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A Bibliometric Study of the Research on Instructional Uses for Nonfiction Graphic Novels

by Tiffany Markulike

Master's Project, May 2022

Readers: Dr. Stacy Creel, Dr. Catharine Bomhold

INTRODUCTION

According to the Online Dictionary for Library and Information Science, the term *graphic novel* was coined by Will Eisner to describe his semi-autobiographical novel, *A Contract with God* (1978), which he had written and illustrated in comic-book style (ODLIS, 2021). This unique type of book had not been seen before and was considered the first of a new reading format. Since that time, graphic novels have evolved into their own distinct medium, and have grown in popularity among certain circles, particularly teens and young adults. The presence of the format has increased dramatically over the 1990s and 2000s, with entire sections of bookstores and libraries being dedicated to them (Clark, 2013). School and public library circulation records often show that they fly off the shelves, especially to middle and high school students (Moeller & Becnel, 2020). At the same time, graphic novels have created much controversy among educators and library professionals. Some believe that they fall far short of actual literature, and should not be taken seriously by teachers (Griffith, 2010). Others say that they have merit all on their own and that they deserve a place in the classroom (Gardner, 2019). This latter group explain the importance of supporting visual literacy, providing highly-motivating lessons for students, and increasing engagement among both 'gifted' and reluctant students, including ESL students. They would argue that "Teachers should conform to the principle that no text should be dismissed" (Yildirim, 2013, p. 129).

The intention of this bibliometric study is to examine the research on the use of graphic novels in classrooms and libraries during the past two decades to highlight how this topic has changed and developed over time. The focus of the research is on the use of nonfiction graphic novels in the English Language Arts, Writing, Social Studies, History, Science, and Math classrooms. This study notes similarities in the research on uses for graphic novels

and identifies the prevailing journals which have published articles on this topic. The authors who have written about this topic the most frequently are identified. The findings of this research may aid educators and librarians in the future by highlighting how this topic has changed and developed over the past twenty years. The findings of this study may also help literacy instructors and librarians by identifying the existing literature on varying uses for graphic novels in classroom and instructional settings. Lastly, this study also provides a list of some highly recommended nonfiction graphic novels cited in the research by authors for classroom use.

Purpose Statement:

The purpose of this study is to analyze the scholarly literature related to the use of nonfiction graphic novels in classrooms and libraries for pedagogical purposes to highlight how the topic has changed during the period from 2000-2020.

Research Questions:

- R1.** *Approximately how many scholarly research articles have been published over the past twenty years (2000-2020) on the topic of using nonfiction graphic novels in classrooms or libraries for instructional purposes?*
- R2.** *Which authors have written the most research during this timeframe on the inclusion of nonfiction graphic novels as instructional tools in classrooms or library settings? Were the authors writing as sole authors or collaborators?*
- R3.** *Which professional journals have published the most articles during this timeframe on the topic of nonfiction graphic novels being used for instructional purposes in classroom or library settings?*
- R4.** *Which nonfiction graphic novels are referenced in the scholarly research as being ideal tools for use in classrooms or library settings for instructional purposes?*

Definitions

Authorship: The state or fact of being the writer of a book, article, or document, or the creator of a work of art (Oxford University Press, n.d.).

Bibliometrics: Statistical analysis of books, articles, or other publications (Embry-Riddle Aeronautical University online research guide, n.d.).

Bradford's Law: The bibliometric principle that a disproportionate share of the significant research results on a given subject are published in a relatively small number of the scholarly journals in the field, a pattern of exponentially diminishing returns first noted by Samuel C. Bradford in 1934, who proposed the formula $1:n:n^2$ to describe the phenomenon, based on his examination of a bibliography of geophysics. He found that a few core journals provide 1/3 of the articles on a given subject, a moderate number of less-than-core journals provide a further 1/3 of the articles on the subject, and a large number peripheral journals provide the remaining 1/3 of the articles (ODLIS, 2022a).

Graphic Novel: A format in which an extended narrative is presented as a continuous sequence of pictorial images printed in color or black and white and arranged panel-to-panel, with text given in captions and dialogue usually enclosed in balloons (ODLIS, 2021a).

Literacy: The quality or state of being literate; able to read and write (Merriam-Webster.com, n.d.a).

Lotka's Law: The bibliometric principle that the number of authors making n contributions to the scholarly literature of a given field is about C/n^a , with C (the number making a single contribution) a constant. When applied to large bodies of literature over a significant period of time, Lotka's empirical law of scientific productivity means that in a field in which $a = 2$, about 61% of all published authors make just one contribution, about 15 percent have two publications ($1/2^2 \times .61$), about 7 percent make three contributions ($1/3^2 \times .61$), and less than 1 percent produce ten or more publications ($1/10^2 \times .61$) (ODLIS, 2022b).

Multimodal: The use of more than one semiotic mode in meaning-making, communication, and representation generally, or in a specific situation. Such modes include all forms of verbal, nonverbal,

and contextual communication. Multimodal literacy refers to awareness and effective use of this range of modalities (Oxford Reference.com, 2021).

Nonfiction Novel: A narrative of an actual historical event, or sequence of events, that closely follows established facts but also includes fictional elements, such as conjectural dialogue or one or more characters not known to have participated in the action. The event is usually contemporary or from the recent past. The author may leave to the reader the task of distinguishing the real from the imaginary (ODLIS, 2021b).

Pedagogical: of, relating to, or befitting a teacher or education (Merriam-Webster.com, n.d.b).

Visual Literacy: The ability to apprehend or interpret pictures or other visual images (Dictionary.com, n.d.) The ability to read, understand, interpret, critically evaluate, use, and produce messages in visual forms (Chandler, D., & Munday, R., 2020).

Delimitations of the Study

This study only includes scholarly journal articles that have the phrase “graphic novels,” in the *title* and “nonfiction” and/or “classroom,” and/or “instruction” and/or “library” in the *body* of the text. Published books on the topic are not used in this study even if written by authors mentioned in this study for being widely published on the topic. Only journal articles that are found in the database systems of the University of Southern Mississippi, specifically the databases *Education Source*, *Library & Information Science Source*, and *Teacher Reference Center* will be used. All book and article reviews, as well as isolated abstracts, are excluded from this study. Journal articles written in languages other than English are not included in this study. Articles on students' creating their own graphic novels are not included. Articles solely on how to read, analyze and/or interpret graphic novels are excluded. Collection analyses, circulation reports, and studies focused on comparing or studying fictional graphic novels in the classroom are excluded.

Assumptions

It is assumed that the database articles in this study have been classified and cataloged correctly. It is assumed that all articles cited in this research study are indexed accurately and completely so that all

relevant articles are retrieved. It is assumed that all works in this research that are labeled either fiction or nonfiction have been accurately described. It is assumed that the term *graphic novel* used within the research has been correctly assigned to each work.

Importance of the Study

This study documents the quantity of research on the topic of using graphic novels in classrooms and libraries for pedagogical purposes. This study documents authors and prevailing journals who have published research on the topic of graphic novels and their use in classroom and/or library settings for instruction. By displaying the research from the past two decades, the study shows changes and developments in the research on this topic from 2000-2020. The findings of this research may aid educators and librarians in the future by highlighting how this topic has grown and evolved over the past twenty years. Lastly, this study will identify some of the existing nonfiction graphic novels that are being highly praised by educators who have successfully utilized those novels for instructional purposes.

