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A study of the style difficulties of three U.S. newspapers from 1955-1995

John J. Woo
San Jose State University

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A STUDY OF THE STYLE DIFFICULTIES
OF THREE U.S. NEWSPAPERS
FROM 1955 TO 1995

A Thesis
Presented to
The Faculty of the School of Journalism
and Mass Communications
San Jose State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

by
John J. Woo
August 1997

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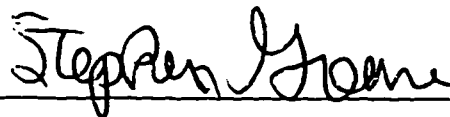
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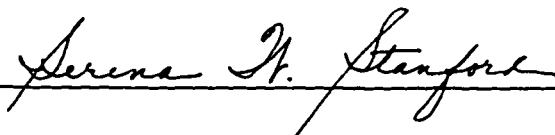


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ABSTRACT

A STUDY OF THE STYLE DIFFICULTIES OF THREE U.S. NEWSPAPERS FROM 1955 TO 1995

by John J. Woo

The term *style difficulty* refers specifically to analyses by the Reading Ease formula by Flesch (1951) and by similar methods that measure *readability*. This thesis is an application of the Reading Ease formula on the texts of The New York Times, The Los Angeles Times, and The San Jose Mercury News for 1955, 1965, 1975, 1985, and 1995. Related to the studies by Stevenson (1964) and Fusaro and Conover (1990), this thesis is an attempt to determine if style difficulties are higher for *quality* newspapers than for *sensationalistic* newspapers.

Comparisons for individual newspapers over years and for individual years among newspapers yield only partial confirmations of the correlation between style difficulty and newspaper quality. Results also indicate, however, that newspapers producing quality journalism for the most number of years exhibit the highest overall levels of style difficulty.

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Chapter 1

Introduction

McLuhan (1964) claimed that new inventions alter aspects of society beyond merely their originally intended uses:

The message of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs. The railway did not introduce movement or transportation or wheel or road into human society, but it accelerated and enlarged the scale of previous human function, creating totally new kinds of cities and new kinds of work and leisure. (p. 8)

For example, use of the printing press, by increasing the availability of affordable literature, made the act of reading a valuable skill in Western cultures. The widespread adoption of the printing press coincided with the beginning of newspapers, the first mass medium. Through the reading of newspapers, populations gained better access to contemporary events than ever before.

But in recent years, people have received increasing amounts of their information from television. Media companies have started delivering a spectrum of services through the Internet. Newspaper publishers have become increasingly dependent on electronic methods for handling data, and the aid of computers for developing texts, photographs, and graphics has transformed newsrooms.

Electronic media have helped to relax the requirement of literacy for consistent access to entertainment and information. With less effort and skill required for the reception of electronic messages than for the reading of literature, large proportions of people are choosing radio, television, and computers over books and newspapers.

McLuhan (1962) argued that new media and technology have the capability of eventually altering patterns of perception: "If a technology is introduced either from within or from without a culture, and it gives new stress or ascendancy to one or another of our senses, the ratio among all our senses are changed" (p. 24).

Cobb-Walgren (1990) feared that, although much of society once considered the ability to read a desired privilege, it has lost a lot of its perceived value. She claimed that a decrease in the appeal of newspapers has resulted especially because of the popularity of television. She observed in her study that many teenagers spent more than 3 hours watching television daily but that they frequently cited lack of time as a major factor in their choosing not to read newspapers. This led her to speculate, "Young people must consider it a chore to sit down with the newspaper" (p. 347).

Susan Neuman (1991) disagreed with the assumption that television has created mostly negative effects on the reading of literature. She rebutted the label many have placed on television as "robbing youngsters of childhood, reducing attention spans, and impairing children's ability to think clearly" (p. 159).

Adoni (1995) claimed that electronic media and newspapers serve distinct needs and gratifications, which means that complementation, not displacement, has occurred between the two. Brown, Cramond, and Wilde (1974) specified that electronic media and newspapers inherently produce different types of effects.

Robert Park (1925) suggested that newspapers always have had to adapt to changing conditions in society. The leader of the Chicago school of sociology, whom many consider one of the founders of mass communications research, wrote:

The natural history of the press is the history of the surviving species. It is an account of the conditions under which the existing newspaper has grown up and taken form. A newspaper is not merely printed. It is circulated and read. Otherwise it is not a newspaper. The struggle for existence, in the case of the newspaper, has been a struggle for circulation. (p. 8)

Chaffee and Choe (1981) also defined circulation as a primary area of concern, and they called newspapers' declining readership "the industry's most vexing long-term problem" (p. 211). Robinson (1980) and Tillinghast (1981) confirmed that total newspaper readership has been in steady decline since the 1950s. Chandler (1990) complained about the problem of producing newspapers for "a population that sees little

value in reading" (p. 44). She mentioned the efforts of many of the country's newspapers to bolster interests by promoting enrollment in literacy classes and by supporting events like National Newspaper Literacy Day.

Lain (1986) observed some evidence that foreshadows unfortunate long-lasting consequences for newspapers:

Newspaper editors and publishers have been aware for some years that their audience, if not actually slipping, is not keeping pace with the growth of the population. The industry has become increasingly concerned with this trend, especially since it appears that the youngest age groups are those with the greatest apparent decline in a commitment to newspaper reading. (p. 69)

Lain argued that such evidence is disturbing for one primary reason: "Readers lost in youth may be lost forever" (p. 69). Manning-Miller and Crook (1993) stated that the Press To Read campaign "came in the thick of the American newspaper industry's attempt to address issues of declining readership" (p. 18). They described it as an effort devoted particularly to raising levels of literacy among youths.

Chaffee and Choe (1981) wrote of the different barriers preventing people from reading newspapers. They claimed, "Many among the poor, the elderly, the isolated, and the undereducated may never surpass these constraints and so should be expected to remain nonreaders across the years" (p. 202).

Robinson (1980) stated, "Education is a major factor in newspaper reading, as well as reading in general" (p. 142; see also Chandler, 1990). Robinson thereby suggested that education, literacy, and readership are interrelated. A large number of other studies indirectly associated literacy with readership by associating education with readership: Burgoon and Burgoon (1980); Penrose, Weaver, Cole, and Shaw (1974); Poindexter (1979); Rarick (1973); Sobal and Jackson-Beeck (1981); Sterling and Haight (1978); Tillinghast (1981); and Westley and Severin (1964).

Soltow and Stevens (1981) described a literate person as one who has "acquired the skills in reading and writing which enable him to engage effectively in all those activities in

which literacy is normally assumed in his culture or group" (p. 4). They derived this broad conception from their observations of past criteria - which varied from being able to interpret insurance policies or military manuals to merely enrolling in grammar classes (p. 4; see also Adoni. p. 154).

Wirtz et al. (1977) described the Scholastic Aptitude Test (SAT) as a "sufficiently constant measure so that any particular score received on a current test indicates the same level of ability to do college work that the same score did 36 or 20 or 5 or 2 years ago" (p. 8).

