identifying the ways in which representations are related to the text is important within this descriptive study because these relations may provide ideas about how the representations could be used. A representation that is not related to the text and serves primarily a purpose of decoration, for example, is unlikely to support inquiry-based learning in history. A representation that promotes coherence, however, could potentially be used to help students organize their thinking during the inquiry process. Thus, understanding how available representations are related to the text is valuable descriptive knowledge.

The rubric used for this coding was guided by Marsh's (2003) taxonomy for describing representation-text relationships. According to this rubric, representations can be determined as having little relation to the text, closely related to the text, or to go beyond the text (Marsh, 2003). Representations that have 'little relation to the text' may have an educational purpose but that purpose is not tied to improving comprehension of specific text content. A representation of this type, for example, may be used to motivate the student or change the pace of the reading. Representations that are 'closely related to the text' do address some specific content from the text. These representations may be used to define content or make an idea more concrete. Finally, representations that 'go beyond the text' may support students' higher-order thinking skills. Representations in this category include those that may provide a specific emphasis for thought or support students' comparison of ideas or events.

We added a fourth category of 'create coherence'. Representations that 'create coherence' are tied to text content and are intended to help students connect content that appears

across a range of the verbal text. It is the scope of the information addressed that distinguishes a representation that ‘creates coherence’ from other representations that are tied to the text. For example, a representation that has a ‘close relation to the text’ may serve to organize information. These representations are distinguished from those that ‘create coherence’, however, according to the scope of information addressed. Representations that are coded for coherence span an entire chapter or time period. Organizing representations, by contrast, organize content within smaller text areas such as a single section. Examples of representations with a coherence relation to the text include timelines that appear at the start of the chapter or an end of chapter summary activity. A description of this coding rubric is shown in Table 4.

Table 4

Rubric for Coding Relationship to Text

Category Label	Category Description	Numeric Code
Little Relationship to Text	<p>Representations do not convey additional information or address specific points in verbal text</p> <p>May serve to decorate, elicit emotion, engage or motivate</p> <p>Examples include inserts separated from the main body of text that address a topic not elaborated on in the main body of text or a photograph of an artifact that is not a direct issue in the verbal text</p>	1

Table 4 (con't)

Rubric for Coding Relationship to Text

Close Relationship to Text	<p>Representations depict or convey specific information that is explicitly addressed in the verbal text</p> <p>May reiterate, organize, explain, or condense, information.</p> <p>Examples include a photograph of a historical figure or a map representing information from the text</p>	2
Goes Beyond the Text	<p>Representations are related to content from the verbal text but serve to stimulate additional thought.</p> <p>May interpret, develop, or transform the information.</p> <p>Examples include documents or political cartoons.</p>	3
Creates Coherence	<p>Representations are related to large portions of the text.</p> <p>May be advanced organizers or summary activities.</p> <p>Examples include timelines presented in the beginning of the chapter or artistic renditions that overview events</p>	4

Coding the Textbooks

Procedures

Final coding was completed on a random selection of approximately 10% of the pages from each of the three textbooks. A stratified random sampling procedure was used to ensure that the selected pages were evenly distributed from (1) the beginning to the end of each textbook and (2) from the beginning to the end of each chapter. The textbooks are designed so that there are divisions into chapters and chapters are subdivided into sections. To account for this variation,

page ranges for each section of each chapter were identified for all three books. Then a random number generator was used to take a sample from each page range. Approximately, ten percent of each text was used in the sample. When more than one supplemental representation was included on an identified page, each representation was coded. Thus, more than one set of codes was often derived for a single page. These sampling of pages were recorded and used throughout the coding process. For the *American Anthem* textbook 159 pages with a total of 200 representations were coded; 178 pages with 134 representations were coded for the *History of the United States* textbook; and 176 pages with a total of 261 representations were coded for the *Pathways to the Present* textbook.

To code each page, the coding framework was used as a decision-point process. Each supplemental representation was coded for the type, the sourcing, and the relationship to the text. This was recorded for every representation on each page of the sample and recorded into a spreadsheet. The numerical codes were then used as the basis for descriptive analyses of the textbook representations presented in the following section.

Results

Representations were selected according to the random selection of pages described in the methods section. Every representation included on a selected page was included in the analysis. Table 5 shows the number of pages coded for each textbook, the total number of representations coded, and the total number of pages for each textbook that did not contain any representations.

Table 5

Coded Representations Table

Textbooks	Number of Pages Coded for each Textbook	Total Number of Representations Coded	Total Number of Pages without Representations
American Anthem	159	200	17
A History of the United States	178	134	51
Pathways to the Present	176	261	5

Frequency counts for each coding category were used to organize the descriptive data of this study. These frequency counts were used to create all of the graphs that were used to summarize the data. Graphs are reported separately for each of the three textbooks to make differences across textbooks apparent. This section is organized so total frequency counts for each textbook are reported, followed by graphic depictions of how the coded representations are

distributed across the textbooks.

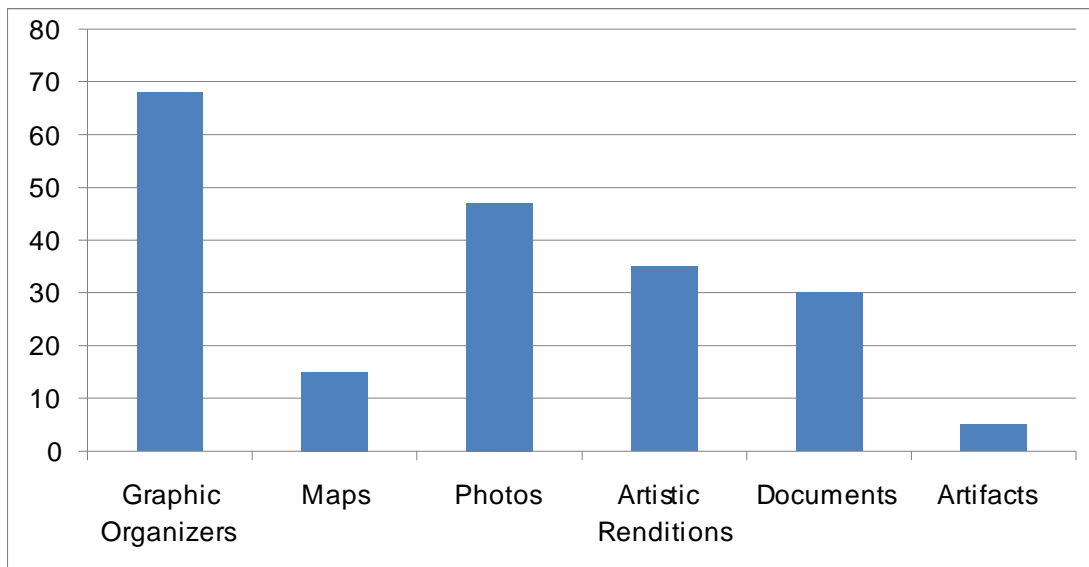
Types of Representations

American Anthem

Frequency counts for the types of representations found in the *American Anthem* textbook are shown in Figure 1. As it can be seen from Figure 1, this textbook included representations from each category type. Graphic organizers and photographs were the most frequently used representations, while maps and artifacts were the least frequent.

