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Betty J. Glass
Southern Illinois University at Carbondale

M. Kathleen Cook
Southern Illinois University at Carbondale

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Children's periodicals are experiencing renewed popularity among today's young readers. Much to the amazement of parents and teachers, children's periodicals are successfully competing with television and other attractions for children's attention (Zuckerman, 1989). More than 100 years ago, periodicals also entertained and taught young people. With the current concern over the illiteracy of today's children and a reported decline in quality in the nation's schools, it seemed appropriate to make a comparison between the readability level of children's periodicals published today and that of similar publications from approximately 100 years ago. The authors hoped to determine whether any significant differences have occurred between the reading ability expected of today's children and those of almost a century before the advent of television and videogames.

Periodicals studied

Four periodicals were chosen for inclusion in the study, two from the 19th century and two currently being published. The 19th century periodicals chosen were *St. Nicholas* and *Harper's Young People (Harper's)*. *St. Nicholas* was the most popular literary magazine of its time and was published for 70 years, absorbing other children's periodicals throughout the years. Its readership included children between the ages of 5 and 18. *Harper's* was a competitor of *St. Nicholas*.

It had a worldwide readership but a much smaller circulation in its 20-year history (Roggenbuck, 1977). The publishers of both periodicals emphasized the necessity of literary and artistic excellence for children and respected their intellectual capabilities. The magazines sought to be "morally uplifting."

The two current periodicals selected for the study were *Highlights for Children* (*Highlights*) and *Cobblestone*. *Highlights* is intended for children 3-12 years. Its goals include the development of thinking, reasoning, moral sensitivity, basic skills and creativity (Thomas, 1987). *Cobblestone* is a social studies magazine with each issue providing a wealth of information on a particular topic. The magazine is intended for intermediate and middle school students (Moore and Moore, 1983).

All four of these periodicals include fiction, nonfiction, poetry and letters to the editor as part of their content. Because all four titles have poems and letters to the editor written by children, it was decided to test the reading levels of those two categories of material as well as the fiction and nonfiction material written by adults for young readers. Three sample passages in each of the four categories were randomly chosen from the four periodicals for a total of forty-eight samples. Issues of *St. Nicholas* from November 1886— October 1887 and of *Harper's* from October 1882—June 1885 contain the 19th century sample passages chosen for testing. Issues of *Cobblestone* and *Highlights* from 1988 provided the contemporary sample passages for testing.

Readability formulas used

Gamco Industries, Inc., of Big Spring, Texas, has developed a software package called *Readability Analysis* (Gamco, 1987). This program consists of three well known

readability formulas which cover the span of grade levels appropriate for the study. Therefore, it was chosen as the testing instrument. The *Readability Analysis* program was run on an Apple II microcomputer. Each passage chosen for testing was run against all three of the readability formulas described below.

The first of three tests, the Spache Primary Reading Formula, is considered accurate for grades 1.3 through 3.9. This formula is based on sentence length and proportion of hard words. It uses a revised word list of 1,041 words representative of the vocabulary currently present in basal readers and supplementary books for the primary grades (Spache, 1978).

The second test is the Dale-Chall Readability Formula. It is most often used for grades 4 through college level. It uses sentence length and percentage of unfamiliar words as the basis for its readability estimate. It also uses the Dale list of approximately 3,000 words that are in the reading vocabulary of at least 80% of children in the fourth grade (Dale and Chall, 1948).

The third test in the software program is the Fry Readability Formula. It encompasses the grade level ranges of both the other two tests, 1.3 through college. The Fry test uses average sentence length and average number of syllables for its predictions rather than a set word list to determine difficulty (Fry, 1977).