LITERATURE REVIEW

Embracing Visual Literacy in Education

The modern world is filled with visual images. People are surrounded by signs, photos, charts, diagrams, and illustrations no matter where they find themselves. There are words, logos, pictures, and graphics in communities at home, school, work, or just out-and-about in any part of society. As Yildirim points out, “Students are surrounded with texts accompanied by images in every inch of their lives” (2013, p.125). He goes on to describe how the young generations growing up in today’s world are such avid and adept users of technology. Their lives are encompassed by computers, tablets, smartphones, laptops, etc., which “have a role in reshaping the learning habits of our age” (2013, p. 125). With this in mind, some educators are choosing to use a variety of innovative and new tools in the classroom for educational purposes. Students today are growing up in a visually-stimulating environment, and librarians and teachers of today may benefit by adapting practices to that environment.

One reason that adaptation in classrooms may be called upon is that young people are becoming visually literate at a very young age, and visual literacy is always acquired before print literacy. Visual literacy can be loosely defined as *the ability to*

process and make meaning from an illustration or image. According to Monnin, “we communicate through a variety of different screen-like environments that ask us to be both print-text literate and image literate... Image literacies and print-text literacies now share the stage” (2010, p. 79). This means that students today are not just reading the printed word on a page, but rather have developed the ability to absorb and interpret meaning through a variety of modes. Today’s young people are typically quite skilled at synthesizing information from both text and imagery to interpret meanings (Draper & Reidel, 2011).

Griffith notes that the graphic novel format combining text and illustrations requires its own comprehension process that “becomes a type of reading and thinking” and “is referred to as multimodality or multimodal reading” (2010, p.185). Educators who utilize graphic novels usually take the time to point out the unique features of the graphic novel format to their students. Those features include the concepts of *panels*, *gutters*, and *bubbles*. The *panels* are the area, typically bordered, that contain the graphic images. The *gutters* are the spaces between panels, and the *bubbles* are usually where text is located but may contain an image or a sound like ‘pow!’ (Monnin, 2010). All three of these components may be manipulated by the novel’s author to convey meaning. Draper and Reidel (2011) argue that this combination of verbal and visual modes of communication more accurately reflects the wide range of media used by students to regularly interpret multimodal texts in their world.

Today’s youth are accustomed to speed, instant answers, and a wide variety of stimuli catching their eyes and their attention on an ongoing basis. With young people increasingly more competent at making immediate interpretations of the world around them, it may be advantageous for teaching methods to reflect that. Monnin (2010) goes so far as to say that we are in a “revolution in communication, second only to that ignited by the invention of the printing press in the fifteenth century” (p. 79). Students today have numerous forms of communication at their disposal and likewise they absorb and interpret information in ways that previous generations did not. In the goal to teach a generation of youth who exhibit more learning styles than in the past and who have more distractions as well, Yildirim argues that graphic novels should have a part to play in this

endeavor. He states that “educational settings are more challenging than ever before and need to be supported by every appropriate material available” (Yildirim, 2013, p. 123).

Growing research supports the claim that graphic novels fit the bill as a modern and appropriate tool for reaching the wide variety of learners in today’s classrooms. The graphic novel has only existed since the late 1970s, making it a modern and unique book form. It is because of its predecessor, the comic book, that it has experienced a stormy background. However, numerous educators encourage its use in both English Language Arts (ELA) and content-area classroom settings. This practice is already occurring in schools and libraries all over the country. According to Meyer and Jiménez (2017), “Many teachers have been quietly using graphic novels to get students to actively engage with books” (p. 153)

Graphic Novels in the ELA Classroom

There have been numerous arguments made for utilizing graphic novels in the subject areas of English Language Arts and Writing. Manning-Lewis used graphic novels in her class with four struggling inner-city students who each had limited English proficiency. They later created their own graphic novels. She reported that the students made “marked improvement in their storytelling and writing skills as a result of the medium” (Manning-Lewis, 2019, p. 393). She concluded that “the creation of short graphic novels or narratives can be used as tools in the English classroom to foster creative writing skills and generate positive responses from students” (Manning-Lewis, 2019, p. 393). Graphic novels are also proving to be highly motivating to students of varying academic, racial, socioeconomic, and cultural backgrounds because they spark interesting class discussions among diverse peer groups through book talks or content analysis. Yildirim would agree, saying “one of the most striking features of graphic novels is their potential to appeal to various learning styles” (2013, p. 127). It appears that graphic novels are breaking many teaching boundaries and learning barriers.

The structure of graphic novels makes them well suited to learning literary techniques. They are well suited to discussing varying points of view, different cultural perspectives, author’s voice, metaphor, and imagery, along with other literary skills. Graphic novels are also an excellent tool for students to learn

how to interpret bias within either its language or illustrations (Gardner, 2019; Draper & Reidel, 2011). Authors of graphic novels utilize color, space, lines, varying fonts, sizes of texts and images, perspective, and more to convey meaning to the reader. They do all of this through the careful use of the panels, gutters, and bubbles (Meyer & Jiménez, 2017, p. 154).

Graphic Novels in History, Social Studies, Science, and Math classrooms

Holmes and Schwarzenbach were supposed to be keynote speakers at the 2020 Annual ALA conference that was canceled due to the COVID-19 Pandemic. Their presentation was adapted into an article in which they state, “while many [adults] are familiar with their use in English Language Arts, few are aware of graphic novels addressing math, technology, science, and social studies” (2020, p. 17). They discuss how surprised many people are to learn that graphic novels can be used “as informational texts for children in all subject areas” (Holmes & Schwarzenbach, 2020, p. 17). Brozo and Mayville (2012) write that “more and more teachers are turning to graphic novels to support content learning and increase print experience for youth” (p. 13). They explain that because the lives of today’s young people are surrounded by multimodal forms of representation, it is logical that teachers should not separate their instruction from the social contexts in which students are accustomed (Brozo & Mayville, 2012). Christensen (2006) uses graphic novels in her high school Social Studies classroom to encourage “critical conversations about their world” (p. 227). Studies such as these suggest that in using graphic novels for instruction, teachers and librarians are choosing to arrange their classroom learning conditions to be conducive to the type of reading engagement that promotes growth in content areas and critical literacy skills.

Studies with Similar Methodologies

According to the University of Leeds website chapter on *Research Metrics*, the field of bibliometrics “analyses publications through statistical methods” and “uses citation data to provide insight into the impact of research outputs” (2017, p.1). Numerous other research studies in the library and information science or education fields have used this type of research to benefit authors and educators. Avila-Garzon et al (2021) did a study on *Augmented Reality* (AR) in education and analyzed 25 years of research

on its use in education from 1995-2020. These researchers examined over 3400 studies on augmented reality research and analyzed them based on metadata, author, content, and citation information. The authors suggest that practitioners could “use the results of this study to make decisions about the adoption of AR technologies in education” (p. 1). By documenting the authors that contributed the most, the scientific production over time, and the trending topics, they determined that “the number of publications on AR in education is increasing, and the field is gaining momentum” (p. 18).

Yalçın and Koşar (2021) used metadata from the Web of Science Database to study changes in publications from 1974-2020 on the inequality of opportunities in education. They created bibliographic data showing the most cited articles, as well as the most influential authors and publications. They discovered that while the publications about inequality of opportunities in education increased over the specified time period, the relationship between authors, countries, and institutions was weak. Their data led them to conclude that these publications would benefit from being made more comprehensively and in cooperation with other institutions, countries, and authors. They used a line graph to display their bibliometric findings by year (Yalçın & Koşar, 2021, p. 1199).