The extensive use by universities of SAT scores in their selection processes shows considerable faith in them from the academic community. Ordoovensky (1996) wrote in USA Today that high school records alone are often ambiguous about the qualifications of applicants and that SAT scores are increasingly being considered "the only valid measuring rods to compare students" (p. A1). Burrill (1987) stated, "Norms are a very rubbery yardstick. yet for most global cognitive abilities we have no other method of defining a standard" (p. 61). Hirsch (1983) wrote, "Scores on the verbal SAT show a high correlation with reading and writing skills that have been tested independently by other means" (p. 160).

Wirtz et al. (1977) reported a consistent decline in the average verbal SAT score from 475 to below 430 since 1952 (p. 7; see also U.S. Bureau of the Census. 1995. p. 175). Farr, Courtland, and Beck (1984), however, found average scorers on the verbal SAT "performed near the top of the scale" for both the Degrees of Reading Power Test and Metropolitan Achievement Test I. They concluded, "SAT scores provide little direct information about students' reading achievement," and, "These findings challenge the notion that low SAT scores indicate a lack of basic reading skills" (pp. 209, 212).

In their examination of the history of literacy, Resnick and Resnick (1977) stated:

Reading instruction has been aimed at attaining either a low level of literacy for a large number of people or a high level for an elite. Thus, the contemporary expectation - high levels of literacy for the entire population - represents a relatively recent development (p. 370).

Micklos (1980) claimed, "The level of literacy needed to function effectively in today's society continues to climb as technology advances" (p. 41). As a result, he reasoned, "Overall reading achievement in the primary grades is as good or better than ever before. . . . Children are still learning how to read, and to read well" (p. 45).

Several other studies on literacy provided less explicit conclusions. Measurements of reading proficiency from the Degrees of Reading Power Test and the National Assessment of Educational Progress suggest that most high school seniors read at about 80% proficiency at the intermediate level (Burrill, 1987, p. 71). Hoskins (1987) claimed that about 80% of adults in the United States read at eighth-grade levels or higher (p. 360). Werner (1986) reported in The New York Times that 95% of young adults have developed the fundamentals of reading but that the skills of most of them are extremely limited.

The prospects of competition from other media and of declining rates of literacy in America constitute a background for newspaper publishers' efforts to gain and maintain circulation.

A factor that publishers should consider, especially in relation to the context of this study, is the complexity of language in the texts they produce. The Reading Ease formula, created by Flesch (1951), has been one of several often-used methods for measuring that factor. This content analysis of newspapers entails an observation of *style difficulties*, which is a term referring specifically to analyses by the Reading Ease formula or by similar methods.

This thesis involves the use of the Reading Ease formula on the texts of three U.S. metropolitan newspapers in 5 separate years. The newspapers are The New York Times,

The Los Angeles Times, and The San Jose Mercury News, and the years are 1955, 1965, 1975, 1985, and 1995.

Some publishers approach the task of enhancing readerships by producing *sensationalistic* journalism. Others strive to enhance readerships by producing responsible, explanatory, and *quality* types of journalism (Stevenson, 1964).

For this thesis, each particular newspaper in a particular year is categorized as being either sensationalistic or quality. Merrill (1968) estimated that The New York Times has been a quality newspaper throughout its history, while The Los Angeles Times started becoming one in the 1960s, after it had been essentially sensationalistic in tone and content. Several sources estimated that The San Jose Mercury News became a quality newspaper during the 1980s (Tillinghast, 1984).

By establishing style difficulty as a dependent variable and newspaper quality as an independent variable, the author seeks to examine the connection between two characteristics of text that are pertinent to the issue of circulation.

The author examines style difficulties in the front pages of The New York Times, The Los Angeles Times, and The San Jose Mercury News from 1955 to 1995 to accomplish several purposes. For individual newspapers, comparisons over years take place. Also, for individual years, comparisons among newspapers take place. These occur in terms of scores from the Reading Ease formula by Flesch (1951), which are conveyed in grade levels. These analyses also occur in terms of the two separate predictors of style difficulty that make up the Reading Ease formula, words per sentence (sentence lengths) and syllables per word (word lengths).

Chapter 2

Literature Review

Explanation of Key Terms

Readability is the term most frequently used in studies devoted to formulaic analyses of style difficulty. Readability studies use simple, effective measurements, which is one of their greatest assets. As a result, they have become for some time a popular type of research in mass communications (Severin & Tankard, 1992).

Readability involves three different purposes. They are (a) "to indicate legibility of either handwriting or typography," (b) "to indicate ease of reading due to either the interest-value or the pleasantness of writing," and (c) "to indicate ease of understanding or comprehension due to the style of writing" (Klare, 1963, p. 1). Out of those, the last has become the most widely assumed meaning for readability.

These three applications merely scratch the surface of studying the entire process of reading, and they approach it solely in terms of the text. The response of the reader fundamentally composes the other half of the process. Iser (1978) wrote, "The pragmatic nature of a text can only come to full fruition by way of the complete range of contexts which the text absorbs, collects, and stores" (p. 55).

The focus by readability formulas on measuring style means they disregard some basic factors within the study of text as well. Klare (1963) explained, "Style difficulty is shown to be only one characteristic of a piece of writing. . . . At present, at least, content and all the other elements of writing, plus aspects of style other than difficulty, are not taken into account in formula scores" (p.25). Thus, the term readability suggests areas of research that are broader than its real applications, which mainly pertain to style of text.

The term readability refers to the measurement of style according to its "ease of understanding or comprehension" (Klare, 1963, p. 1). But in formulas like the Reading Ease, as more words are counted per sentence, and as more syllables are counted per word,

the style of a text increases in difficulty. Readability formulas actually measure the amounts of difficulty in the style of a text according to sets of observable criteria. It is somewhat misleading to speak of the quality of ease in a text when that is being estimated by what is not there, by a lack of syllables and words.

Lower readability indicates higher levels of difficulty, and higher readability indicates lower levels of difficulty. For example, text with a 7th-grade level of difficulty has higher readability than text with a 12th-grade level of difficulty. Readability and the units used to measure it occur in inverse correlation, which in many cases causes confusion, particularly during discussions of results involving trends or comparisons.

For a more precise and functional terminology to designate the central concept of this thesis, the author, borrowing from Klare (1963), uses an alternative term, style difficulty. The term readability, however, occurs several times when it is an inextricable part of a quotation.

Style-Difficulty Formulas

Severin and Tankard (1992) cited studies by Sherman, Kitson, and Lively and Pressey as the earliest published research related to style difficulty (p. 110). Sherman apparently was the first to investigate sentence length as a factor. Severin and Tankard wrote that Kitson's work is "significant because he came up with the very same two elements later used by Flesch and others in the modern readability formulas" (p. 110). Lively and Pressey apparently emphasized the importance of measuring vocabulary complexity and claimed that rarer words produce higher levels of difficulty than more common words.

Gray and Leary (1935) consolidated the opinions of hundreds of librarians, publishers, and "others interested in adult education" for their study of influences on the difficulties of style in literature (p.14). They extracted 21 elements, each resembling types of sentence or word difficulty.

The most popular formulas measure sentence lengths, word lengths, and vocabulary complexities in varying patterns of emphasis (Dale & Chall, 1948; Fry, 1977; Gunning, 1952; Lorge, 1939; & McLaughlin, 1969). The formula by Danielson and Lasorsa (1989) measures, in addition, amounts of rare punctuation (colons, dashes, exclamation marks, semicolons, and parentheses).