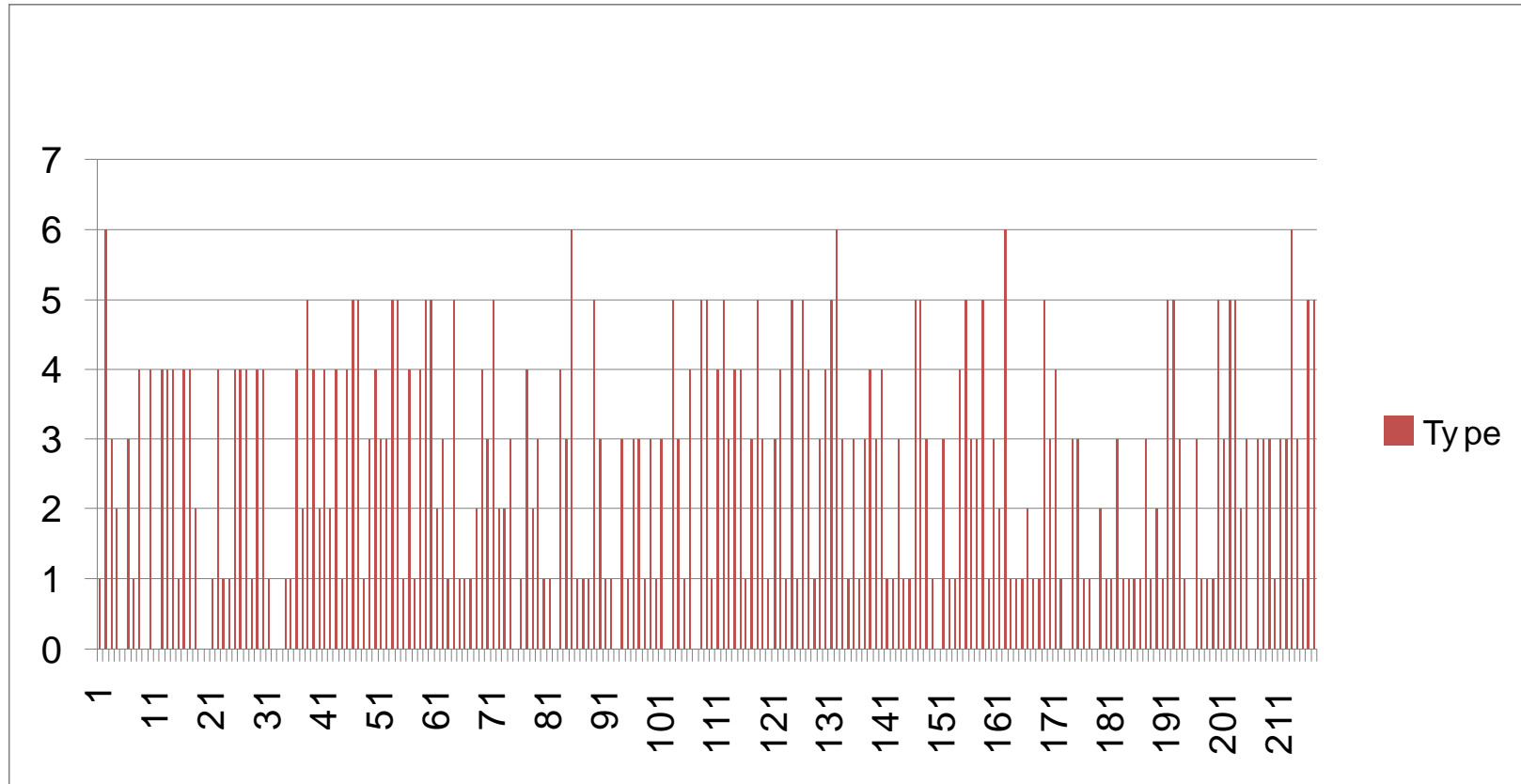
Close inspection of the textbook revealed patterns in how these representations were used in relation to the verbal text. In this textbook, graphic organizers were often used to organize information from the chapter's verbal text. Photographs were commonly used in the Document-Based Questioning sections ending each chapter to reiterate the text. When the frequency counts for both photographs and artistic renditions are added together, it is clear that this textbook includes a number of representations that are intended to provide accurate depictions of events or historical figures. The graphic organizers included in this textbook appear throughout the verbal text in the beginning, middle, or end to support understanding. They keep the reader engaged throughout the reading. Thus, the use of these representations may be important supports for student understanding.

Figure 1. Frequency counts of types of representations in American Anthem.



In addition to examining the overall frequency of representations in the textbook, the study explores how representations are distributed throughout the textbook. This aspect of the study determines if the pattern of representations changes so different representations are available to teachers at different points in the semester. Figure 2 below shows the distribution of the types of representations coded throughout the text.

Figure 2. Types of representations across pages in *American Anthem*.



Values shown on y-axis correspond to the types of representations coded; 0 = no representation, 1= Graphic Organizers, 2 = Maps, 3 = Photographs, 4 = Artistic Renditions, 5 = Documents, 6 = Artifacts

In *American Anthem*, representations are clustered as seen in Figure 2, with gaps of pages without representations. The types of representations are distributed throughout the textbook. No artifacts were found near the end of the textbook though this is consistent with the low number of these representations found overall. The end of the textbook is dominated by photographs and documents, which is consistent with the structure of the text described above.

From examination of the textbook, chapters contain graphic organizers throughout pages in the textbook to serve as possible aids to structure students' learning throughout the chapter. There are documents, pictures, artistic renditions, and artifacts placed in the middle of each chapter to support the verbal text. Chapters also end with documents, pictures, and artistic renditions with the Document-Based Questioning activities that end each chapter. This pattern is consistent throughout the textbook. This repeated structure has the possibility to support development of a consistent instructional pattern.

A History of the United States

Frequency counts for the types of representations found in the *A History of the United States* textbook are shown in Figure 3. As can be seen from this figure, this textbook also includes representations from each category type. Also important to note is *A History of the United States* had fewer representations overall and a greater amount of verbal text than the other two textbooks used in this study. Photos and artistic renditions are the most frequently used representations in this textbook. The next most frequent types of representations are documents, graphic organizers, and maps in this textbook. Artifacts are rare.

Figure 3. Frequency counts to types of representations in *A History of the United States*.

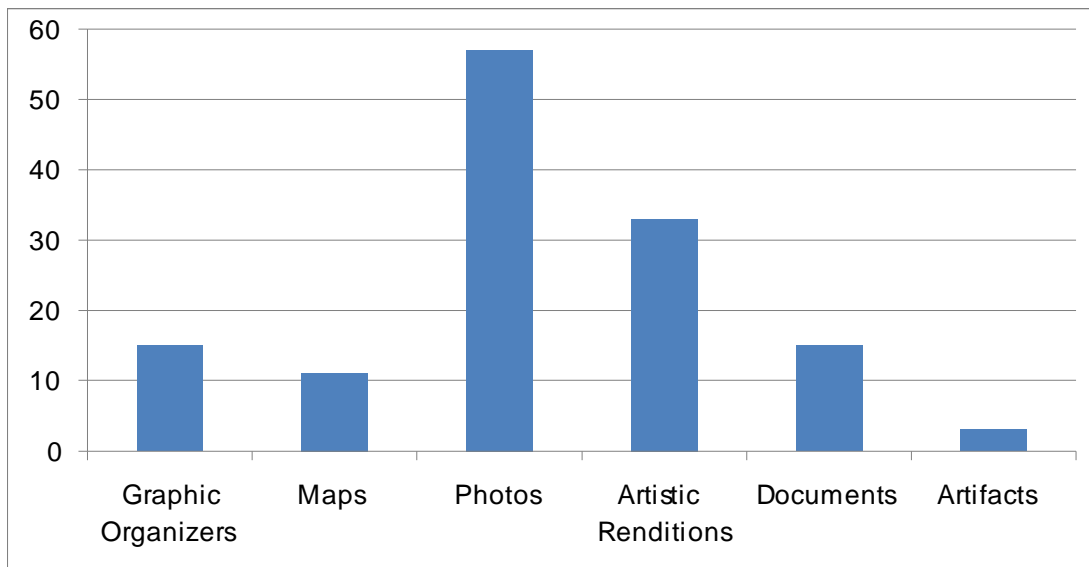
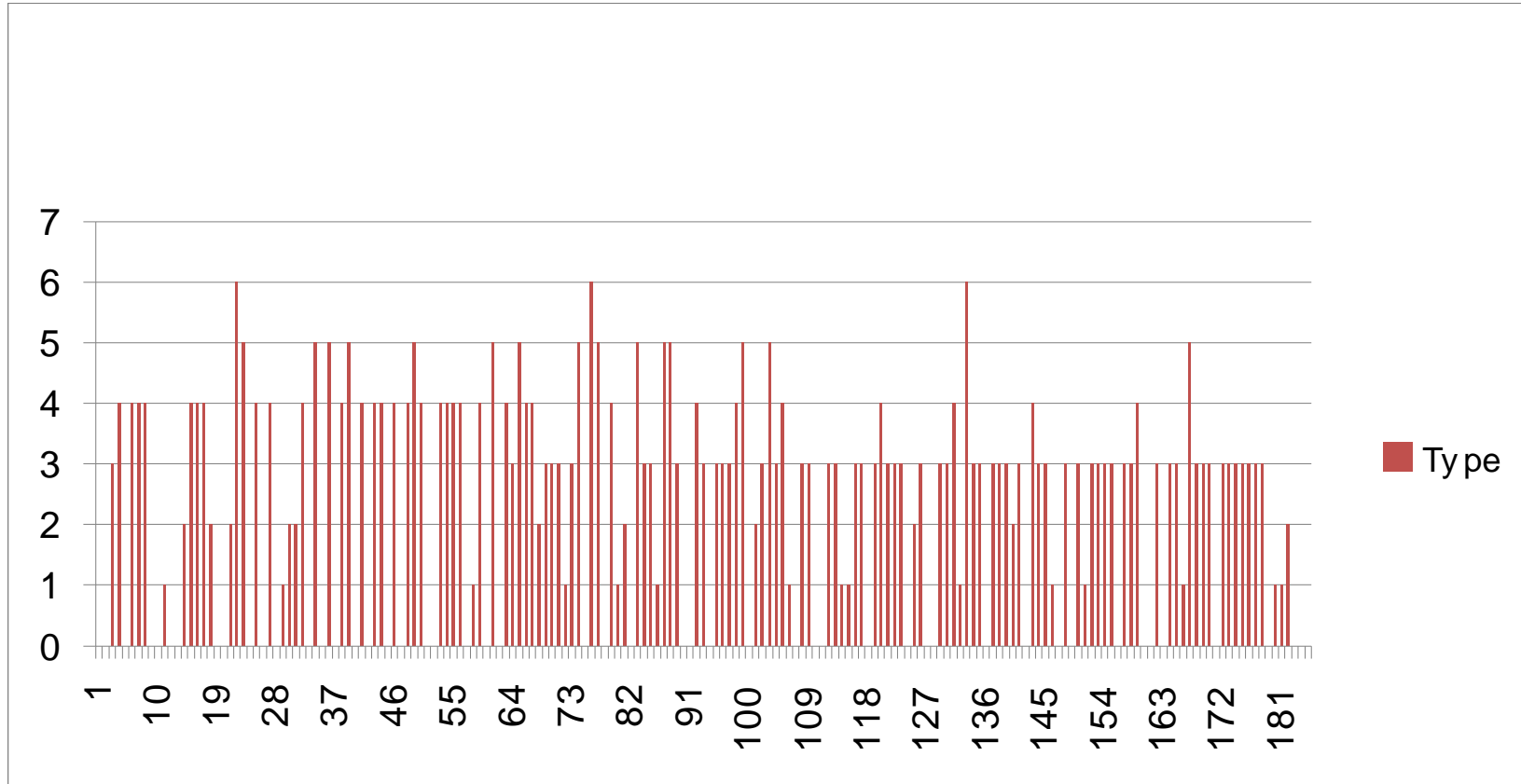


Figure 4 shows the distribution of these representations across pages. A visual inspection of this graph shows the lack of variety of representations in this textbook. Many pages are without supplemental representations and are instead filled with text, which create the large gaps shown in Figure 4. From examination of the textbook, chapters begin with timelines. The majority of the pages are filled with photographs or artistic renditions. These representations are not distributed evenly across the text. Representations appear to increase later in the textbook. This may be due to the fact that photographs and artist renditions, the most frequently used representations in this textbook, are more accessible as events and topics approach modern times.