Also using the Web of Science database, an interesting bibliometric study on e-Leadership was conducted at Pablo Olavide University in Spain by Ingrid Garcia in 2020. She reviewed all the literature on the topic of e-Leadership from 1990-2019. She chose to group the terms of e-Leadership into five clusters and displayed findings in a density map of e-leadership clusters. The terms with the most mention are the ones clustered near the center of the map and are the largest, though outer clusters show relationships between terms as well. For example, “virtual team” is strongly related to “perspective” and “influence” is closely linked with the term “leadership” (Garcia, 2020, p. 31). In addition to the density map, Garcia displayed findings in numerous bar graph charts showing the countries, institutions, and authors with the most publications on e-Leadership. After she analyzed 347 publications, the author stated that the study provided “some novel insights useful for researchers interested in advancing an evidence-based social media and e-leadership

research and international research” (Garcia, 2020, p.32).

The purpose of the above bibliometric research projects and other literature mapping types of studies is to “explore the nature and extent” of published literature on a given topic (Garcia, 2020, p.32). They build on previous research and visually display data, thereby illustrating gaps, which may provide ideas for future research possibilities. This study on the use of graphic novels in classrooms and libraries for educational purposes also displays findings in a visual manner. These visuals are helpful so that other authors and educators might benefit from the knowledge of the current published literature. They also help authors and educators notice gaps in the literature where further research might be explored.

Graphic Novels in the Classroom or Not?

At the time of this research study, no article was located that discouraged or condemned the use of graphic novels for pedagogical purposes in the classroom. On the contrary, article after article emerged that not only encouraged their use, but even said that it was most beneficial in today’s classroom. However, Clark’s (2013) research with teachers-in-training (preservice) revealed a strong reluctance on their part to utilize them because “your credibility could be shot. And for that reason, I don’t think I’d use them” (p. 43). Yildirim (2013) believes that the reluctance of today’s educators and librarians to use graphic novels in the classroom often stems from a lack of knowledge about the medium and its benefits. He goes so far as to claim “The typical classroom reading material is no longer sufficient to meet the needs of the current generation” (Yildirim, 2013, p.123). With so many educators, authors, scholars, and librarians claiming that graphic novels are a valuable tool, it would seem difficult to completely ignore these assertions.

The arguments for using graphic novels in the classroom are certainly compelling. Says Ripp (2018) of those who dissent, “You may be dismissing the first book they have even seen themselves in” (p. 16). When fostering a love of reading is such a common goal of teachers and librarians, this truth would be unfortunate for both teacher and student. Smith (2018) concurs saying “Educators would be dismissing an important learning tool by denying the use of graphic novels in their classrooms” (p. 6). Yet even with numerous reasons, ALA keynote speakers

Holmes and Schwarzenbach (2020) explain that “Despite their many benefits and their popularity with readers, there are many teachers, librarians, and adults who still consider graphic novels to be ‘fluff’ reading and not ‘real books’” (p. 18). One of the goals of this project is to make the literature on this important topic readily available to educators, making this research study an important one for educators considering giving graphic novels a look. This study will display the quantity of research out there on this topic, and list the authors and journals that regularly publish on this subject. At the time of this writing, no other bibliometric study analyzing the research on the topic of nonfiction graphic novels used for classroom and educational purposes was located.

METHODOLOGY

This bibliometric study was conducted using the University of Southern Mississippi’s database system and three specific databases. The three databases selected were *Education Source*, *Library and Information Science Source*, and *Teacher Reference Center* because they contain scholarly research articles pertaining to literacy, education, and libraries. Using an *Advanced Search* option for all three databases and the category *Title*, the following search terms were used: “graphic novels” AND “instruction or teaching or pedagogy or strategy” AND “nonfiction.” *All Text Fields* was selected to include searching within the body of the articles. After the initial search was run, the search term “library” was extended to the body of the article, providing that “graphic novel(s)” was still in the title. The advanced search option for the English language and peer-reviewed academic journals were selected as delimiters. The entire search was limited to articles. The Boolean/Phrase search mode was used in all cases. The goal was to locate the published research between 2000 and 2020 that was in the Academic fields of Library Science and Education only. A second search was carried out with all of the same three databases. This time the search phrase “graphic novels in education” OR “graphic novels in the classroom” using the *Title* category for both. All other delimiters were identical to the first search. Any repeated identical sources were not counted more than once. Each article’s title, topic and/or theme, author, and journal was noted and documented. Findings have been displayed using *Excel* bar graphs, pie charts, and spreadsheet charts. Similarities in the literature were highlighted in the *Discussion* section

of the study. Implications for further research on uses for nonfiction graphic novels are mentioned after the findings were analyzed in the *Discussion* and *Conclusion* sections of this research study. Due to the limitations of this study and its particular methodology, the results of this research may not be generalizable.

Limitations This research study contains only journal articles found in the database systems of the University of Southern Mississippi. The results contained in this study are limited by those database articles which have been classified and cataloged correctly. Results are limited by those articles which have been indexed accurately and completely so that all relevant articles were retrieved. Research results are limited to those works with content correctly labeled as either *fiction* or *nonfiction* and are accurately described as such. All research results in this study are limited to those articles within the research, which have correctly been assigned the term graphic novel in the title and contents of the work.

RESULTS

R1. *Approximately how many scholarly research articles have been published over the past twenty years (2000-2020) on the topic of using nonfiction graphic novels in libraries or classrooms for instructional purposes?*

The total number of journal articles found between 2000 and 2020 published on the topic of using nonfiction graphic novels in libraries or classrooms for instructional purposes was 54. The earliest article found on this topic was published in 2004, with a gradual increase in publications after 2006. Published articles peaked in 2011, with 2011 having more than double any other year before or after it. After 2011 the research gradually declined and leveled off from there through 2020, ranging between one and five articles published per year. The results show that research on the topic from the 2000s somewhat mirrored the 2010s. The distribution of research during this time period had slight fluctuations up and down throughout the two decades, with 2011 displaying the highest number of publications which may suggest that this was a ‘hot’ topic that year. The specific breakdown of the number of articles per year can be seen in Figure 1.

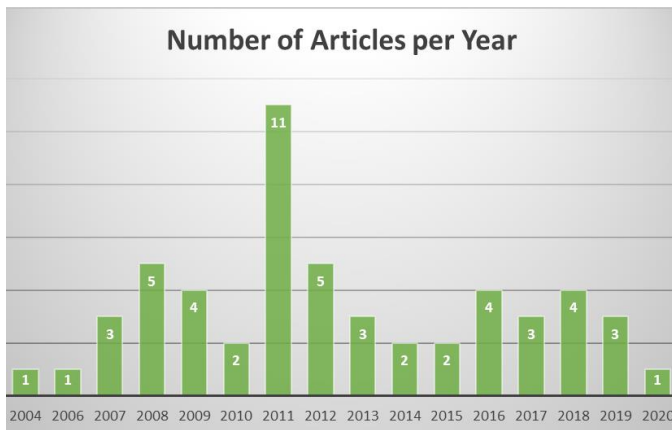


Figure 1. Number of Articles by Year



Figure 2. No. of Articles Published by a Single Primary Author

R2. Which authors have written the most research during this timeframe on the inclusion of nonfiction graphic novels as instructional tools in classrooms or library settings? Were the authors writing as sole authors or collaborators?