Out of 31 formulas existing when interest in formulas was at its height, those authored by Flesch possessed the most influence (Klare, 1963, p. 95). Klare wrote, "Large-scale application did not begin until the publication of Flesch's 1943 formula" (p. 95). Klare's estimated that the single most widely used formula ever has been the Flesch Reading Ease formula (p. 23).

Flesch (1943) composed the first of his formulas after studying an established criterion for measuring children's reading abilities, McCall and Crabbs' Standard Test Lessons in Reading, which Flesch described as containing passages with differing sets of stylistic factors. Flesch also based his formula on a 1939 study by Lorge, from which Flesch concluded that a handful of elements is sufficient for gauging the difficulty of language in children's literature.

Flesch (1948) revised his original formula after noting criticisms from colleagues about its weaknesses in accuracy and applicability (p. 222). The original consists of three predictors of style difficulty.

According to Flesch (1948), users of the formula tend to overvalue the first predictor, sentence length, and to neglect the other components. He stated that the second predictor, number of prefixes and suffixes, is "often difficult to apply; users of the formula [have] found this count particularly tedious and have admitted to uncertainty in spotting affixes" (p. 222). The third, references to people, Flesch also conceded to be obscure and prone to misinterpretation.

Flesch (1948) invented a newer version, resulting in two separate but parallel formulas. One of them, the Human Interest formula, incorporates detailed instructions on how to count words and sentences referring to people to measure a passage's appeal (p. 223).

Its counterpart, the Reading Ease formula, depends on average words per sentence and average syllables per word to reflect style difficulty (Flesch, 1948). The Reading Ease formula retains the original measurement of sentence difficulty, but it substitutes the original measurement of word difficulty, a count of prefixes and suffixes, with a count of syllables.

Flesch (1948) assessed the authenticity of these two predictors by declaring, "The measurement of sentence length is indirectly a measurement of sentence complexity. . . . [Similarly], the measurement of word length is indirectly a measurement of word complexity" (p. 226). Lostutter (1947) acknowledged lengths of sentences and words as "the two most critical factors of readability" (p. 307).

Catalano (1990) wrote, "Sentence length is an appropriate gauge of difficulty because it measures relationships. Longer sentences incorporate more words, and more words mean more relationships, which increase the effort for the reader" (p. 98).

Flesch (1951) avoided the inclusion of ratings from vocabulary lists into the Reading Ease formula out of regard for practicality and from a belief that counting syllables is a sufficient method by itself. He argued, "The test measures word length because that's an easy shortcut to measuring word difficulty. It so happens that in English most short words are also easier to read and understand" (p. 98).

Flesch (1951) denied that punctuation is critical by claiming, "There's no law that says sentences have to end in periods: you'll often get smoother transitions by using semicolons and colons" (p.40).

Flesch conceded that length of paragraphs is important, but claimed, "Paragraph length will take care of itself as long as you watch sentence length" (p. 40).

After analyzing statistics on the impact of sentence and word lengths on style difficulty, Flesch (1951) derived an equation for the Reading Ease formula, which assigns scores on a 100-point scale:

1. "Multiply the average sentence length by 1.015."
2. "Multiply the number of syllables per 100 words by .846."
3. "Add these and subtract this sum from 206.835, which equals the desired score"

(p. 8).

Farr and Jenkins (1949) produced an index for the direct allocation of sentence and syllable counts to Reading Ease scores to be used in place of Flesch's equation. The index was constructed entirely from the equation. They designed their index to involve the counting of sentences and syllables for a preset number of words in a passage, 100, which experts like Flesch considered both adequate and convenient for all types of sampling.

Flesch (1951) created a scale that translates Reading Ease scores into grade levels after consulting 1950 census data listing the publications read by people of varying educational levels (pp. 43, 47).

The assessment of style difficulty using literary elements like syntax, organization, and phonology gained preference from authors such as Davison and Green (1988), Hansell (1976), Schlieff and Wood (1974), and Zakaluk and Samuels (1988).

The Cloze procedure involves measuring style difficulty without the use of a particular formula (Taylor, 1953). The procedure gauges levels of style difficulty by deleting words from groups of passages and recording the rates of readers in guessing the deletions correctly. Taylor promoted his method as being more illustrative than both the Reading Ease formula and the formula by Dale and Chall from 1948. He demonstrated occasions where the use of short words and sentences still resulted in difficult reading.

Bormuth (1968) claimed that the Cloze procedure has its own set of faults (p. 189). Scores for a particular passage get their meaning in relation to scores for other passages in the same test. So, the test often has problems with generalizability by lacking external standards for reference. Also, the tests require the enlistment, instruction, and administration of participants, which, if not done judiciously, pose as additional sources of error.

Perera (1980) claimed, "[Formulas are] useful for research projects, where a numerical score is needed for purposes of comparison and statistical analysis, and where so many samples are analyzed that most inaccuracies will be submerged in the averaged results" (p. 159). Burrill (1987) agreed:

Readability is not a perfect index. [But] the formulas that are used to compute readability use characteristics of text that have been shown to be related to text difficulty. . . . It is always possible to find exceptions - but they are exceptions that tend to prove the general rule. (p. 62)

Style Difficulty and Readership

Flesch (1951) claimed that lower style difficulty leads directly to increased readership (p. 37). Catalano (1990) referred to the tendency of many readers to avoid texts with particularly difficult language and to "resist stories that require more than high-school skill levels" (p. 97). Danielson and Bryan (1964) conducted a study in which a group of articles with an average style difficulty of 6.4 grade levels had higher rates of readership than a group of articles with an average style difficulty of 7.0 grade levels (p. 106).

Catalano (1990) measured the lengths of the lead sentences and the lengths of the second through fourth paragraphs of wire stories from six news services. The three news services with the longest average lead sentences, The Washington Post, The Los Angeles Times, and The New York Times, also had the longest average lengths for the next three paragraphs. Catalano argued that newspaper readers with less time and patience tend to skip or abandon articles with longer lead sentences, because they coincide with lengthier

overall articles, at least within their critical top paragraphs: He claimed, "Shorter leads are not just an attempt to follow readability yardsticks. Only with precise, direct leads will readers be pulled into stories, [because] the length of time the average reader spends with the newspaper each day is declining" (p. 103).

Swanson (1948) asked the question, "If a writer makes a long article easier to read, does he win and hold more readers?" (p. 339). He conducted a split-run experiment consisting of two versions of an article from an Iowa State University newspaper. One contained 173 syllables per 100 words and the other 131 syllables per 100 words, but both contained the same overall length and number of paragraphs.

Swanson (1948) obtained three categories of results. Participants read a total of almost twice as many paragraphs of the 131-syllable version than of the 173-syllable version. Participants read an average of nearly 24 paragraphs of the 131-syllable version and an average of 13 paragraphs of the 173-syllable version. For the 131-syllable version and the 173-syllable version respectively, 25 and 13 respondents read all 58 paragraphs of the article. Swanson's study indicates that shorter words, and thus lower style difficulties, accompany higher readership of newspaper articles.