Figure 4. Types of representations across pages in *A History of the United States*.

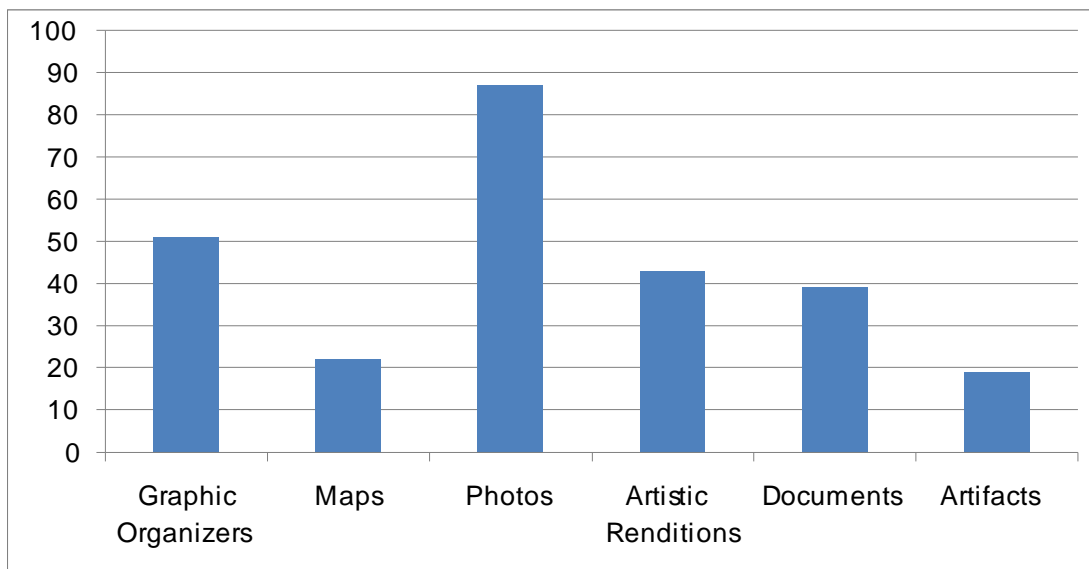


Values shown on y-axis correspond to the types of representations coded; 0 = no representation, 1 = Graphic Organizers, 2 = Maps, 3 = Photographs, 4 = Artistic Renditions, 5 = Documents, 6 = Artifacts

Pathways to the Present

Pathways to the Present had the highest number of representations in total. This textbook also includes all six types of representations. The highest frequency of representations in this textbook is in the photograph category. It is also important to note the high number of graphic organizers used in this text. Artistic renditions and documents are not as common, but are still present. Maps and artifacts are the least frequent.

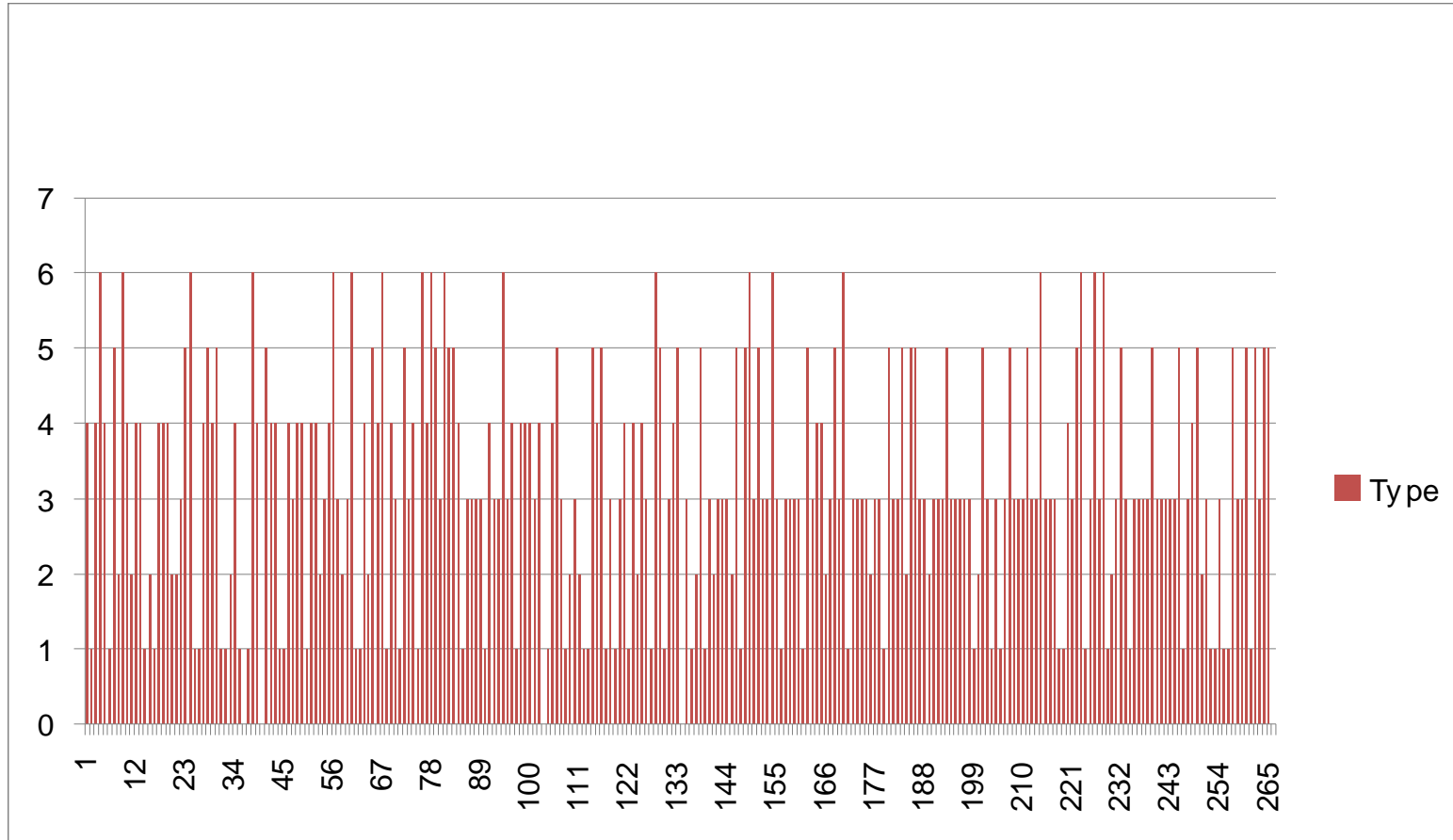
Figure 5. Frequency Counts to Types of Representations in *Pathways to the Present*.



The distribution of these representations throughout the textbook is shown in Figure 6. In the beginning of the textbook, artistic renditions are more frequent, but as the text moves closer to modern times, photographs become more prevalent with the invention and use of photography. In the middle of the text, the overall density of representations decreases. Changes in the density of representations could be related to the changes in historical content and what the author chooses to emphasize. The *Pathways to the Present* textbook begins and ends chapters

with graphic organizers. There are also a wide variety of representations ranging from maps to artifacts throughout the text.

Figure 6. Types of representations across pages in *Pathways to the Present*.



Values shown on y -axis correspond to the types of representations coded; 0 = no representation, 1= Graphic Organizers, 2 = Maps, 3 = Photographs, 4 = Artistic Renditions, 5 = Documents, 6 = Artifacts

It is important to compare and contrast each of these textbooks, as they do differ in structure. *American Anthem* is filled with graphic organizers that may provide support to student understanding, while *A History of the United States* has a higher frequency of photographs and artistic representations. This may suggest a more autonomous learning situation where students must use their own knowledge of study/reading skills to understand the content in each chapter. *Pathways to the Present* has the highest number of representations in total, with very few pages without representations. Not only are these representations more frequently presented, but they also appear in a wide variety of representations throughout the chapter. This could allow for a more differentiated learning experience with diverse representations meeting the needs of different students, which should be researched in the future. Interesting to note is in *A History of the United States*, there are a number of photos and artistic representations that appear in the other two textbooks. The purposes of these representations differ based on the structure of the textbook as discussed above.