The research shows that published articles on the topic of instructional uses for graphic novels in classrooms and libraries have garnered a very wide range of authors. Of the 54 articles that were documented over the two-decade period of 2000-2020, the total number of primary authors was 50. One primary author—Clark—published three articles on the topic, one of which had a secondary author. Schwarz published three articles, twice as the secondary author and once as the primary. Downey was the primary on two articles, one of which had a secondary author. One author—Möller—was a singular author on two articles covering nonfiction graphic novels. Cooper and Nesmith collaborated on their articles and alternated who was the primary. Lastly, Dallacqua collaborated on two of the articles but was primary on only one of them. The remaining articles all had different primary authors, some of which were written jointly. Out of the total articles that were documented, 20 were either co-authored or were collaborative works with three or more authors. Figure 2 displays a pie graph illustrating the number of authors and the number of articles each published. Table 2 displays the articles written by more than one author.

The data exceeds the estimations of Lotka’s Law, which states that 61 percent of authors on a given topic make just one contribution. In the case of nonfiction graphic novels being used for instructional

purposes in classrooms and libraries, 86 percent of the gathered research was by authors making a single contribution with only 14 percent of the authors found making multiple contributions to the research topic. This may be due to the novelty of the topic, with graphic novels only having existed since the late 1970s. The research on their use in education did not start until the early 2000s and may have attracted attention among individuals in academia due to being both popular and somewhat controversial. Bosma et al (2013) remarked that “graphic novels are growing in popularity” (p. 59). Four years later Chisholm et al (2017) concurred with that statement adding “Despite these positive developments, this format continues to be underutilized and sometimes marginalized and stigmatized in U.S. classrooms (p. 289).

Articles with Secondary Authors

It is noteworthy to mention that 20 articles, just over one-third of the 54 total articles found, were authored by multiple authors. Table 2 shows the articles with more than one author.

R3. Which professional journals have published the most articles during this timeframe on the topic of nonfiction graphic novels being used for instructional purposes in classroom or library settings?

A total of 41 different professional journals published articles on the topic of instructional uses for graphic novels in classrooms and libraries. Ten journals had published more than one article on the topic. Of those journals that published more than one article, seven of them had published a total of two articles each. Of the remaining three journals two had published three

articles and one had published four articles. These results would indicate that Bradford’s Law, in which one-third of the articles on a given topic are published by a single journal, is not applicable to this particular research topic. Rather, the total number of articles on the topic are somewhat evenly distributed.

Table 1 displays the number of articles published by each of the 41 journals. See Figure 3 for a bar graph representing the breakdown of the 41 different professional journals and the total number of articles published by each over the period from 2000-2020.

Title of Journal	# Articles
Against the Grain	1
ALAN Review	1
American Libraries	1
Art Education	2
Australian Journal of Language & Literacy	1
Book Links	1
California English	3
Children's Literature in Education	1
Clearing House	1
Collaborative Librarianship	1
Communications in Information Literacy	1
Dil ve Edebiyat Egitimi Dergisi	1
Education Week	1
English Journal	2
Journal of Adolescent & Adult Literacy	4
Journal of the Association for Library Service to Children	1
Journal of Children's Literature	2
Journal of Jewish Education	1
Journal of Language & Literacy Education	1
Journal of Social Studies Research	1
Knowledge Quest	3
Language Arts	1
Library Media Connection	1
Library Resources & Technical Services	1
Michigan Reading Journal	1
Multicultural Education	1
New England Reading Association Journal	1
New Review of Children's Literature & Librarianship	1
Ohio Social Studies Review	2
Planning & Changing	1
Practically Primary	1
Reading Teacher	1
Reference & User Services Quarterly	1
School Librarian's Workshop	1
School Library Media Research	1
Science Educator	1
Simile	1
Social Studies	2
Social Studies Research & Practice	2
Teacher Librarian	1
Theory & Research in Social Education	2

Table 1. Total Number of Articles Published Per Journal

	Author(s)	Year	Multiple Authors
1	Bucher, K. T., & Manning, M. L.	2004	✓
2	Christensen, Lila L.	2006	
3	Cromer, M., & Clark, P.	2007	✓
4	Rudiger, H. M., & Schliesman, M.	2007	✓
5	Schwarz, G.	2007	
6	Carlson, I.	2008	
7	Graham, M. A.	2008	
8	Teale, W. H., Kim, J., & Boerman-Cornell, W.	2008	✓
9	Williams, R. M.-C.	2008	
10	Yang, G.	2008	
11	Downey, E. M.	2009	
12	Martin, A.	2009	
13	Smetana, L., Odelson, D., Burns, H., & Grisham, D. L.	2009	✓
14	Williams, V. K., & Peterson, D. V.	2009	✓
15	Griffith, P. E.	2010	
16	Pifel, A.R.	2010	
18	Cooper, S., Nesmith, S., & Schwarz, G.	2011	✓
19	Douillard, K.	2011	
20	Draper, C. A., & Reidel, M.	2011	✓
21	Hoover, S.	2011	
22	Karp, J.	2011	
23	Lawn, J.	2011	
24	Mathews, S. A.	2011	
25	Schieble, M.	2011	
26	Schmidt, J.	2011	
27	Volin, E.	2011	
28	White, B.	2011	
29	Brozo, W. G.	2012	
30	Cardno, C. A.	2012	
31	Cirigliano, M. M.	2012	
32	Downey, E. M., & Davidson, K.	2012	✓
33	Gavigan, K.	2012	
34	Bosma, K., Rule, A. C., & Krueger, K. S.	2013	✓
35	Clark, J. S.	2013	
36	Yildirim, A. H.	2013	
38	Clark, J. S., & Camicia, S. P.	2014	✓
37	Clark, J.S.	2014	
39	Gibney, N. & Homant, S.	2015	✓
40	Möller, K.J.	2015	
41	Kern, D.	2016	
42	Möller, K.J.	2016	
43	Nesmith, S., Cooper, S., Schwarz, G., & Walker, A.	2016	✓
44	Piper, C., Tonyan, J., & Vrbancic, E.	2016	✓
45	Chisholm, J. S., Shelton, A. L., & Sheffield, C. C.	2017	✓
46	Kedley, K. E., & Spiering, J.	2017	✓
47	Sun, L.	2017	
48	Kersten, S.	2018	
49	Smith, J.M., & Pole, K.	2018	✓
50	Smith, S.	2018	
51	West, W. L., & Nous, R. A.	2018	✓
52	Marlatt, R., & Dallacqua, A. K.	2019	✓
53	Reingold, M.	2019	
54	Dallacqua, A. K., Yoo Kyung Sung, & Rice, M.	2020	✓