Previous Studies of Newspaper Style Difficulty

Gunning (1945) claimed, "Today's newspapers are offering the public some of the most difficult reading material published" (p. 12). Smith and Smith (1984) stated, "We must wonder if newspapers are too difficult for many people in general to read" (p. 22). And Lostutter (1947) wrote that articles with the highest levels of style difficulty are "not atypical examples but the sort of thing that is found in most editions of most newspapers" (p. 307).

Various researchers confirmed those opinions, while several reported style difficulties for some newspapers at more moderate levels.

An article in Editor and Publisher revealed 16th-grade (college-senior) levels of style difficulty for The New York Herald Tribune, The Christian Science Monitor, and The Chicago Sun ("Foreign News." 1946).

Moznette and Rarick (1968) observed a median 15th-grade level of style difficulty for 10 west-coast metropolitan newspapers: The Seattle Post-Intelligencer, The Seattle Times, The Portland Oregonian, The Oregon Journal, The San Francisco Chronicle, The San Francisco Examiner, The Los Angeles Times, The Los Angeles Herald-Examiner, The San Diego Union, and The San Diego Tribune.

The article in Editor and Publisher indicated that two international wire services, the Associated Press and Reuters, had style difficulties at the 15th-grade level and the 14th-grade level respectively ("Foreign News," 1946).

Smith and Smith (1984) obtained a measurement of 13.5 grade levels of style difficulty for the Orlando, Florida Sentinel, a metropolitan newspaper with a circulation of approximately 240,000 readers. Hoskins (1973) estimated style difficulties for articles from the Associated Press and United Press International ranging from 13th- to 16th-grade levels.

Danielson and Bryan (1964) and Johns and Wheat (1978) contradicted Hoskins (1973). Danielson and Bryan discovered style difficulties at the 6th-grade level for Associated Press wire-stories, a wide departure from expectations of them being at college levels. Johns and Wheat examined the style difficulties of Associated Press and United Press International articles and discovered levels ranging from 7th to 12th grade, which differed according to the articles' placements in particular news categories. In juxtaposition, the three studies show that style difficulties for a single news source can vary drastically within a brief period of time.

Anderson (1966) discovered a wide range of style difficulties, from 7th- to 13th-grade levels, for 14 Australian newspapers. Dunlap (1951) obtained an 11th-grade level of

style difficulty for a newspaper from a high school in Maryland, The Cumberland Evening Times.

Previous studies of the style difficulties of The New York Times and The Los Angeles Times help in shaping the expectations concerning those two newspapers. Also, a couple of studies that categorized newspapers as either sensationalistic or quality provide the basis for predictions about the style difficulties of the three newspapers in this thesis.

Fowler (1978) measured the combined style difficulties for three newspapers, one of them The New York Times, for 5 separate years from 1904 to 1965. He found the average style difficulty rose from 1904 to 1933, when it peaked at the 15th-grade level. The average style difficulty dropped from 1933 to 1965, when it settled at the 14th-grade level. Fowler calculated an average of 1.67 syllables per word and 21.82 words per sentence for the three newspapers in 1965.

Danielson, Lasorsa, and Im (1992) examined The New York Times and The Los Angeles Times for each year from 1885 to 1989. They found a gradual increase in style difficulty over the past century. The scores for both newspapers combined went from 16th- to 17th-grade levels of difficulty. The average sentence length remained steady throughout the years at about 25 words per sentence.

Danielson et al. (1992) attributed that increase in style difficulty solely to an increase in long words, which they defined as words with eight or more letters. The amounts of long words went from 16.4% for 1885 to 18.7% for 1989.

Stevenson (1964) measured the style difficulties for six newspapers from 1872 to 1960. He studied three newspapers that he considered to be sensationalistic during at least one period of their histories: The San Francisco Chronicle, The Chicago Tribune, and The New York World. He found that on average they decreased their style difficulties to about the 10th-grade level by 1925. Afterwards, their style difficulties rose to about the 11th-grade level by 1960. Three quality types of newspapers, The New York Times, The

Washington Post, and The New York Tribune, "showed no significant change throughout the study." maintaining style difficulties at about the 12th-grade level (p. 203).

Stevenson (1964) claimed that quality newspapers most often have higher style difficulties than sensationalistic newspapers. He distinguished quality newspapers apart from all other types by writing, "If the classifications are an accurate index of readability in a wide range of printed material, this study indicates that quality newspapers are among the most difficult to read" (p. 205).

That is what Fusaro and Conover (1990) concluded for The New York Times and The Wall Street Journal, newspapers they considered quality types, which exhibited 14th-grade levels of style difficulty. Fusaro and Conover examined them along with two they considered sensationalistic. The New York Daily News and The New York Post, which exhibited 11th-grade levels of style difficulty.

Sensationalism and Quality Journalism

Schramm (1949) cited what Freud in 1934 had proposed as being the two purposes of mental functioning, the pleasure principle and the reality principle, in categorizing the types of rewards people expect from reading the news. According to Schramm, a desire to obtain an immediate reward that either reduces tension and discomfort or increases satisfaction characterizes the pleasure principle at work. The reality principle is manifest in the motivation to struggle through momentary pain or uncertainty for a delayed, but often greater, reward.

Stevenson (1964) claimed that most publishers attempt to enhance readership by catering to those two opposing types of motivations through either sensationalistic or quality journalism.

Stevenson (1964) claimed that newspaper producers offering gratifications of the immediate type "turn[] toward emotional appeals to attract readers and rel[y] on the techniques of sensationalism" (p. 206). Provocative, embellished, and simplified

presentations of current events, resembling much of broadcast news, typify sensationalism. Writers of sensationalism tend to report only what consistently attracts readers and only what relates to the most salient elements of the events portrayed.

Newspapers with readers seeking the delayed type of reward reveal "concern over the development of a mature journalism dedicated to truth and fairness" (Stevenson, 1964, p. 206). Quality newspapers, Merrill and Fisher (1980) explained, "fight mental and emotional rigidity; they try to break down irrational biases; they try to present a wealth of reliable information and thoughtful interpretation" (p. 13).

Truthful and fair news requires analyses of complex issues for an increasingly complex society, which is often lacking in sensationalistic writing. Merrill (1968) wrote:

The vast majority of the world's newspapers are entertainment [and] play-oriented and cater in varying degrees to the superficial whims of "mass" audiences. Perhaps this press orientation is psychologically refreshing to the readers who would like to escape from the efforts of thinking and concern, but it does seem sad that so many newspapers fill their columns with shallow, often inconsequential and incoherent stories when world conditions call for a more thoughtful world citizenry and more responsible journalism. (p. 5)

Merrill bemoaned the state of an industry that includes few commitments to quality journalism, the only kind that he felt held to newspapers' roles as shapers of meaningful values in society.

In surveys of American and international journalism professors, editors, and publishers conducted in the 1960s, 1970s, and 1980s, The New York Times garnered the most frequent recognition of any newspaper in the world for having high standards of quality (Emery, 1983, p. 1; Merrill, 1968, pp. 39-41; & Merrill & Fisher, 1980, p. 220). Merrill called The New York Times "a paper that is solidly 'in' the world's elite press and has been for a long time" and considered it to be the nation's newspaper of record throughout the past (p. 263). He predicted the newspapers continuing excellence in claiming, "[It] just rolls along like the Mississippi River, slow and easy" (p. 255).