Sourcing

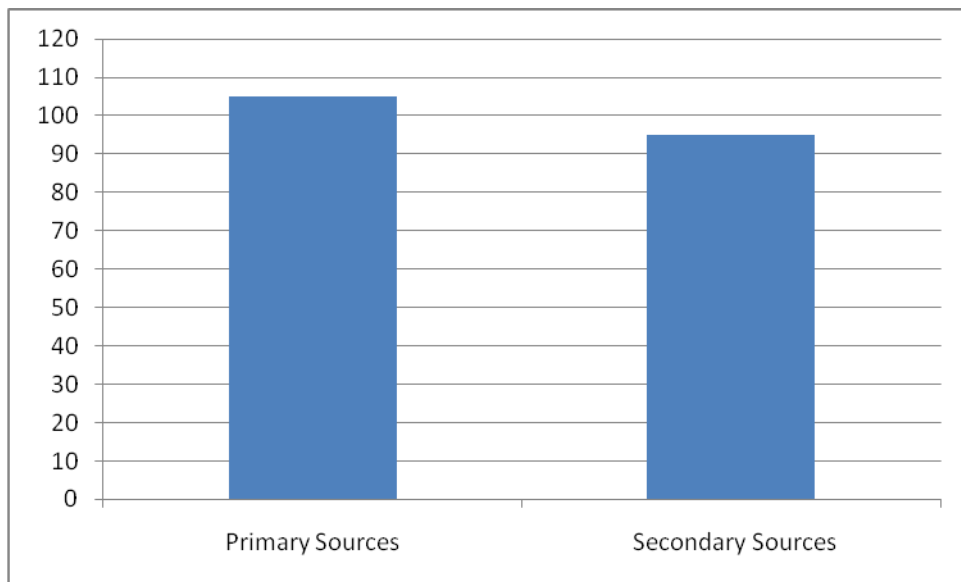
The purpose of this descriptive analysis was to determine if supplements contained in the textbooks include primary resources or if supplements are predominately secondary sources. To evaluate this distribution, a descriptive value of 10% was selected to determine if the distributions across primary and secondary sources were the same. That is, the number of primary and secondary sources was considered to be equal if the number of primary sources fell within 10% of the total of number of secondary sources.

American Anthem

American Anthem has a relatively equal number of primary and secondary sourced representations as shown in Figure 7. A number of the secondary sources can be attributed to the

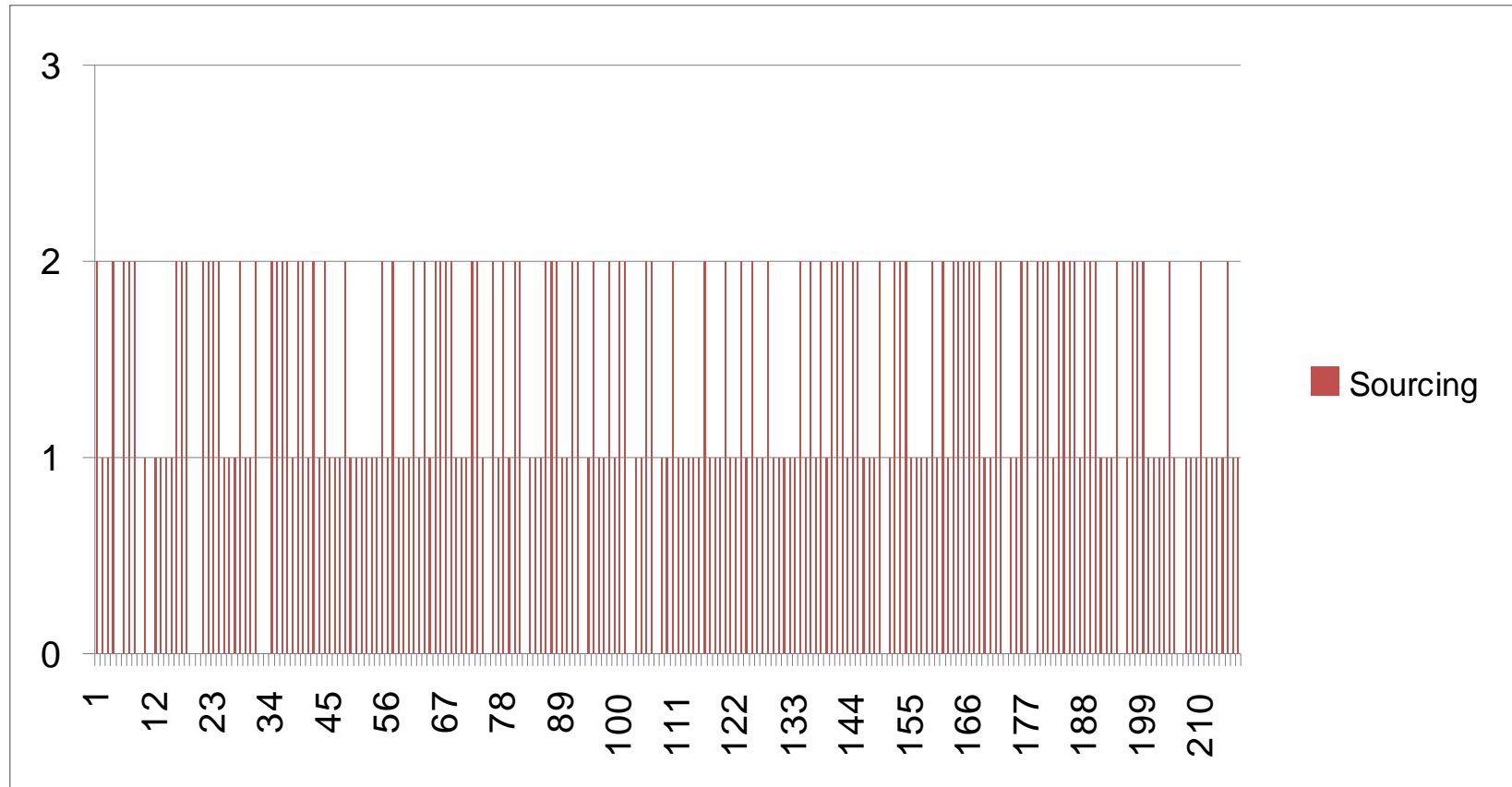
pattern in this text of comparing historical events to modern situations. It can also be attributed to the frequent number of graphic organizers that appear in the text. Most of the primary sources appeared in relation to the Document-Based Questions and similar inquiry-based activities included in the text. One such activity involves the interpretation of a political cartoon on page 260 of the textbook, where students analyze and interpret the cartoonist's statement in a historical context.

Figure 7. Frequency counts to sourcing in *American Anthem*.



Both the primary and secondary sourced representations are fairly evenly distributed throughout the textbook, changing with the variety of activities associated with the verbal text. That is, as Figure 8 shows, the secondary sources end before the end of the textbook, but the primary sources continue until to the final pages. This is consistent with the use of primary sources for the Document-Based Questions that appear at the end of each chapter.

Figure 8. Sourcing across pages in *American Anthem*.



Values shown on y -axis correspond to the sourcing coded; 0 = no representation, 1 = Primary Sources, 2 = Secondary Sources

A History of the United States

This textbook has a much higher number of primary sources in comparison to secondary sources. The results of these codings are shown in Figure 9. Inspection of the text reveals that many of these primary source representations are the same primary source representations that are seen in the other two textbooks in this study. These primary sources are associated with the high frequency of photograph and artistic renditions that appear in the textbook. There are fewer representations from secondary sources with the lower number of graphic organizers and maps that generally appear as secondary sources in each textbook.

Figure 9. Frequency counts to sourcing in *A History of the United States*.