Table 2. Co-Authored Articles with Year Published

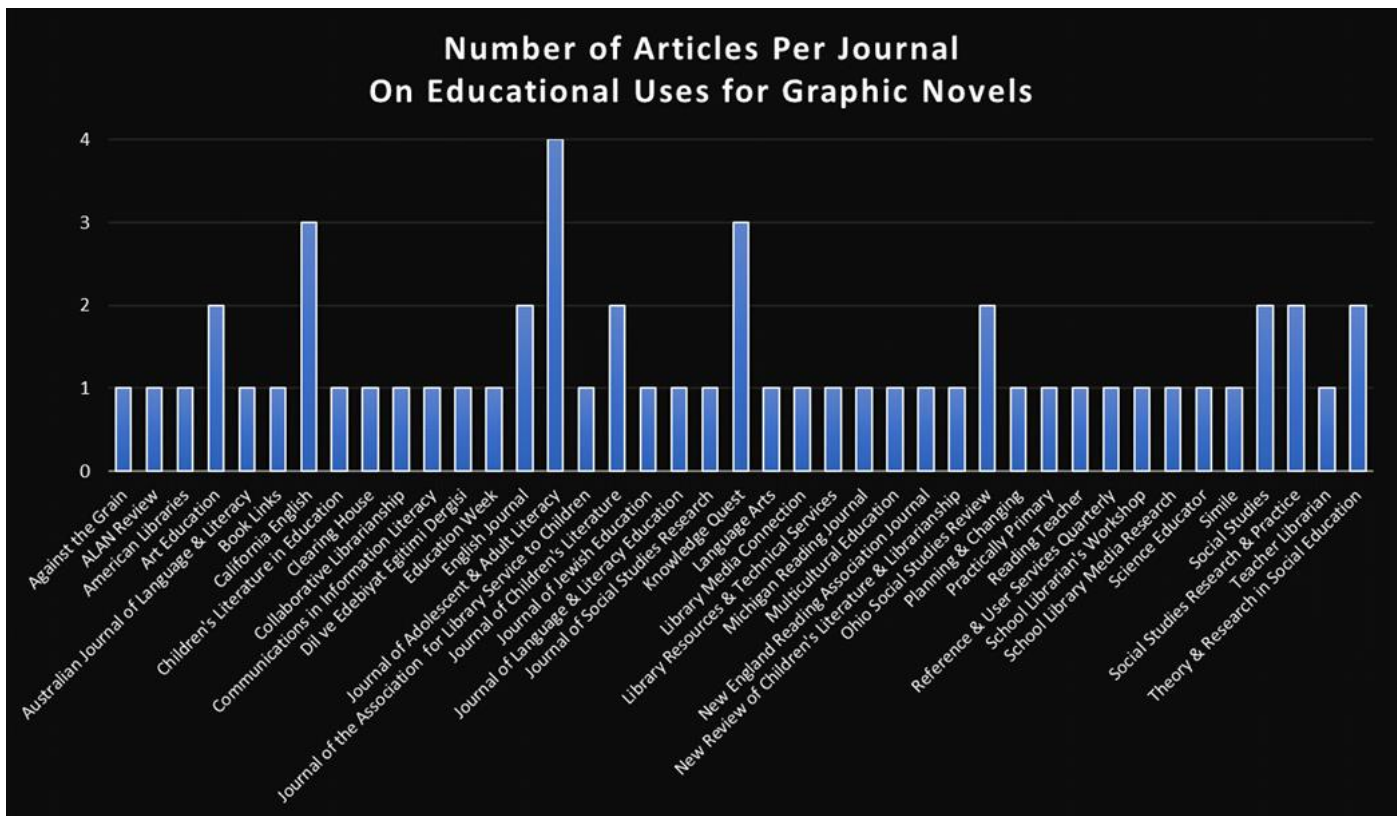


Figure 3. Number of Articles Published by 41 Journals from 2000-2020

R4. Which nonfiction graphic novels are referenced in the scholarly research as being ideal tools for use in classrooms or library settings for instructional purposes?

Many of the articles gathered in the research made one or more graphic novel recommendations for educational purposes. The research in this study identified 100 recommended graphic novels among the 54 research articles documented in this paper. Of those graphic novels, 14 titles had been recommended by name in at least three or more research studies. Two graphic novels led the others among the authors that gave recommendations on the topic of nonfiction graphic novels for instructional use in classrooms and libraries. These two novels were mentioned in 19 and 18 of the research articles, respectively. The first of these graphic novels was *Maus* by Art Spiegelman (1997), which won a Pulitzer Prize (volumes I and II are referred to as *The Complete Maus*). *Maus* is about the author's father Vladek Spiegelman who, along with his wife, lived through the Holocaust during Hitler's reign of terror. The second novel, mentioned in only one fewer article was *Persepolis* (2004) by Marjane Satrapi (along with *Persepolis 2*, referred to as *The Complete Persepolis*). These two volumes have been internationally acclaimed and contain a graphic

memoir of the author's life growing up in Tehran, Iran as a girl during the Islamic Revolution. The graphic novel which was third highest in recommendations with 12 article references was *American Born Chinese* (2006) by Gene Yang. This novel was a winner of the Michael L. Printz Award and contains the stories of three different characters, one being a Chinese-American student, whose lives intersect with an unexpected twist. The story contains nonfiction elements throughout and has been referred to as a modern fable that has been successfully used to address important social themes with students such as racial and social stereotypes. Yang's novel also received an Eisner Award, given annually for the best graphic novel of the year.

Figure 4 graphically represents the 100 graphic novels recommended in the research. The data on the first two lines represent the 86 graphic novels that were mentioned in <2 articles. Line 1 shows that 61/100 were mentioned in only one article and line 2 shows that 25/100 were mentioned in 2 articles. All graphic novels with three or more recommendations in the research are listed by title. Lines 3-16 in Figure 4 list the 14 most recommended graphic novels among the research articles. The complete list is found in Appendix III.

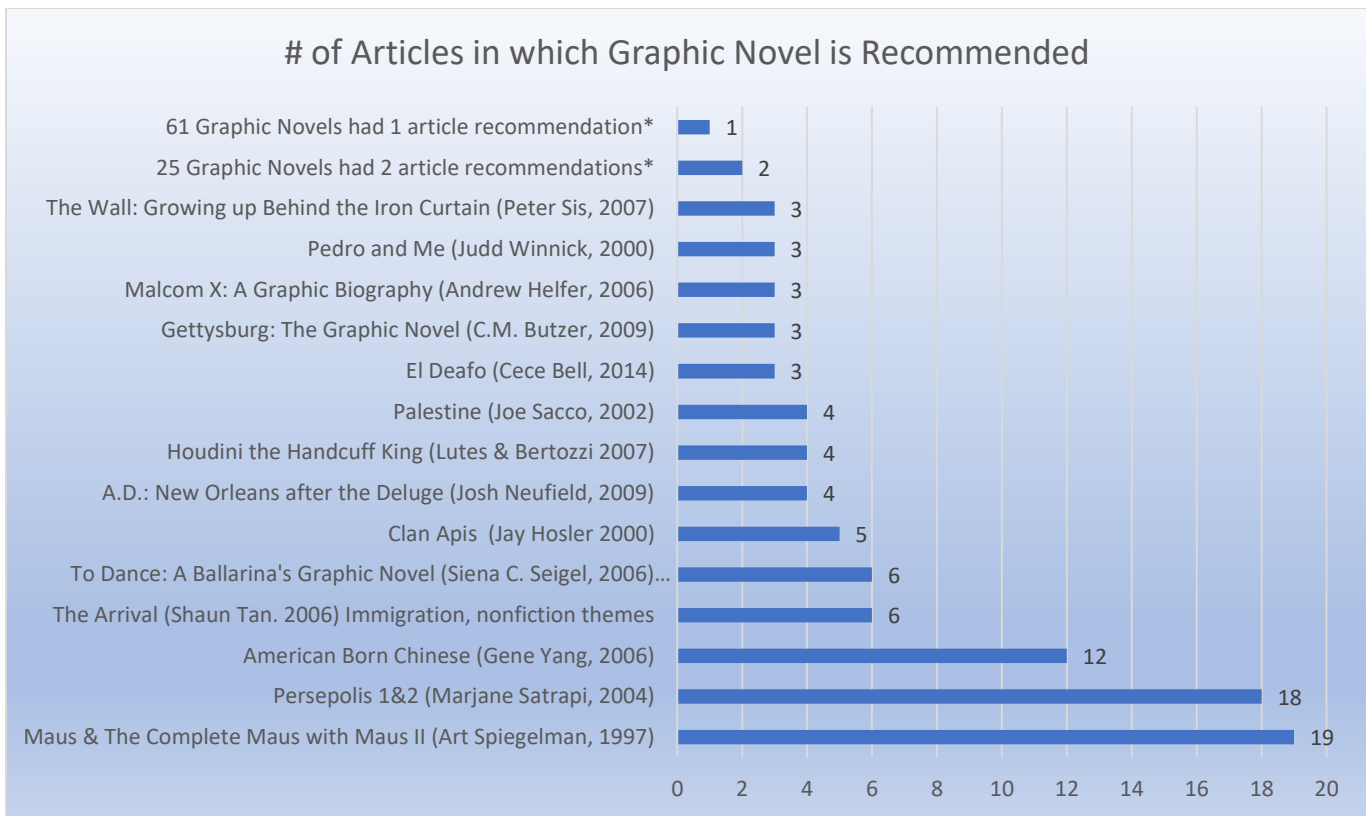


Figure 4. Graphic Novels with Highest Number of References among the Research

*86 graphic novels with fewer than 3 articles recommending them in the literature