Merrill (1968) stated. "The New York Times is a great newspaper." and he stated. "The Los Angeles Times is also a great newspaper" (p. 255). The latter quote applies to the time after Otis Chandler became publisher in 1960. "By placing the emphasis squarely on writing and editing," in the span of a few years he led The Los Angeles Times from "stodgy conservatism" into "the vanguard of alert, progressive, sprightly quality newspapers" (Merrill & Fisher, 1980, p. 183). Merrill wrote:

Those who shudder at the thought of The Los Angeles Times being among the elite newspapers. . . . are remembering the old L.A. Times, a paper more interested in a narrow Republicanism and conservatism and in the size of the annual profit than in quality, pluralistic journalism. They have not read the paper since about 1960, so they do not know of the tremendous strides of the mammoth effort and great expenditures by the paper to build up a superior writing and editing staff. (p. 254)

For many decades, the morning and evening editions of the newspaper now known as The San Jose Mercury News, which have been called "third-rate papers in a sleepy California city" (Prager, 1982, p. 7), were operated by the Ridder newspaper group. The San Jose Mercury News, however, became a member of the newly merged Knight-Ridder newspaper group in 1974 (Paneth, 1983, p. 250). And that has caused an eventual transformation in the newspaper's quality. Tillinghast (1984) cited the opinion by Rivers in 1980 that the newspaper has become "second in quality only to The Los Angeles Times in California, if not the entire western United States" (p. 312).

The effects the change in ownership had on The San Jose Mercury News can be inferred by the effects such a change had on The Philadelphia Inquirer and The Miami Herald. Emery (1983) portrayed The Philadelphia Inquirer as being an "unqualifiedly awful paper" in 1970 (p. 15). Beginning in 1975, the year after its switch to Knight-Ridder ownership, it proceeded to win six consecutive Pulitzer prizes. In the same way, The Miami Herald "had won its way to national recognition by 1970 as a member of the Knight-Ridder newspaper group" (p. 19). Emery placed those 2 newspapers in his list of

the 10 leading dailies in America (p. 1). Merrill and Fisher (1980) placed them among the top 50 dailies in the world (p. 22).

Tillinghast (1984) observed from questionnaires given to reporters and sources that they perceived levels of bias to be high in 10 categories of news coverage in The San Jose Mercury News before the Knight-Ridder merger. But after the merger, bias "was seen as diminishing significantly, almost to neutral reporting, and in two cases the bias was reversed" (p. 313). If providing "mature journalism dedicated to truth and fairness" (Stevenson, 1964, p. 206) distinguishes a quality newspaper from a sensationalistic newspaper, Tillinghast demonstrated that The San Jose Mercury News became a quality newspaper in 1974 after it had undergone the Knight-Ridder merger.

Research Questions and Predictions

The author of this thesis attempts to verify the conclusions by Stevenson (1964) and Fusaro and Conover (1990) that when a newspaper's content is quality it exhibits higher levels of style difficulty than when its content is sensationalistic.

As mentioned in the previous section of this chapter, Merrill (1968) claimed that The New York Times has produced quality journalism throughout its history. Merrill (1968) and Merrill and Fisher (1980) estimated that The Los Angeles Times underwent a conversion from sensationalistic to quality content by 1965. Prager (1982), Emery (1983), and Tillinghast (1984) each supplied parts of evidence for suggesting that The San Jose Mercury News went from being a sensationalistic newspaper for most of its history to being a quality newspaper by 1985.

This study involves six basic research questions, which are as follows:

1. How did grade levels of style difficulty for individual newspapers compare over years?
2. How did grade levels of style difficulty for individual years compare among newspapers?

3. How did words per sentence (sentence lengths) for individual newspapers compare over years?

4. How did words per sentence (sentence lengths) for individual years compare among newspapers?

5. How did syllables per word (word lengths) for individual newspapers compare over years?

6. How did syllables per word (word lengths) for individual years compare among newspapers?

Danielson et al. (1992) suggested that variations in style difficulty are primarily the result of and correspond directly with variations in word length. They also suggested that sentence length tends not to vary, even as style difficulty varies, although sentence length was regarded by Flesch (1951) as being one of the two elemental predictors of style difficulty.

The predictions for the Question 1 closely resemble those for Question 5 because of the suggestion by Danielson et al. that style difficulty correlates primarily with word length. The predictions for Questions 1 and 5 are summarized in Table 1, which represents comparisons of both grade levels of style difficulty and syllables per word (word lengths) for individual newspapers over years:

Table 1
Predictions for Questions 1 and 5

Comparison	NYT	LAT	SJMN
1955 to 1965	No Change	Increase	No Change
1965 to 1975	No Change	No Change	No Change
1975 to 1985	No Change	No Change	Increase
1985 to 1995	No Change	No Change	No Change

Note. NYT = The New York Times; LAT = The Los Angeles Times; SJMN = The San Jose Mercury News.

Because of the suggestion by Danielson et al. (1992) that style difficulty correlates primarily with word length, the predictions for Question 2 closely resemble those for Question 6. The predictions for Questions 2 and 6 are summarized in Table 2, which represents comparisons of both grade levels of style difficulty and syllables per word (word lengths) for individual years among newspapers:

Table 2
Predictions for Questions 2 and 6

Comparison	1955	1965	1975	1985	1995
NYT / LAT	NYT higher	Equal	Equal	Equal	Equal
NYT / SJMN	NYT higher	NYT higher	NYT higher	Equal	Equal
LAT / SJMN	Equal	LAT higher	LAT higher	Equal	Equal

Note. NYT = The New York Times; LAT = The Los Angeles Times; SJMN = The San Jose Mercury News.

Because of the suggestion by Danielson et al. (1992) that sentence lengths tend not to vary, even as style difficulties vary, the predictions for Question 3 are all essentially identical: Each of them asserts that a comparison of sentence lengths for an individual newspaper reveals no significant changes over years.

For the same reason, the predictions for Question 4 are all essentially identical. The recurring prediction is that a comparison of sentence lengths for an individual year reveals no significant differences among newspapers.

Chapter 3

Methods

Sample Selection and Collection

The years from 1955 to 1995 are associated with the occurrence of vast changes in American society. Within those years, the popularity of electronic media soared, causing changes in people's attitudes toward reading, particularly toward the reading of newspapers. From 1955 to 1995, newspaper circulation became possibly as problematic as it had ever been.

As Stevenson (1964) claimed, newspaper publishers produce either sensationalism or quality journalism, which characterize their individual approaches to securing readers. One of the newspapers in this study, The New York Times, represents a quality-type newspaper for the entire span of years from 1955 to 1995. The Los Angeles Times and The San Jose Mercury News represent newspapers that changed from being sensationalistic to being quality types within those 40 years.

Attempts were made to replicate or improve aspects of the longitudinal study by Fowler (1978) mentioned in chapter 2.

Front pages were examined, because Fowler (1978) regarded them as containing adequate reflections of newspapers' style difficulties (see also Danielson et al., 1992). Fowler randomly selected five 100-word passages from each front page, which was also done for this thesis.