One problem is inherent in attempting to compare the readability of text from two different time periods. George Spache has noted that using a dated word list in a readability formula will result in an overestimation of the difficulty of text from a different time period (Spache, 1978). Applying 20th

century readability formulas to sample texts from the 19th century inevitably creates some degree of overestimation of difficulty. Similar inexactness may also apply to the 1988 samples, however, due to the dates of the word lists in two of the formulas. The original word list for the Spache Primary Reading Formulas was published in 1953. A revised word list for this formula appeared in 1974, predating the 1988 samples by 14 years. The Dale-Chall Readability Test became operational in 1948. Application of its 40-year-old word list to samples from 1988 may also result in some overestimation of difficulty when assigning grade levels. The inclusion of the Fry Readability Formula in the study provides compensation for the dated word list factor. No controlled vocabulary is used with this test. Therefore, it assigns grade levels to sample texts without a time period bias.

Given the growing concern over the effectiveness of the United States' education efforts, the authors set forth a simple hypothesis: the content of young people's periodicals from 100 years ago required a higher reading level than the content of young people's periodicals being published today. Language skills used by young people, themselves, to submit poetry and letters to the editor should also translate into higher reading levels for 100 years ago than for young readers today.

When comparing the 19th century samples of poetry and letters to the editor to the corresponding 1988 samples, the average reading level ranges are very similar (See Table 1). *St. Nicholas* and *Harper's* had an average reading level range of 3.2-6.1 for poetry and 3.3-6.5 for letters to the editor. *Cobblestone* and *Highlights* had an average reading level range of 3.2-6.1 for poetry and 2.6-7.0 for letters to the editor. Therefore, the basic hypothesis is not supported in these two

categories where young readers, themselves, used written language skills to provide reading material for their peers.

TABLE 1 Average Reading Levels			
		Readability formula	
Grade Level Ranges:	Spache (1.3-3.9)	Dale-Chall (4-College)	Fry (1.3-College)
Type of Material			
Poetry			
St. Nicholas	3.5*	6.1	4.6
Harper's Young People	3.2	5.5*	3.6
Cobblestone	3.6	6.1	4.0*
Highlights for Children	2.7	5.5*	2.3
Letters to the Editor			
St. Nicholas	3.6*	6.1	6.5*
Harper's Young People	3.3	5.5*	6.0
Cobblestone	3.0**	6.1	7.0
Highlights for Children	2.6	5.5*	2.6
Fiction			
St. Nicholas	NA#	7.5	8.6
Harper's Young People	NA#	6.8	8.3
Cobblestone	2.1**	5.5	5.6
Highlights for Children	3.0	5.5*	4.0
Nonfiction			
St. Nicholas	NA#	8.3	9.6
Harper's Young People	NA#	8.1	8.3
Cobblestone	NA#	11.0	10.3
Highlights for Children	3.9**	6.1	6.6

* One or more samples below test range
** One or more samples above test range
# All samples above test range

The fiction and nonfiction samples were written by adults for young readers. The fiction samples in *St. Nicholas* and

Harper's had an average reading level range of 6.8-8.6. *Cobblestone* and *Highlights* had an average reading level range of 2.1—5.6 for fiction. Thus, the hypothesis is supported for the fiction category.

The situation is not as straightforward for the nonfiction category, however. *St. Nicholas* and *Harper's* had an average reading level range of 8.1—9.6 for nonfiction. *Cobblestone* and *Highlights* had an average reading level range of 3.9—11.0 for nonfiction. The broad span for the two modern periodicals seemed to call for a closer look at the nonfiction results.

Individually, the four titles' average reading ranges were as follows: *St. Nicholas* = 8.3—9.6; *Harper's* = 8.1—8.3; *Cobblestone* = 10.3—11.0; *Highlights* = 3.9—6.6. The two 19th century titles had comparable ranges. The range for *Highlights* matched that of its intended audience of intermediate elementary grades. Based on these findings, the nonfiction hypothesis was supported in the case of *Highlights*.

The unexpected finding is the 10.3—11.0 range for *Cobblestone*. Intermediate and middle school students are the target audience for this periodical. The average readability level of the samples was 11.0 according to the Dale-Chall formula and 10.3 according to the Fry procedure, and the range grade scores across the two formulas was 7—15. All of *Cobblestone's* nonfiction samples tested beyond the range of the Spache test.