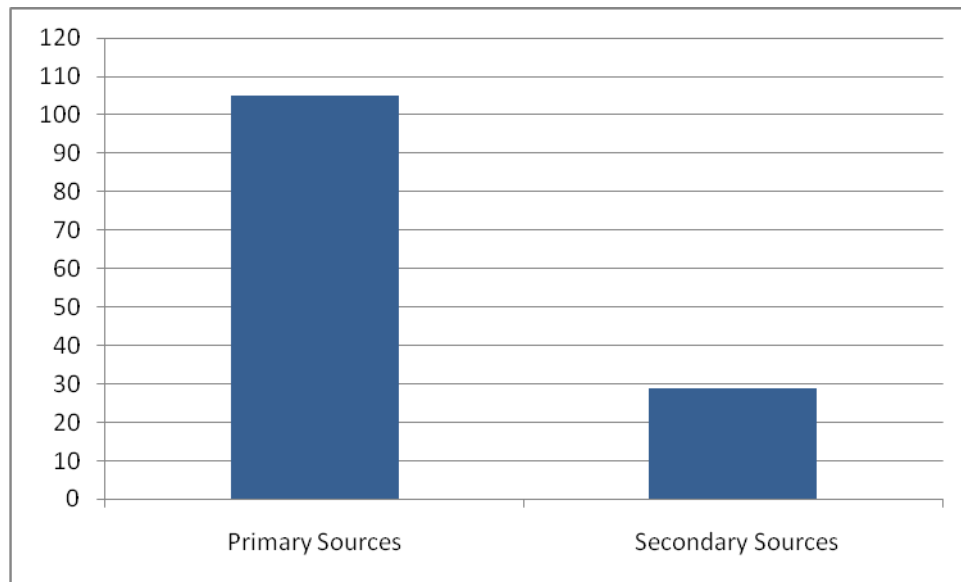
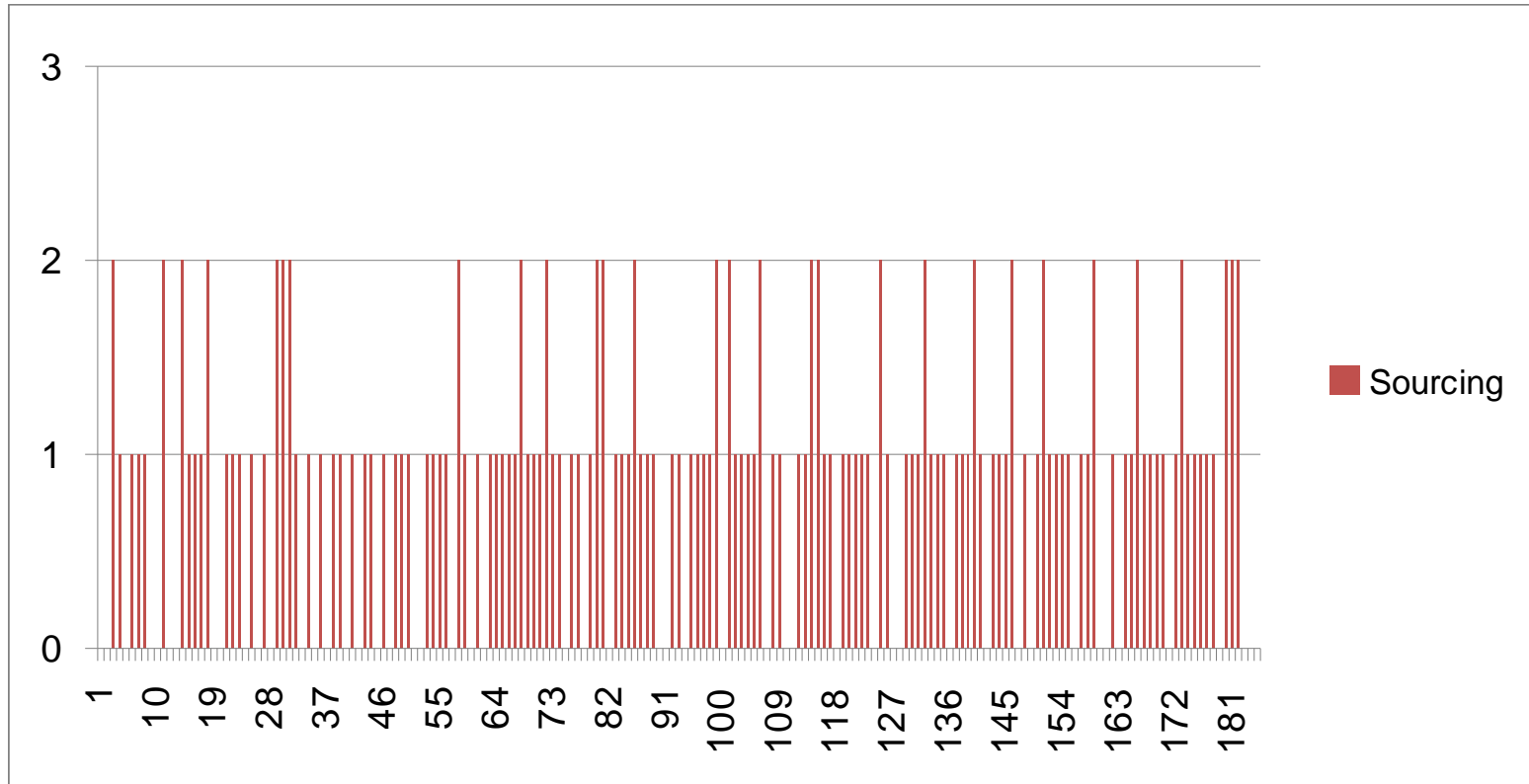


Figure 10 shows the distribution of these representations across pages. The sparse graph reiterates information reported for both the types and sourcing frequency counts. That is, the gaps in this graph indicate the large number of pages in this textbook that contain only verbal text. This textbook includes very few secondary source representations overall, as explained in the previous analysis.

Figure 10. Sourcing across pages in *A History of the United States*.

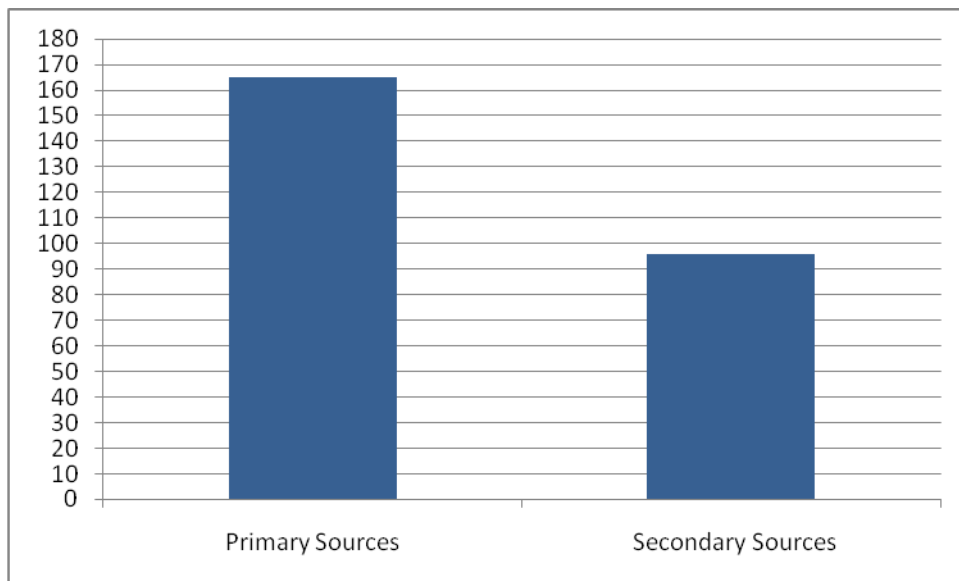


Values shown on y-axis correspond to the sourcing coded; 0 = no representation, 1 = Primary Sources, 2 = Secondary Sources

Pathways to the Present

Pathways to the Present also shows a high number of primary source representations as indicated in Figure 11. There are also a number of secondary source representations in this textbook, very similar to what was seen in *American Anthem*. The variety of types of representations and activities presented in the textbooks lends itself to the fairly even distribution of primary and secondary sources as seen through the examination of the textbook.

Figure 11. Frequency counts to sourcing in *Pathways to the Present*.



The distribution of representation sourcing across the textbook is shown in Figure 12. Similar to *American Anthem*, both primary and secondary sources are distributed fairly evenly across the textbook. The phenomenon can be attributed to the variety of types of representations that appear throughout the book as explained in the types of representations section that precedes this section.

Figure 12. Sourcing across text in *Pathways to the Present*.



Values shown on y -axis correspond to the sourcing coded; 0 = no representation, 1 = Primary Sources, 2 = Secondary Sources

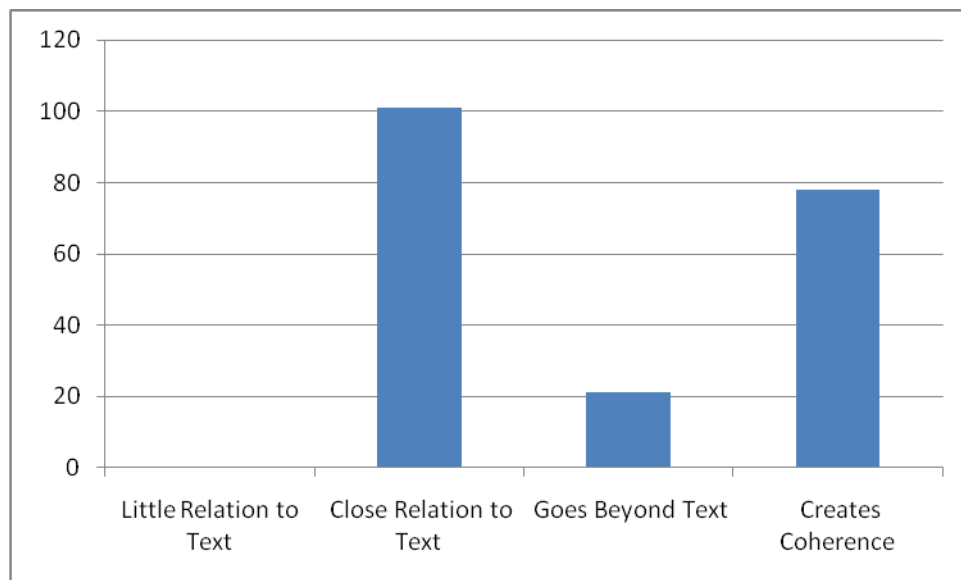
Primary source documents appear to be the most frequently sourced representations across each of the texts. This presence of primary sources could support an inquiry-based classroom. As noted in the introduction, experts use primary sources to find answers to historical questions. This is a skill history students should seek to develop in order practice history as historians do. Knowing these are available in classroom textbooks allows for the possibility for students to practice working with these primary sources through inquiry-based instruction.