Fowler (1978) studied samples from 3 separate years within a 60-year span of time at approximately 30-year intervals. The thoroughness of Fowler's research was exceeded in this examination of samples from 5 separate years within a 40-year span at 10-year intervals. Fowler chose three front pages from each newspaper for each year. Instead of that, seven front pages, representing a full week, from each newspaper for each year were analyzed to ensure an adequate number of samples.

Budd, Thorp, and Donohew (1967) suggested using samples from the months of February, June, and October for analyzing newspapers over time. Budd et al. claimed that these months are "normal periods of newspaper publication; most schools [a]re in session and national holidays [do] not affect publication" (p. 28).

The first Monday and the second Tuesday of the month of February; the first Wednesday, the second Thursday, and the third Friday of the month of June; and the first Saturday and the second Sunday of the month of October were targeted.

Because of the purpose of comparing style difficulties over years, the same process of date selection took place for all 5 years to minimize differences. Also, because of the purpose of comparing style difficulties among newspapers, identical dates were assigned to each newspaper.

Fowler examined three newspapers "purposely selected because of availability" (p. 590). Editions of the three newspapers for this study were available at and were obtained from the microfilm archives at San Jose State University's Clark Library.

Passages were selected by first determining, by cursory inspection, which articles had at least 100 words displayed on each page being examined. Next, numbers were assigned to each of those articles, of which five were randomly selected.

Babbie (1995) described units of analysis as "the individual units about which or whom descriptive and explanatory statements are to be made" (p. 308). The units of analysis for this thesis are specific newspapers in specific years. The units of observation are 100-word front-page passages.

The universe of this study comprises a total of 5,475 front pages, of which 105 were actually selected for examination. Since five 100-word passages were sampled from each front page, a total of 525 passages were analyzed.

Data Formulation

Flesch (1951) recommended examining a passage from the beginning of a paragraph (p. 2). So, at the beginning of a paragraph - randomly selected from among all paragraphs that would allow for 100 words before the end of a passage on a page - a mark was placed. One hundred words were counted from that point on.

Flesch (1951) gave these guidelines for counting words: "Count as a word all letters, numbers, or symbols, or groups of letters, numbers or symbols, that are surrounded by white space. Count contractions and hyphenated words as one word" (p. 2).

For counting sentences, Flesch wrote:

Count as a sentence each unit of thought that is grammatically independent of another sentence or clause, if its end is marked by a period, question mark, exclamation point, semicolon or colon. Incomplete sentences or sentence fragment are also to be counted as sentences. (p. 3)

For when the 100-word mark fell in the middle of a sentence, as it usually did, Flesch recommended, "Count such a sentence as one of those in your sample, if the 100-word mark falls after more than half of the words in it; otherwise disregard it" (p. 2).

Flesch (1951) gave these instructions for counting syllables: "Count syllables the way you pronounce the word. . . . Count the number of syllables in symbols and figures according to the way they are normally read aloud" (p. 4).

A coding sheet for analyzing each front page contained spaces for recording the following basic information: (a) name of newspaper, (b) date of publication, and (c) numbers for five different passages.

The sections allocated for each numbered passage were divided into yet smaller spaces for recording the following information: (a) number of sentences; (b) average sentence length, found by dividing 100 words by the number of sentences; (c) number of syllables; (d) average word length, found by dividing the number of syllables by 100

words; and (e) grade level of style difficulty, found by using the index by Farr and Jenkins (1949) to obtain a Reading Ease score, and then matching that score with its grade level, using the scale made by Flesch (1951).

Intercoder Reliability

An assistant coder examined the passages for The New York Times and The Los Angeles Times for 1995. She followed the procedures given by Flesch (1951) to count numbers of sentences and numbers of syllables in each passage. She examined seventy 100-word passages, 13% of the overall total of 525 passages that the author had examined. Intercoder reliability for counting numbers of sentences was .98, and that for counting numbers of syllables was .98.

Statistical Analyses

After obtaining grade levels, average sentence lengths, and average word lengths for each passage, the coding sheets were collected for statistical analyses. For each newspaper for each year - averages, standard deviations, sums of sample values, and sums of squares of sample values - of grade levels of style difficulty were calculated. Also, for each newspaper for each year - averages, standard deviations, sums of sample values, and sums of squares of sample values - of sentence lengths and of word lengths were calculated.

Those quantities were used in testing the predictions of this thesis at the .05 significance level.

Question 1 involves comparisons of grade levels of style difficulty for individual newspapers over years. For an individual newspaper, a one-way analysis of variance (ANOVA) was conducted to determine if levels did not change over years. If levels for a newspaper changed over years, four t -tests for pairs of consecutive years were conducted to determine when and how changes for that newspaper occurred.

Question 2 involves comparisons of grade levels of style difficulty for individual years among newspapers. For an individual year, a one-way ANOVA was conducted to determine if levels were equal among newspapers. If levels for a year were different among newspapers, three t -tests for pairs of newspapers were conducted to determine which and how newspapers differed for that year.

Question 3 involves comparisons of sentence lengths for individual newspapers over years. The same process of conducting statistical tests as that for Question 1 was undergone.

Question 4 involves comparisons of sentence lengths for individual years among newspapers. The same process of conducting statistical tests as that for Question 2 was undergone.

Question 5 involves comparisons of word lengths for individual newspapers over years. The same process of conducting statistical tests as that for Question 1 was undergone.

Question 6 involves comparisons of word lengths for individual years among newspapers. The same process of conducting statistical tests as that for Question 2 was undergone.

Chapter 4

Results

Broad-Level Assessments

The results give some indications that the independent variable of newspaper quality and the dependent variable of style difficulty are positively related. At the most general levels of assessment, identical hierarchies for newspaper quality and for style difficulty exist among the three newspapers: For example, the newspaper considered to be higher in quality for the most number of years, The New York Times, also had the highest overall style difficulty at 14.97 grade levels. The newspaper considered to be higher in quality for the second-most number of years, The Los Angeles Times, had the second highest overall style difficulty at 14.26 grade levels. The San Jose Mercury News had an overall 13.12 grade level of style difficulty.

At the most general levels of assessment, newspaper rankings for each of the two components of style difficulty, sentence lengths and word lengths, were also the same as newspaper rankings for quality. The New York Times contained overall 27.26 words per sentence and 1.71 syllables per word, while The Los Angeles Times contained overall 25.36 words per sentence and 1.69 syllables per word. The San Jose Mercury News had overall 22.47 words per sentence and 1.61 syllables per word.

For the more precise analyses of this thesis, however, the results of statistical tests only partially confirmed predictions of comparisons for individual newspapers over years and for individual years among newspapers. Not one of the six large-scale predictions concerning the six basic questions of this thesis was confirmed in its entirety, although not one was rejected in its entirety either.

Grade Levels of Style Difficulty

Research Question 1 is restated: How did grade levels of style difficulty for individual newspapers compare over years?

Research Question 2 is restated: How did grade levels of style difficulty for individual years compare among newspapers?