To understand the *Cobblestone* results, the raw scores for each of its three nonfiction samples were examined. One sample had a grade level range of 7—8, another had a range of 9—12, and the third had a range of 13—15. The text of the

third sample from *Cobblestone* was then retrieved in an effort to understand why two readability tests placed the passage so far above the intended reading level of the periodical. This sample was about art in the South during the Civil War. It consisted of four long sentences. Both the Dale-Chall and Fry tests use sentence length as a factor in their computations of reading level. This may partially explain the results for the third sample. Vocabulary must also be considered, however. The sample's discussion of lithographs and engravings to decorate parlors probably resulted in a high percentage of unfamiliar words for the Dale word list, and an equally high average number of syllables for the Fry test.

It has been noted in the literature that a limited word list in a readability formula can result in overestimation of the difficulty of specialized subject material. Common words in various specialized subject areas often are not included in the basic word list for readability formulas (Tekfi, 1987; Davison, 1988). This observation certainly applies to the nonfiction samples taken from *Cobblestone* for this study. *Cobblestone* specializes in nonfiction for young people, and two of its three randomly chosen samples tested at a higher reading level than the nonfiction samples in the 19th century periodicals. All of these factors contributed to lack of support for the basic hypothesis for nonfiction in *Cobblestone*.

Summary
The findings indicate that the language skills used by children themselves in writing poetry and letters to the editor have not declined over the last 100 years. If an adjustment is made for time bias, the written language skills for modern children are at a slightly higher level than those of 19th century children.

Nonfiction articles in one of the modern periodicals were found to be more difficult than those in the 19th century periodicals. While vocabularies of basal readers declined from 1920-1960 (Chall, 1983), and there has historically been a trend toward shorter sentences (Flesch, 1974), it is encouraging to note that authors of nonfiction articles in children's periodicals do not seem to have purposely lowered the reading level of their material.

The purely recreational fiction category supported the original hypothesis that the content of 19th century young people's periodicals required a higher reading level than the content of modern young people's periodicals, even with an adjustment for time bias. Perhaps this difference reflects an attempt to reach a larger number of children with a wider range of reading abilities. It is to be hoped that publishers of modern children's periodicals do not have lower expectations for their readers than the publishers of yesterday.

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Betty J. Glass is Coordinator of Online Catalog Training and User Service, and M. Kathleen Cook is Assistant Education and Psychology Librarian, at the Morris Library, Southern Illinois University at Carbondale, Carbondale, IL 62901.

.... EXPANDING HORIZONS ....
More Letters from the Jolly Postman

*This teaching idea is shared by Ruth Hook,
a graduate student at Western Michigan University*

Janet and Allan Ahlberg's delightful children's book, *The Jolly Postman, or Other People's Letters* (Boston, MA: Little, Brown, 1986) can be the inspiration for inventive writing and drawing by young authors. The book is a long rhyme about the postman's travels, interleaved with envelopes addressed to the fairytale characters who live on his route, and each envelope contains an appropriate letter, pamphlet or advertisement — such as a letter of apology from Goldilocks to the Three Bears, and a business letter from the Three Little Pigs' attorney to the Big Bad Wolf.

After the book has been read and enjoyed many times, devote a week to a follow-up writing activity. Time is important to insure that children will have ample time to plan, to write, to revise. Begin by discussing the types of mail we receive. Reread the book again, and compare the class list to the mail the Jolly Postman brings. At the next discussion, consider the pattern of the Postman's adventures, and list the beginning phrases: "Once a Jolly Postman... Off went the Postman... Soon the Jolly Postman..."

Start the children off on their own, deciding who their postman is going to see, and what kind of mail will be received. Some children will want to use rhyme in their writing; others will not. Most will want to add their own illustrations, and some will decide to create the very thing a fairytale character might be needing, such as a catalog for Cinderella so she can have new clothes.

Supply envelopes and postcards for the final writing; and collect the mail!