According to Clark (2013), graphic novels "are often compelling nonfictional works, such as biographies, autobiographies, histories, reportage, and travelogues" (p.39). For the purposes of this study, nonfiction graphic novels include any graphic novel that is based on an actual true story, an historical event, a specific time period, an autobiography, or a memoir. Also included are fictionalized graphic novels based on truth or true events such as an author's true experiences during their life. Examples of this type of novel are *El Deafo* and *American Born Chinese*. For a complete list of the graphic novels that were recommended in the research articles, by author's name, see Appendix III.

DISCUSSION

The research gathered in this study shows that the topic of using graphic novels within classroom and library settings for instructional purposes has been a source of focus and interest for many years. The data indicate that starting in the early to mid-2000s there were a small number of individual authors that published articles on the topic, and that by 2008 a growing number of articles were being published on pedagogical uses for nonfiction graphic novels in

classrooms and library settings. Many of these research articles were co-authored. The year 2011 produced the most articles of any year published on the subject, which suggests that it was a popular topic at that time. There was a gradual decline in the amount of literature after 2011, with 2012 showing less than half as many published articles on the topic. However, each year following 2012 through 2020, it can be seen that the number of published articles remained fairly steady, with scholarly journals averaging at least 2-4 publications per year.

At the time of this research study, no other bibliometric studies were found on the topic of locating research on the use of nonfiction graphic novels for educational purposes in schools and libraries. However, several of the articles included bibliographic reference lists of recommended graphic novels that were designed for the use of educators—Karla J. Möller (2016), Eva Volin (2011), and J. Spencer Clark (2013). An annotated bibliography was in the article by Lila Christensen (2007). In addition, a list of online graphic novel resources can be found in the article by Gene Yang (2008). Yang is a graphic artist himself and his scholarly journal article is the only one among all 54 results which is

written and illustrated entirely in graphic novel format. All of the above bibliographic lists were provided within articles about the benefits and instructional uses of nonfiction graphic novels.

The research parameters in the *Education Source* database using the search terms “graphic novels” in the *Title* mode, along with search terminology “instruction or teaching or pedagogy or strategy” in *All-Text* mode, and finally the term “nonfiction” also within *All-Text* mode listed 43 results. Of these 23 articles were retained, with the others excluded based on the delimitations given. The same methodology, “graphic novels” in the *Title*, followed by AND along with “instruction or teaching or pedagogy or strategy” and finally “nonfiction” added within the *All-Text* mode was carried out in the *Teacher Reference Center* database and yielded four results. Two of these were duplicates and the other two were discarded for being reviews. Finally, the same methodology of using “graphic novels” in the *Title*, along with “instruction or teaching or pedagogy or strategy” AND finally “nonfiction” added within the *All-Text* mode was carried out in The *Library & Information Science Source* database and populated 14 results. Of these results seven were duplicates and the remaining were excluded as either reviews or for classification under one of the other delimitations.

In an effort to locate all applicable studies for this research, the three databases were used a second time with another Advanced Search variation. On this occasion *Education Source*, *Teacher Reference Center*, and *Library & Information Science Source* were searched one-by-one with the search phrase “graphic novels in education” used in *Title* mode, followed by OR and then a second phrase listed also in *title* mode of “graphic novels in the classroom.” *Education Source* yielded 32 results, 15 of which were retained for filling the requirements of the study, and others were duplicates or reviews. The *Teacher Reference Center* gave eight results with four duplicates, and no additional articles were added. Finally, *Library & Information Science Source* yielded 18 results with six duplicates and five additional articles were added to the total. This exact search was carried out again within the search engine where the three databases were chosen simultaneously (preselected all at once), with the above search carried out again exactly the same way. Interestingly this search yielded 57 results with 25 being duplicates but 11 additional articles were

added, and 21 articles were excluded due to being reviews or falling under one of the other delimitations. This made the final total of articles found to be 54. In the case of every search using all three databases the variation of adding the search term “library” did not yield any additional articles from those previously documented. For a full list of the 54 articles found in this study see Appendix I. See Table 3 for a breakdown of research outcomes.

It is possible that there are additional articles on using nonfiction graphic novels for instructional purposes if articles were searched containing the phrase “nonfiction graphic novel” in the *Subject* area and not only those results which had the phrase in its *Title*. For example, certain scholars who are known by the author through academic discussion to be prolific on the topic, such as Boerman-Cornell, only had one article found in this study, on which he was the secondary author. This would suggest that other articles he has written on nonfiction graphic novels for educational purposes do not contain the terms/phrases “graphic novel” or “graphic novels in education” or “graphic novels in the classroom” in their title. Expanding the search to articles that include one or more of these phrases in the subject area and not only its title would be an area for future research.

There may also be additional articles on this topic that were missed due to inconsistencies in search engine technology. This was the case in the second search performed using this study’s methodology. Running the same search individually on the three chosen databases brought up fewer results than when the search was run after preselecting the three to be searched all at once. These search engine technology inconsistencies may be another area for future research and study. For a list of additional articles applicable to this topic that surfaced but did not populate under the above-described methodologies, see Appendix II.

Of all the authors who populated in the research of this study, there were only two that had published on the topic more than twice. J.S. Clark (2013, 2013, 2014) had the most published articles as a primary author. His work focused on the importance of nonfiction graphic novels as an educational tool and his work to bring this understanding to teachers-in-training. The other recurring author was Gretchen Schwarz (2007, 2011, 2016), who had three

First Search Methodology				
Database Name	Hits	Retained	Duplicates*	Delimiters
Education Source	43	23	0	20
Library & Information Science Source	14	0	7	7
Teacher Reference Center	4	0	2	2
Second Search Methodology				
Database Name	Hits	Retained	Duplicates*	Delimiters
Education Source	32	15	8	9
Library & Information Science Source	18	5	6	7
Teacher Reference Center	8	0	4	4
All 3 Databases Pre-Selected**	57	11	25	21
Totals from both Search Methodologies	176	54	52	70
*Duplicates refer to articles found in previous Databases and/or Search Methodology				
**Second Search Methodology identical but utilizing all 3 Databases simultaneously				

Table 3. Research Methodology Outcomes

published articles in this study, one as the primary author. Her focus typically centered on using graphic novels in the content areas like math and science. She also discussed media literacy and using graphic novels to examine social issues and civic education. Both authors were among those who made specific graphic novel recommendations for instructional purposes.

This study found that a wide variety of scholarly journals have published articles about the topic of using nonfiction graphic novels for instructional purposes. There was no single journal that stood out as being a clear leader in the research on this topic, claiming one-third of the total research as is often the case with Bradford's Law. Rather, the total number of articles was divided fairly evenly among 41 different journals. This may suggest a widespread interest in the subject. That being said, the data

indicate that the *Journal of Adolescent & Adult Literacy* has published the most articles on the topic at the time of this research project.