Table 3 reflects the initial analyses for testing the predictions concerning Questions 1 and 2:

Table 3

Average Grade Levels of Style Difficulty for the Front Pages of *The New York Times*, *The Los Angeles Times*, and *The San Jose Mercury News* from 1955 to 1995

Year	NYT	LAT	SJMN	ANOVA, $F(2, 102)$
1955	14.97	13.71	13.20	3.90*
1965	14.83	14.03	11.49	15.02*
1975	15.09	14.23	13.49	3.31*
1985	14.94	14.51	14.94	0.33
1995	15.03	14.83	12.46	11.99*
ANOVA, $F(4, 170)$	0.07	0.88	7.20*	

Note. The reading of scores down columns corresponds to comparisons for individual newspapers over years and corresponds to Question 1. The reading of scores across rows corresponds to comparisons for individual years among newspapers and corresponds to Question 2. NYT = The New York Times; LAT = The Los Angeles Times; SJMN = The San Jose Mercury News.

* $p < .05$.

One-way ANOVAs from Table 3 corresponding to comparisons for individual newspapers over years and to Question 1 reveal this:

1. Grade levels of style difficulty for The New York Times did not change from 1955 to 1995, as predicted.
2. Grade levels of style difficulty for The Los Angeles Times did not change from 1955 to 1995, not as predicted.

3. Grade levels of style difficulty for The San Jose Mercury News changed from 1955 to 1995, as predicted.

Table 4 shows the results of t tests determining when and how changes in grade levels of style difficulty for The San Jose Mercury News occurred:

Table 4
T Tests for Question 1

Comparison	NYT	LAT	SJMN
1955 to 1965			Decreased $t(68) = 2.29^*$
1965 to 1975			Increased $t(68) = 2.01^*$
1975 to 1985			(Increased) $t(68) = 2.36^*$
1985 to 1995			Decreased $t(68) = 3.87^*$

Note. Parentheses around conclusions signify that the results were as predicted. Empty cells signify that t tests were not needed. NYT = The New York Times; LAT = The Los Angeles Times; SJMN = The San Jose Mercury News.

* $p < .05$.

One-way ANOVAs from Table 3 corresponding to comparisons for individual years among newspapers and to Question 2 reveal this:

1. Grade levels of style difficulty for 1955 were not equal among The New York Times, The Los Angeles Times, and The San Jose Mercury News, as predicted.
2. Grade levels of style difficulty for 1965 were not equal among them, as predicted.
3. Grade levels of style difficulty for 1975 were not equal among them, as predicted.

- 4. Grade levels of style difficulty for 1985 were equal among them, as predicted.
- 5. Grade levels of style difficulty for 1995 were not equal among them, not as predicted.

Table 5 shows the results of *t* tests to determine which and how newspapers differed in grade levels of style difficulty for 1955, 1965, 1975, and 1995:

Table 5
T Tests for Question 2

Comparison	1955	1965	1975	1985	1995
NYT / LAT	(NYT higher) <i>t</i> (68) = 2.00*	(Equal) <i>t</i> (68) = 1.44	(Equal) <i>t</i> (68) = 1.36		(Equal) <i>t</i> (68) = 0.37
NYT / SJMN	(NYT higher) <i>t</i> (68) = 3.12*	(NYT higher) <i>t</i> (68) = 4.60*	(NYT higher) <i>t</i> (68) = 2.68*		NYT higher <i>t</i> (68) = 4.34*
LAT / SJMN	Equal <i>t</i> (68) = 0.68	(LAT higher) <i>t</i> (68) = 4.04*	Equal <i>t</i> (68) = 1.15		LAT higher <i>t</i> (68) = 3.83*

Note. Parentheses around conclusions signify that the results were as predicted. Empty cells signify that *t* tests were not needed. NYT = The New York Times; LAT = The Los Angeles Times; SJMN = The San Jose Mercury News.

**p* < .05.

These analyses produced a high proportion of unexpected results. But they also yielded some positive conclusions about the correlation between grade levels of style difficulty and newspaper quality. Grade levels of style difficulty for both The New York Times did not change over years, which confirmed predictions for that newspaper over years. For all 5 years, grade levels of style difficulty for The New York Times were either greater than or equal to those of the other two newspapers, and grade levels of style difficulty for The Los Angeles Times were either greater than or equal to those of The San Jose Mercury News.

Sentence Lengths

Research Question 3 is restated: How did sentence lengths for individual newspapers compare over years?

Research Question 4 is restated: How did sentence lengths for individual years compare among newspapers?

Table 6 reflects the initial analyses for testing the predictions concerning Questions 3 and 4:

Table 6

Average Words Per Sentence for the Front Pages
of *The New York Times*, *The Los Angeles Times*, and *The San Jose Mercury News*
from 1955 to 1995

Year	NYT	LAT	SJMN	ANOVA. $F(2, 102)$
1955	23.60	25.15	20.16	5.66*
1965	26.26	24.52	19.96	13.48*
1975	30.00	22.96	23.22	11.61*
1985	25.74	26.57	27.33	0.52
1995	30.71	27.61	21.70	11.87*
ANOVA. $F(4, 170)$	5.52*	2.46*	10.28*	

Note. The reading of scores down columns corresponds to comparisons for individual newspapers over years and corresponds to Question 3. The reading of scores across rows corresponds to comparisons for individual years among newspapers and corresponds to Question 4. NYT = The New York Times; LAT = The Los Angeles Times; SJMN = The San Jose Mercury News.

* $p < .05$.

One-way ANOVAs from Table 6 corresponding to comparisons for individual newspapers over years and to Question 3 reveal this:

1. Sentence lengths for The New York Times changed from 1955 to 1995, not as predicted.
2. Sentence lengths for The Los Angeles Times changed from 1955 to 1995, not as predicted
3. Sentence lengths for The San Jose Mercury News changed from 1955 to 1995, not as predicted.

Table 7 shows the results of t tests determining when and how changes in sentence lengths for The New York Times, The Los Angeles Times, and The San Jose Mercury News occurred:

Table 7

T Tests for Question 3

Comparison	NYT	LAT	SJMN
1955 to 1965	(No Change) $t(68) = 1.61$	(No Change) $t(68) = 0.45$	(No Change) $t(68) = 0.19$
1965 to 1975	Increased $t(68) = 1.97^*$	(No Change) $t(68) = 1.25$	Increased $t(68) = 2.77^*$
1975 to 1985	Decreased $t(68) = 2.32^*$	Increased $t(68) = 2.60^*$	Increased $t(68) = 2.60^*$
1985 to 1995	Increased $t(68) = 2.77^*$	(No Change) $t(68) = 0.56$	Decreased $t(68) = 3.70^*$

Note. Parentheses around conclusions signify that the results were as predicted. NYT = The New York Times; LAT = The Los Angeles Times; SJMN = The San Jose Mercury News.

* $p < .05$.

One-way ANOVAs from Table 6 corresponding to comparisons for individual years among newspapers and to Question 4 reveal this:

1. Sentence lengths for 1955 were not equal among The New York Times, The Los Angeles Times, and The San Jose Mercury News, not as predicted.
2. Sentence lengths for 1965 were not equal among them, not as predicted.
3. Sentence lengths for 1975 were not equal among them, not as predicted.
4. Sentence lengths for 1985 were equal among them, as predicted.
5. Sentence lengths for 1995 were not equal among them, not as predicted.