Relation to the Text

American Anthem

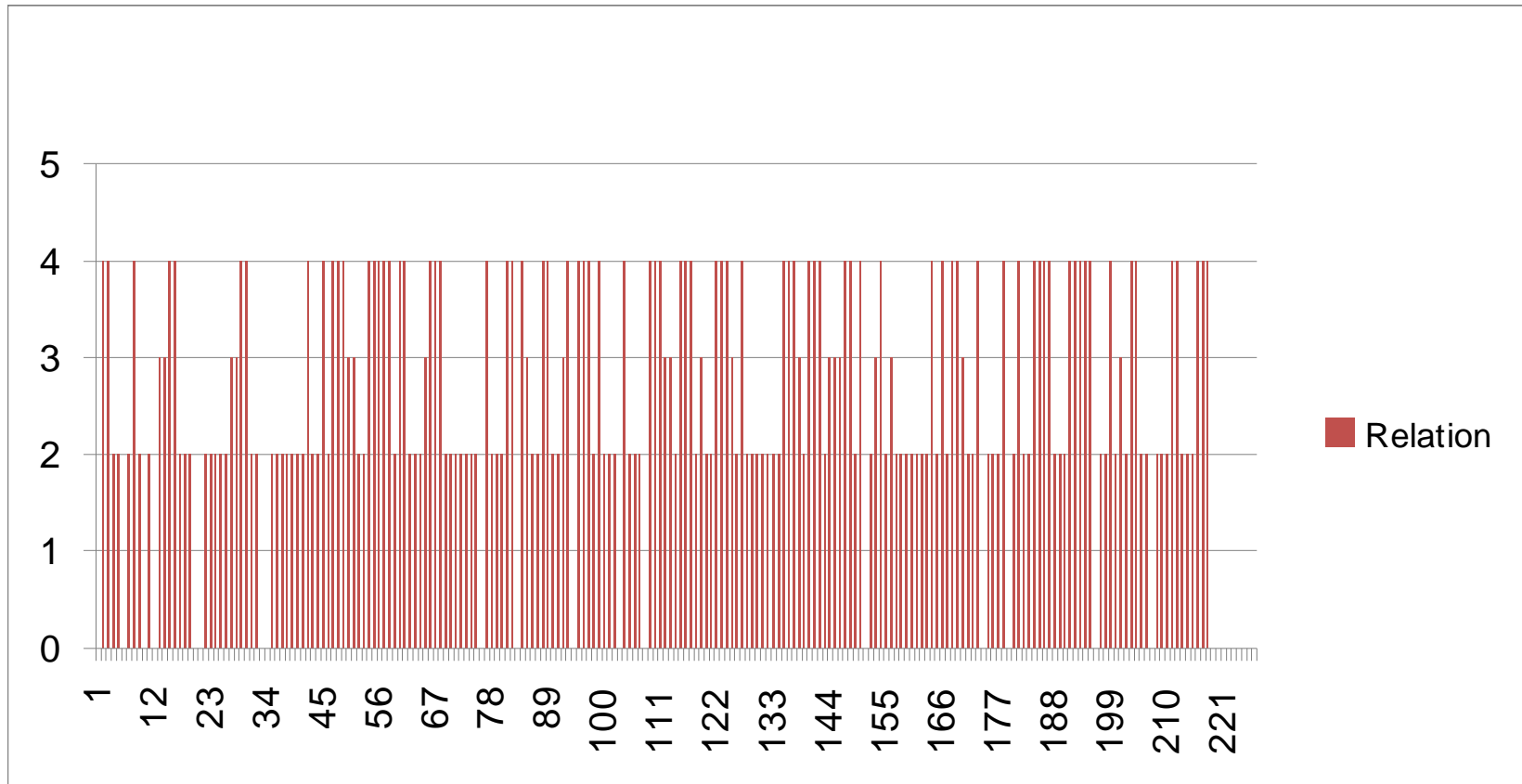
Figure 13 shows the frequency counts for the coding of the relationship between the representation and the text. Representations in this textbook most often had a close relation or a relation to the text that created coherence. No representations in this text were found to have little or no relationship to the verbal text.

Figure 13. Frequency counts to relations to the text in *American Anthem*.



The distribution of these relationships across the text is shown in Figure 14. There are some points in this graph where representations are clustered and other points where gaps appear. An inspection of the textbook reveals that this pattern can be attributed to the structure of the text and presentation of historical content though it is possible that this distributional pattern is a result of the random selection of pages. This textbook has a very high number of representations that go beyond the text or create coherence, engaging students in higher-order thinking skills. From an examination of the textbook, each chapter begins with an advanced organizer and ends with an activity that creates coherence. Representations in the middle of each chapter have close relations to the text, generally to reiterate concepts found in the text.

Figure 14. Relation to the text across pages in *American Anthem*.



Values shown on y-axis correspond to the coded relation to the text; 0 = no representation, 1 = Little Relation to Text, 2 = Close Relation to Text, 3 = Goes Beyond Text, 4 = Creates Coherence

A History of the United States

This textbook has fewer representations than the other two textbooks in this study. The majority of representations present in *A History of the United States* are closely related to the verbal text as seen in Figure 15. There is a presence of representations that create coherence, but very rarely does this textbook offer representations that go beyond the verbal text. It is also rare to see representations that have little relation to the text.

Figure 15. Frequency counts to relations to the text in *A History of the United States*.

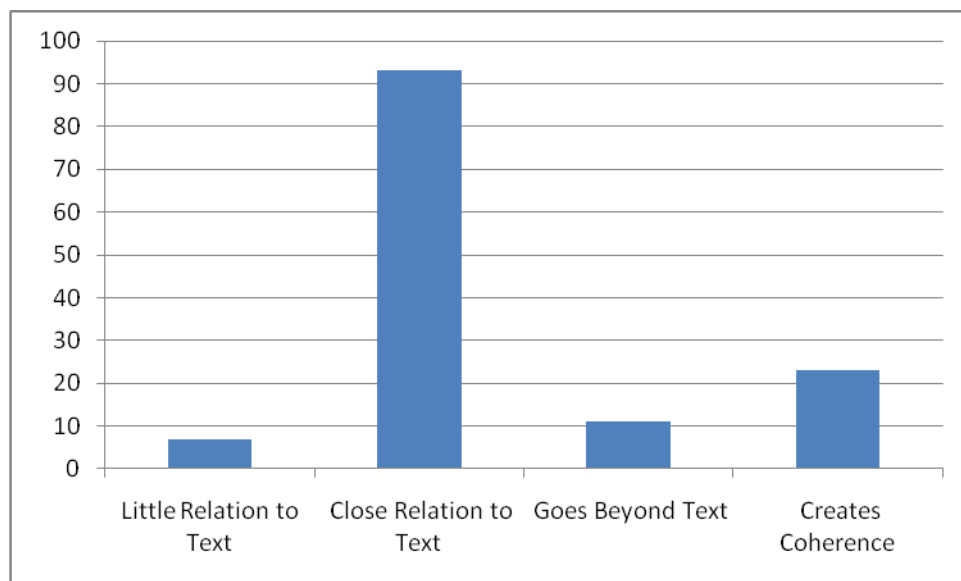
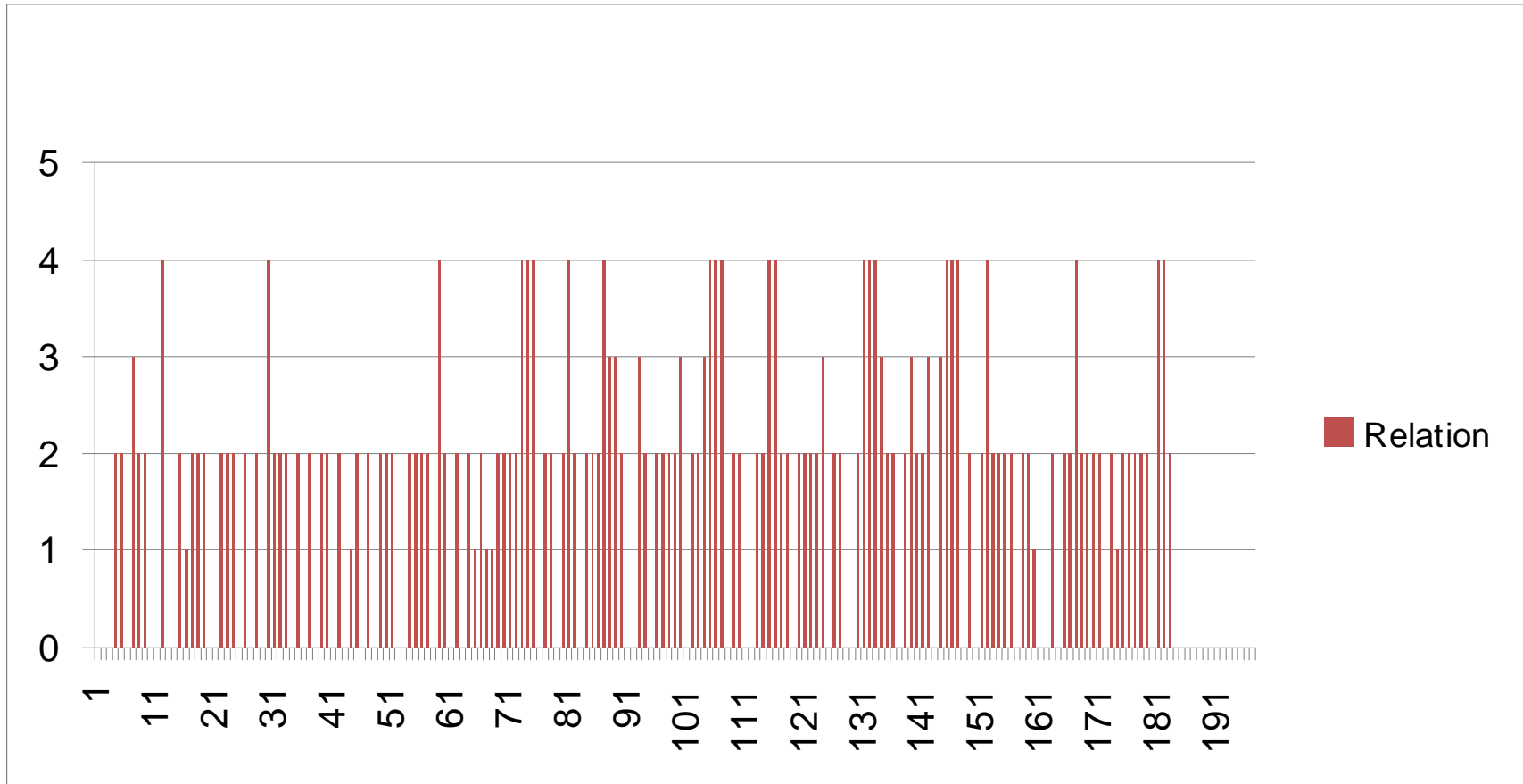