One recurring theme in the literature was the repeated mention of the negative stigma graphic novels have. This 'bad rap' that graphic novels continue to fight is that of being 'looked down' upon by scholars, educators, and librarians due to their connection to the comic book. Says Schwarz (2007), "Many still consider the graphic novel...not fit for school study" (p.1). Some of the later research articles make the same assertions. Douillard (2011) remarks, "They are not viewed by everyone as quality literature or known for their academic content or contributions in all educational circles" (p. 9). Many of the studies used their students' successes to combat this stigma. The goal of the authors is clear; if student enthusiasm, performance, skills tests, and assessment results increase after using one or more graphic

novels in an instructional setting, it becomes more difficult to refute their benefits.

Another observation of this study was the repeated mention in the scholarly research that graphic novels have been the recipients of very prestigious book awards. Volin (2011) points out that graphic novels regularly enjoy nominations and win awards such as the Printz, Sibert, Geisel, Alex, Hugo, Pulitzer, and the National Book Award. West and Nous (2018) make a similar statement, mentioning that The Eisner and Harvey Awards are two of the most prestigious honors given to deserving graphic novels. Williams, V.K. and Peterson (2009) bring up literary awards in their study as well, specifically mentioning the Pulitzer won by *Maus* (Spiegelman) in 1992 and *American Born Chinese* receiving the Michael L. Printz Award in 2007. Smith and Pole (2018) discussed *El Deaf* having been a Newberry Honor book. This mention by authors throughout the timespan of award recognition also helps to support their claim that graphic novels should be recognized and praised as a legitimate literary medium with a unique and beneficial part to play in today's library and classroom instructional settings.

CONCLUSION

The use of nonfiction graphic novels in classroom and library settings for instructional purposes has been a well-documented and much-discussed topic for many years. Research on this subject began to emerge in the early 2000s and continues to the present day. This study revealed an increase in publications starting after 2006 and a 'peak' in the research during the year 2011. This suggests that interest was growing around the topic and that it was receiving much attention. Griffith (2010) stated, "I realized that I would have to become more than just familiar with graphic works in print and media, because this was a cultural trend in the young adult literature field of study" (p. 182). Griffith's statement is supported by the data found in this research study. A wide variety of authors have contributed to the topic, as have a large and diverse number of journals.

Research on graphic novels in one specific content area or age group may be an area for future research. An examination of fictional graphic novels in ELA or Creative Writing classrooms is another possible area for future research. Search engine technologies and fluctuations among databases within some search engines are another area for future research that this study revealed.

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APPENDIX I: List of Articles Found in this Research Study

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Appendix II: Additional nonfiction graphic novel resources for education

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* BONUS

Recommended Non-Fiction Graphic Novels from: Bailey, A. R. (2018). Nonfiction Graphic Novels in Children’s Literature: An Interview with Maris Wicks and Calista Brill. <i>Language Arts</i> , 95(5), 332–337.	Author
Coral Reefs: Cities of the Ocean (Wicks, 2016)	Bailey, A.
Flying Machines: How the Wright Brothers Soared (Wilgus, 2017)	Bailey, A.
Human Body Theater (Wicks, 2015)	Bailey, A.
Robots and Drones: Past, Present, and Future (Scott, 2018)	Bailey, A.
Sharks: Nature’s Perfect Hunter (Flood, 2018)	Bailey, A.

Appendix III: Recommended Graphic Novels in the Research for Instructional use

Graphic Novel	Recommending Authors
Alia's Mission: Saving the Books of Iraq (Stamaty, M. A. 2004)	Möller, K.J.
The Arrival (Tan, S. 2006) (Immigration, nonfiction themes)	Dallacqua, Griffith, Karp, Kern, White, B., Volin, E.
9/11: September 11, 2001 Volumes I and II (Stout, W. & Sakai, S. & Chadwick, P. 2002)	Bucher & Manning
A Game for Swallows: To Die, to Leave, to Return (Abrached, Z. 2012)	Möller, K.J
A Jew in Communist Prague: Volume 1: Loss of Innocence (Giardino, V. 1997).	Bucher & Manning
A Journey into the Human Body (Oh, 2005)	Cooper et al., Nesmith et al.
A People's History of American Empire (Howard Zinn, 2008)	Clark, J. S., Pifel
A Thousand Ships (Eric Shanower, 2001)	Bucher & Manning
A.D.: New Orleans after the Deluge (Josh Neufield, 2009)	Clark, J. S., Möller, K.J, Clark & Canicia, DeFrance & Naumann
Abraham Lincoln and Frederick Douglass: The Story Behind an American Friendship (Freedman, R. 2012)	Möller, K.J
After 9/11: America's War on Terror (Jacobson & Colon, 2008)	Clark, J. S., Clark & Canicia
Amazing "True" Story of a Teenage Single Mom (Arnoldi, K., 1998)	Bucher & Manning, Downey
Amelia Earhart: This Broad Ocean (Taylor, S.S. 2010)	Möller, K.J, Volin, E.
American Born Chinese (Gene Yang, 2006)	Carson, Downey & Davidson, Gibney & Homant, Griffith, Hoover, Kern, Martin, Williams, V.K. & Peterson, White, B., DeFrance & Naumann, Schieble, Smith, J. & Pole, K.
Anne Frank (Jacobson & Colon, 2010)	Clark, J. S., Clark & Canicia
Annie Sullivan and the Trials of Helen Keller (Lambert, J. 2012)	Möller, K.J
Bannock, Beans, and Black Tea (Seth & Gallant 2004)	Cromer & Clark,
Barefoot Gen (Nakazawa, K. 1978)	Graham
Bass Reeves: Tales of the Talented Tenth (Gill, J.C. 2014)	Möller, K.J
Blankets (Thompson, C. 2005) autobiographical	Graham, White, B.,
Ché: A Graphic Biography (Jacobson & Colon, 2009)	Clark, J. S., Pifel
Clan Apis (Hosler 2000)	Bucher & Manning, Rudiger, Williams, V.K. & Peterson, Möller, K.J, Volin, E.
Comanche Moon (Jackson, J. 1979, 2003)	Schwarz
Danny Davinci: The Secret of the Mona Lisa (Smith, R. & Whatley, B. 2019) (primary grade Davinci autobiography)	Lawn
Deogratias: A Tale of Rwanda (Stassen, J.P. ,2006)	Downey&Davidson, Kern
Desert Peach (Eaglestone, R. 2002)	Cromer&Clark,
Dignifying Science: Stories about Women Scientists (Ottaviani ,2000)	Bucher&Manning, Schwarz
Echoes of the Lost Boys of Sudan (Akol Gabriel, Santino Athian, Matthew Mabek, Michael Ngor, 2004)	Christensen
Einstein (Special Academic Manga/Ykids, 2007)	Cooper et al., Nesmith et al.
El Deafo (Bell, C. 2014)	Kersten, Möller, K.J, Smith, J. & Pole, K.
Fallout (Ottaviani, 2001)	Bucher & Manning
Fax from Sarajevo: A Story of Survival (Joe Kubert, 1998)	Bucher & Manning, Christensen
Freedom Song: The Story of Henry "Box" Brown (Walker, S.M. 2012)	Möller, K.J
Freedom Songs: A Tale of the Underground Railroad (Robbins, T., & Millet, J., 2008)	Gavigan, K.
Gettysburg: The Graphic Novel (C.M. Butzer, 2009)	Clark, J. S., Chisholm et al., Möller, K.J
Harriet Tubman and the Underground Railroad (Martin, M., 2005)	Gavigan, K.
Harriet Tubman: The Life of an African-American Abolitionist (Shone, R., & Ganeri, A., 2005)	Gavigan, K.
Helen's Big World: The Life of Helen Keller (Rappaport, D. 2012)	Möller, K.J
Henry's Freedom Box: A True Story From the Underground Railroad (Levine, E. 2007)	Möller, K.J
Houdini the Handcuff King (Lutes, J. & Bertozzi, N. 2007)	Downey & Davidson, Griffith, Volin E., Möller, K.J
I, Matthew Henson: Polar Explorer (Weatherford, C. 2008)	Möller, K.J
I Remember Beirut (Abrached, Z. 2014)	Möller, K.J
Illegal (Colfer, E., Donkin, A., & Rigano, G. 2019).	Dallacqua
In the Shadow of No Towers (Art Spiegelman 2004)	Cromer&Clark,
Incognegro (Johnson, M. & Pleece, W. 2018)	Brozo
Inside Out: Portrait of an Eating Disorder (Shivack, N. 2007)	Griffith, Martin, A.
Journey into Mohawk Country (O'Connor, G. & Vandenbogaert, H., 2006)	Griffith, Yang
Kampung Boy (Lat, 2006)	Möller, K.J, Volin, E.
King: A Comics Biography of Martin Luther King, Jr. (The Complete Edition) (Anderson, Ho Che, 2005)	Schwarz