Figure 16 displays the lack of variety in the relation representations have to the verbal text in this textbook. Representations generally have a close relation to the text across the entire textbook. An inspection of the textbook reveals that these representations are often photographs and artistic renditions that simply reiterate the verbal text. There are relatively few representations that would serve to create coherence or go beyond the text. These representations are generally timelines or graphic organizers that are presented in the beginning and ending of each chapter. There are also many gaps on the graph below. The gaps represent pages in the

textbook where there are no representations present.

Figure 16. Relation to the text across pages in *A History of the United States*.

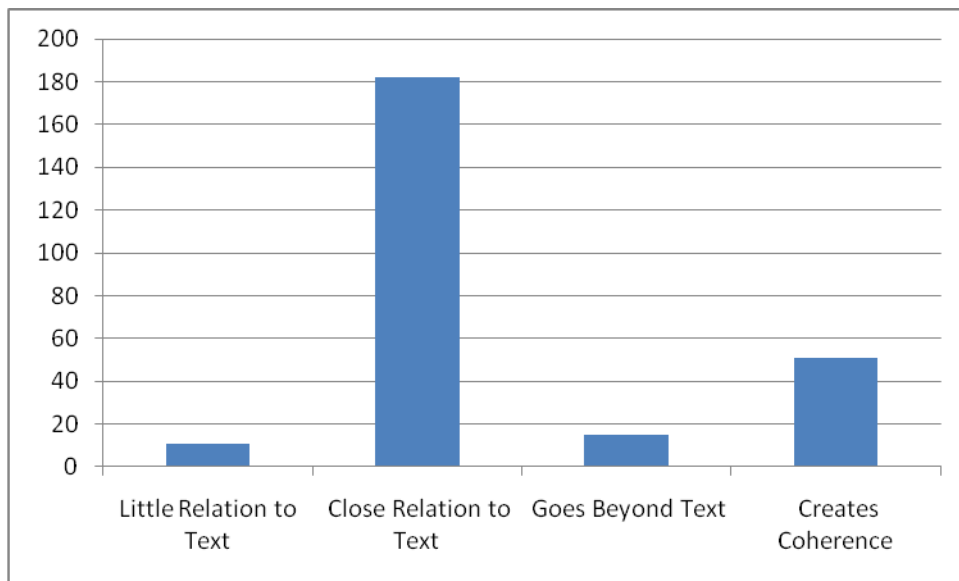


_Values shown on y -axis correspond to the coded relation to the text; 0 = no representation, 1 = Little Relation to Text, 2 = Close Relation to Text, 3 = Goes Beyond Text, 4 = Creates Coherence

Pathways to the Present

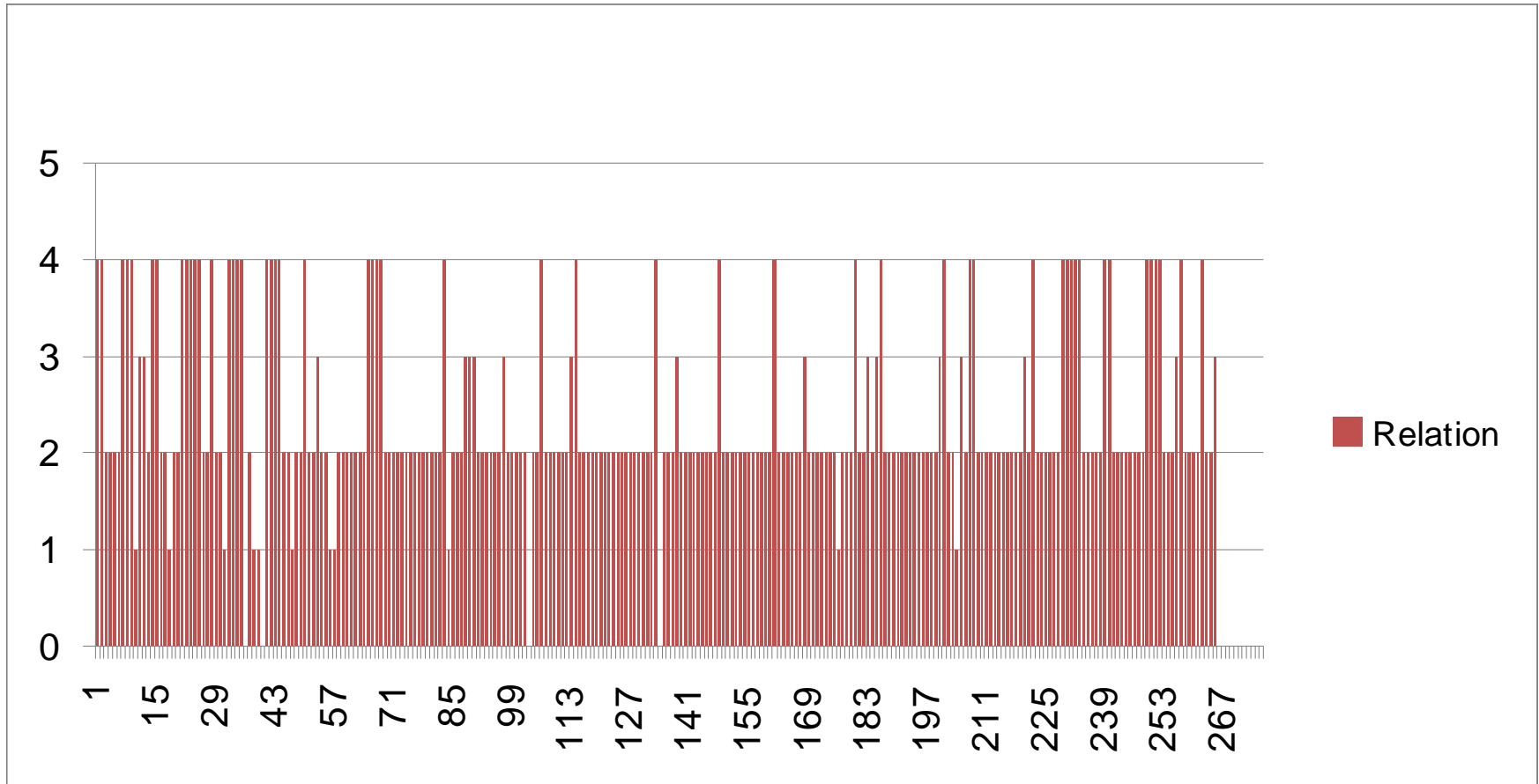
Figure 17 displays the high volume of representations that hold a close relation to the verbal text. Most representations relate directly to the text by reiterating the text or comparing and contrasting information discussed in the verbal text. There are also a few representations that go beyond the verbal text or create coherence within the verbal text. Rarely do representations that have little relation to the text appear.

Figure 17. Frequency counts to relation to the text in *Pathways to the Present*.



Pathways to the Present has a large number of representations that maintain a close relation to the text. They are presented fairly evenly across the textbook as seen in Figure 18. Representations that go beyond the text or create coherence are clustered on this graph. This pattern is evident in the first and last sections, while the middle of the text is missing these clustered representations. This may be due to the random page selection that could have possibly created this pattern expressed in the graph below.

Figure 18. Relation to the text across pages in *Pathways to the Present*.