Graphic Novel	Recommending Authors
Laika (Abadzis, N. 2007)	Griffith
Little Rock Nine (Poe, M., 2008)	Draper & Reidel, Volin, E.
Louis Riel: A Comic Strip Biography (Brown, C. 2003)	Cromer & Clark
Malcom X: A Graphic Biography (Andrew Helfer, 2006)	Clark, J. S.,Downey & Davidson, Griffith
Martin, M. (2005). Harriet Tubman and the Underground Railroad.	Gavigan, K.
Math Mysteries-The Secret Ghost (Thielbar and Ota 2010)	Cooper et al., Nesmith et al.
Maus & The Complete Maus containing Maus II (Art Spiegelman, 1997)	Carlson, Bucher & Manning, Christensen, Cromer & Clark, Douillard, Downey & Davidson, Downey, Graham, Griffith, Hoover, Karp, Schwarz, Yang, Williams, V.K.& Peterson, White, B.,Clark & Camicia, DeFrance & Naumann, Schieble, Yildirim
Me, Jane (McDonnell, P. 2011)	Möller, K.J
Miracle Man (Eaglestone, R. 2002)	Cromer & Clark
Nam (Doug Murray, 1987)	Bucher&Manning
No Girls Allowed: Tales of Darin Women Dressed as Men for Love, Freedom, and Adventure (Dawson, W. 2008)	Volin, E.
Onward: A Photobiography of African-American Polar Explorer Matthew Henson (Johnson, D. 2006)	Möller, K.J
Oregon Trail (Dunn, 2009)	Bosma
Palestine (Joe Sacco, 2002)	Bucher & Manning, Christensen, Cromer & Clark, Hoover
Pedro and Me (Judd Winnick, 2000)	Carlson, Bucher & Manning, Schwarz
Persepolis 1&2 (Marjane Satrapi, 2004)	Carlson, Christensen, Clark J.S., Cromer & Clark, Downey & Davidson, Downey, Graham, Hoover, Karp, Martin, Rudiger, Schwarz, Williams, V.K. & Peterson, White, B., Kersten, Clark & Camicia, DeFrance & Naumann, Yildirim
Pride of Baghdad (Brian Vaughan, 2008)	Carlson
Safe Area Gorazde: The War in Eastern Bosnia 1992-1995 (Sacco, J. 2000).	Cromer & Clark
Satchel Paige: Striking Out Jim Crow (Porcellino, J. 2008)	Möller, K.J, Volin, E.
Squish Super Amoeba (Holm, J. 2011). (primary grade science elements in it but fiction)	Douillard
Still I Rise: A Cartoon History of African Americans (Laird, Jr, R.O.& Laird, T.N., 1997)	Schwarz
Stitches (Small, D. 2009) (autobiography)	Downey & Davidson
Streetwise (Cooke and Morrow, 2000)	Bucher & Manning
Stuck Rubber Baby (Cruse, H. 1995)	Bucher & Manning
Talkin' About Bessie: The Story of Aviator Elizabeth Coleman (Grimes, N. 2002)	Möller, K.J
The 9/11 Report: A Graphic Adaptation (Jacobson & Colon, 2006)	Carlson, Clark, J.S.
The Drowned City: Hurricane Katrina and New Orleans (Brown, 2015)	Marlatt & Dallacqua, Smith, J. & Pole, K.
The Fifth Beatle: The Brian Epstein Story (Tiwary, V. 2013)	West & Nous
The Librarian of Baza: A True Story from Iraq (Winter, J. 2005)	Downey & Davidson
The Math Game I (Jung, Chung, and Spoor, 2005)	Cooper et al., Nesmith et al.
The Mostly True Story of Mathew and Trim (Golds, C. & Axelsen, S. 2005) (re: Australian sailor Mathew Flinders and his cat)	Lawn
The Mystery of Nine (Law and Way 2010)	Cooper et al., Nesmith et al.
The Plot: The Secret Story of the Protocols of the Elders of Zion (Eisner, W. 2005)	Schwarz
The Sandwalk Adventures (Hosler, 2003)	Bucher & Manning
The Shocking World of Electricity (O'Donnell et al., 2007)	Cooper et al., Nesmith et al.
The Tale of One Bad Rat (Bryan Talbot, 1995)	Bucher & Manning, Graham
The United States Constitution: The Graphic Adaptation (Hennessey, 2008)	Clark & Camicia, Gibney & Homant
The Unwanted: Stories of the Syrian Refugees. (Brown, D. 2018)	Dallacqua
The Wall: Growing up Behind the Iron Curtain (Sis, P. 2007)	Griffith, Williams, V.K. & Peterson, Volin
The Watcher: Jane Goodall's Life With the Chimps (Winter, J. 2011)	Möller, K.J
To Dance: A Ballarina's Graphic Novel (Seigel, S.C. ,2006) memoir	Downey & Davidson, Griffith, Yang, Volin, Teale et al., Smith, J. & Pole, K.
Todd & Bhui Conquer Cell Biology (Cirigliano, M. K. 2010)	Cirigliano
Trinity: A Graphic History of the First Atomic Bomb (Fetter-Vorn, J. 2013)	Möller, K.J
Two-Fisted Science (Ottaviani, 2001)	Bucher & Manning
U.S. Constitution: A Graphic Adaptation (Hennessey & McConnell, 2008)	Draper & Reidel
Understanding Photosynthesis With Max Axiom, Super Scientist (O'Donnell, L. 2007)	Brozo
We Are on Our Own (Katin, 2006)	Clark & Camicia
Who Says Women Can't Be Doctors? The Story of Elizabeth Blackwell (Stone, T. 2013)	Möller, K.J
Wilma Unlimited: How Wilma Rudolph Became the World's Fastest Woman (Krull, K. 2000)	Möller, K.J
With the Light: Raising an Autistic Child (Tobe, K. 2007)	Martin, A.
Yossel: April 19, 1943: A Story of the Warsaw Ghetto Uprising (Joe Kubert, 2003)	Christensen