_Values shown on y-axis correspond to the coded relation to the text; 0 = no representation, 1 = Little Relation to Text, 2 = Close Relation to Text, 3 = Goes Beyond Text, 4 = Creates Coherence

The most common relationship among representations in all three textbooks is the ‘close relation to the text’ coding category. This indicates that representations are presented in these textbooks in order to support the verbal text. Few representations have little relation to the text, which means that these representations are not decorative, but do in fact serve some purpose in each of the textbooks, depending on the structure of each textbook. For example, *American Anthem*, in its efforts to support inquiry-based instruction, uses Document-Based Questions at the end of each chapter that present representations that create coherence, and this ‘creates coherence’ coding category is more frequent in this textbook. However, *A History of the United States* and *Pathways to the Present* have a higher number of representations that express a close relation to the text, where these usually serve to reiterate the text.

Discussion

The purpose of this study is to explore the representations present in the average American history textbook. This exploration was undertaken as a first step in thinking about how these representations could be used to support inquiry-based history instruction. This can be accomplished through the understanding of what types of representations are in the average American history textbook, sourcing for these representations, and the representations' relation to the text. Three coding rubrics were used to code the representations. These rubrics were used to determine the types of representations that were included in the textbooks, the sourcing of these representations, and the relation of the representations to the verbal text.

Type of Representations

The results show that there are a variety of representations that are found throughout each of the textbooks, though each of the three studied textbooks differs in structure. *American Anthem* is filled with graphic organizers that may provide support to student learning of the verbal text. *A History of the United States*, on the other hand, has a higher frequency of photographs and artistic representations, which may suggest a more autonomous learning situation where students must use their own knowledge of study/reading skills to understand the content in each chapter. *Pathways to the Present* has the highest number of representations in total with the fewest pages without representations. Not only are these representations more frequently presented; but they also appear in a wide variety of types of representations throughout the chapter. Each textbook approaches history instruction in a different way, but still offers opportunities to support an inquiry-based classroom.

The textbooks used in this study include a number of representations that could

potentially support inquiry-based history instruction. As observed in the *American Anthem* textbook, photos, documents, artistic renditions, could all be used in practicing *content area reading skills* and interpretation skills through the use of Document-Based Questions (VanSledright, 2004). These same photo, documents, and artistic renditions are found in the other two textbooks, but they are presented in a different way. With training, teachers could potentially learn to use these representations in the same way *American Anthem* has to support inquiry-based instruction.

All three textbooks include timelines that serve as advanced organizers that could mitigate the issues students have with *chronology* (Wineburg, 2001). The textbooks also present events outside of the main events elaborated on in the textbook to give students an idea of what else was happening during that time period. The issues with the *depth and breadth* of history could be addressed in this way. These timelines, however, are limited to the events addressed in the American history textbook (Wineburg, 2001). These timelines alone then are not likely to address the problem of isolating American history from World history. Perhaps American history textbooks could provide world history timelines in the appendices to provide a “bigger picture” of events occurring in a time period to demonstrate how world events all affect each other.

The high number of photographs and artistic renditions in all three of these textbooks could help students with the understanding of *presentism* (Wineburg, 2001). Photographs and artistic renditions can complement the text, serve to *constrain* students’ perception of what happened in a historical context, and can serve to construct deeper understanding through discussion or activities such as the Document-Based Question activities (Ainsworth, 2006). This issue of *presentism* should be addressed with students who are studying history, so the students are aware of how this can affect their interpretation of history (Wineburg, 2001). Students then

can start monitoring how they think of history. Perhaps teachers could use the photographs, artifacts, and artistic renditions included in the texts to address this issue.

The wide variety of representations that these textbooks present offers opportunities for teachers to differentiate instruction. In *Pathways to the Present*, for example, the textbook provides a variety of types of representations and activities based on these representations that could potentially meet the needs of different students. Twenty-first century teachers need to address the needs of every student and allow students to demonstrate their strengths in the classroom and work to eliminate their weaknesses. *Pathways to the Present* demonstrates how this can be accomplished, presenting graph interpretation, graphic organizers, maps, and more to meet the needs of a wide variety of learners.

Sourcing

Primary source representations were the most frequently encountered representations in these three textbooks. This finding is very important to the inquiry-based history classroom. Primary sources are what expert historians use when searching for answers to historical questions. These primary source representations are the key to “*doing history*” as the experts do (Levstik, 2000).

When students work with primary source documents, they are building skills in interpretation, analysis, and synthesis of major historical concepts to understand history as whole and make deeper connections to the material. This is the development of the *content area reading skills* discussed by VanSledright (2004). The goal is to take students from being literal learners and fact memorizers to creative, curious, and thoughtful learners.

Representations' Relation to the Text

The most common relationship among representations in all three textbooks was the 'close relation to the text' coding category. This indicates that representations are presented in these textbooks in order to support the verbal text (Ainsworth, 2006). Few representations have little relation to the text, which means that these representations are not decorative, but do in fact serve some purpose in, depending on the structure of each textbook.

Representations in the textbooks had a variety of relations to the text depending on the structure of the textbook and goals of the authors. *American Anthem* serves as a good example of what a history textbook that supports inquiry-based history instruction could look like. Its representations' relations to the text demonstrate the desire to meet higher-order thinking skills. As mentioned previously, those representations appear in the other two history books, but lack the same relations to the text the representations in *American Anthem* have. Specifically, in the *American Anthem* textbook, these representations are often embedded in activities that are intended to create coherence across the text. This means more research must be done to find a way to help teachers and students take these representations and create those relations to the text in their classroom (VanSledright, 2004; Wineburg, 2001; Ainsworth, 2006). Perhaps, this could also show other textbook companies how to structure their latest textbook editions to meet the needs of inquiry-based history instruction (VanSledright, 2004; Wineburg, 2001).

Limitations

There are three limitations in this study. First, the textbooks in the study are not representative of the entire textbook population used in every classroom. They make up less than

eighty percent of the American history textbook market. These three textbooks were also the best of the five textbooks presented in the American Textbook Council's list of most commonly used American history textbooks. Other textbooks that are not included in this study could possibly differ in the type and quality of representations. Not every school may have these resources.

A second limitation is that this study only explores high school American history textbooks. There a variety of other history classes offered in K-12 schooling. Textbooks used in other areas of history may differ in the characteristics of the representations used. Other textbooks have yet to be studied to see what representations in those textbooks could possibly offer to inquiry-based history instruction. It is also important to note that these were textbooks used in high schools. Textbooks used in elementary and middle schools should also be examined to determine their potential as well (VanSledright, 2002). They may support the use of inquiry-based history instruction at an earlier age, which would allow younger students to begin developing these skills at a younger age, and then build those as they work through the schooling system.

Educational Implications

The textbooks from the study represent the variety of materials teachers and students already have in their classrooms. Many teachers use supplemental instructional materials instead of the textbook itself, especially in history education (Wineburg, 2001). This research shows that teachers may be able to achieve this form of instruction by using the materials available in the textbook. This study shows, the large majority of representations are either closely related to, or go beyond, the text to enrich student learning while reading the textbook. If one takes a close look at what is already in our textbooks in our classrooms, he or she could see the diverse

representations that could be used to support instruction (Ainsworth, 2006).

Recent recommendations for history instruction have steered teachers away from relying on textbooks because these texts have been accused of presenting a single perspective, oversimplifying historical content, and lacking higher-order thinking activities (Wineburg, 2001). The results of this study show that this is not necessarily the case. The textbook is what one makes it to be. Photography and primary source documents that history teachers use as mediums of classroom discussion and other activities that help develop content area skills are already present in these textbooks (VanSledright, 2004). The author suggests the textbook itself can be used as a point of conversation for students and a starting point for exploration and discovery in the field of history. The average American history textbook can be an additional resource in the classroom, and to the students' own learning practices, that can provide the structure that students at all age levels of education desire (VanSledright, 2002).

Suggestions for Further Research

The textbooks used in this study were selected to provide a representative sample of those resources available in typical high school history classrooms. The results of this study suggest that classroom textbooks do include the types of supplemental representations that could support inquiry-based history instruction. More research is needed, however, to develop effective instructional practices that could capitalize on these supplements and maximize their potential for student learning (VanSledright, 2004; Wineburg, 2001; Levstik, 2000).

Much can be learned from the *American Anthem* textbook examined in this study. This textbook was created with the supervision of Sam Wineburg, a prominent researcher in History Education. This text provides several instructional guides for students and teachers in the

beginning of the textbook to develop skills in studying, analyzing, and interpreting history as the historians do. The *American Anthem* textbook also includes the Document-Based Questions that develop content area literacy skills and engage students in higher-order thinking to truly assess students' comprehension of history (VanSledright, 2004; Wineburg, 2001; Levstik, 2000).

Teachers can immediately start using the textbook representations in effective ways in their own classrooms if we can begin to include these types of instructional guides in textbooks, as seen in *American Anthem*. Additionally, these representations can be used more effectively in classrooms by instructing future and current teachers through professional development seminars or university methods courses.

In a school climate that demands more and more from teachers - from standardized test preparation to innovative teaching on a daily basis - it is in our best interest to help teachers find ways to work "smarter" and fully utilize the resources already in classrooms. Especially, in the economic climate the nation is currently facing, and the budget crises many school districts are currently struggling to defuse, what is already available in our classrooms may be what teachers have to work with for the next few years. Fortunately, as this research shows, teachers already have what they need to create an engaging and innovative classroom.

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ACADEMIC VITA

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