Table 8 shows the results of t tests to determine which and how newspapers differed in sentence lengths for 1955, 1965, 1975, and 1995:

Table 8
T Tests for Question 4

Comparison	1955	1965	1975	1985	1995
NYT / LAT	(Equal) $t(68) = 0.94$	(Equal) $t(68) = 1.24$	NYT higher $t(68) = 3.95^*$		(Equal) $t(68) = 1.46$
NYT / SJMN	NYT higher $t(68) = 2.33^*$	NYT higher $t(68) = 9.87^*$	NYT higher $t(68) = 3.74^*$		NYT higher $t(68) = 5.25^*$
LAT / SJMN	LAT higher $t(68) = 3.49$	LAT higher $t(68) = 4.38^*$	(Equal) $t(68) = 0.19$		LAT higher $t(68) = 3.33^*$

Note. Parentheses around conclusions signify that the results were as predicted. Empty cells signify that t tests were not needed. NYT = The New York Times; LAT = The Los Angeles Times; SJMN = The San Jose Mercury News.

* $p < .05$.

Sentence lengths were predicted not to change for individual newspapers over years, and they were predicted to be equal for individual years among newspapers. But, instead of being an inert element of style difficulty, sentence lengths changed for every individual newspaper over years, and they were unequal for 4 out of 5 years among newspapers. In addition, for all 5 years, sentence lengths for The New York Times were

either greater than or equal to those of the other two newspapers, and sentence lengths for The Los Angeles Times were either greater than or equal to those of The San Jose Mercury News, which newly suggests a correlation between sentence length and newspaper quality. For The San Jose Mercury News, both sentence lengths and grade levels of style difficulty increased from 1965 to 1975, increased from 1975 to 1985, and decreased from 1985 to 1995, showing that, in at least one instance, corresponding results for sentence lengths and grade levels of style difficulty took place.

Word Lengths

Research Question 5 is restated: How did word lengths for individual newspapers compare over years?

Research Question 6 is restated: How did word lengths for individual years compare among newspapers?

Table 9 reflects the initial analyses for testing the predictions concerning Questions 5 and 6:

Table 9

Average Syllables Per Word for the Front Pages
of *The New York Times*, *The Los Angeles Times*, and *The San Jose Mercury News*
from 1955 to 1995

Year	NYT	LAT	SJMN	ANOVA, $F(2, 102)$
1955	1.74	1.68	1.68	1.67
1965	1.71	1.66	1.38	8.92*
1975	1.67	1.71	1.65	2.00
1985	1.73	1.68	1.72	1.50
1995	1.69	1.71	1.62	4.50*
ANOVA, $F(4, 170)$	3.00*	1.00	6.67*	

Note. The reading of scores down columns corresponds to comparisons for individual newspapers over years and corresponds to Question 5. The reading of scores across rows corresponds to comparisons for individual years among newspapers and corresponds to Question 6. NYT = The New York Times; LAT = The Los Angeles Times; SJMN = The San Jose Mercury News.

* $p < .05$.

One-way ANOVAs from Table 9 corresponding to comparisons for individual newspapers over years and to Question 5 reveal this:

1. Word lengths for The New York Times changed from 1955 to 1995, not as predicted.
2. Word lengths for The Los Angeles Times did not change from 1955 to 1995, not as predicted
3. Word lengths for The San Jose Mercury News changed from 1955 to 1995, as predicted.

Table 10 shows the results of t tests determining when and how changes in word lengths for The New York Times and The San Jose Mercury News occurred:

Table 10
T Tests for Question 5

Comparison	NYT	LAT	SJMN
1955 to 1965	(No Change) $t(68) = 1.03$		Decreased $t(68) = 2.91^*$
1965 to 1975	(No Change) $t(68) = 1.32$		Increased $t(68) = 2.70^*$
1975 to 1985	Increased $t(68) = 2.17^*$		(Increased) $t(68) = 2.12^*$
1985 to 1995	(No Change) $t(68) = 1.39$		Decreased $t(68) = 2.86^*$

Note. Parentheses around conclusions signify that the results were as predicted. Empty cells signify that t tests were not needed. NYT = The New York Times; LAT = The Los Angeles Times; SJMN = The San Jose Mercury News.

* $p < .05$.

One-way ANOVAs from Table 9 corresponding to comparisons for individual years among newspapers and to Question 6 reveal this:

1. Word lengths for 1955 were equal among The New York Times, The Los Angeles Times, and The San Jose Mercury News, not as predicted.
2. Word lengths for 1965 were not equal among them, as predicted.
3. Word lengths for 1975 were equal among them, not as predicted.
4. Word lengths for 1985 were equal among them, as predicted.
5. Word lengths for 1995 were not equal among them, not as predicted.

Table 11 shows the results of t tests to determine which and how newspapers differed in word lengths for 1965 and 1995:

Table 11
T Tests for Question 6

Comparison	1955	1965	1975	1985	1995
NYT / LAT		NYT higher $t(68) = 1.71^*$			(Equal) $t(68) = 0.67$
NYT / SJMN		(NYT higher) $t(68) = 5.62^*$			NYT higher $t(68) = 2.33^*$
LAT / SJMN		(LAT higher) $t(68) = 2.80^*$			LAT higher $t(68) = 2.88^*$

Note. Parentheses around conclusions signify that the results were as predicted. Empty cells signify that t tests were not needed. NYT = The New York Times; LAT = The Los Angeles Times; SJMN = The San Jose Mercury News.

* $p < .05$.

Limited confirmation of the correlation of word lengths with newspaper quality took place. For all five years, word lengths for The New York Times were either greater than or equal to those of the other two newspapers, and word lengths for The Los Angeles Times were either greater than or equal to those of The San Jose Mercury. Also, some corresponding results for word lengths and grade levels of style difficulty took place. Both word lengths and grade levels of style difficulty for The Los Angeles Times did not change from 1955 to 1995. Both word lengths and grade levels of style difficulty for The San Jose Mercury News increased from 1965 to 1975, increased from 1975 to 1985, and decreased from 1985 to 1995.

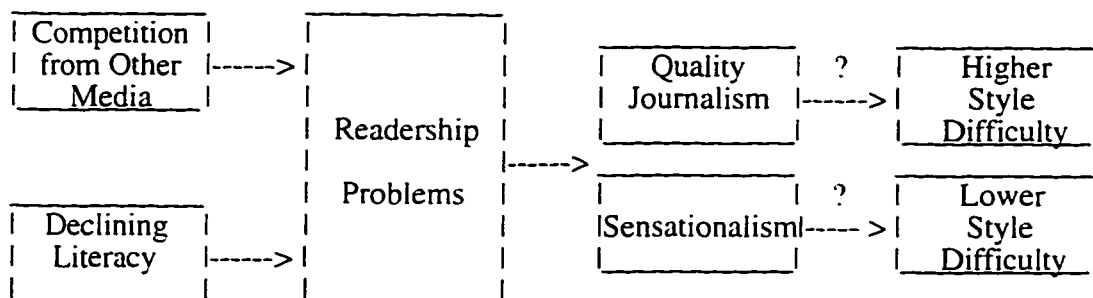
Chapter 5

Summary and Conclusions

There are several possible explanations for the alternately positive and negative conclusions in this thesis about the correlation between style difficulty and newspaper quality. Despite the elegance and prominence of the Reading Ease formula, an entirely precise and valid measurement of style difficulty probably does not exist. Categorizing the content of a particular newspaper strictly as either sensationalistic or quality involves potential problems, because even the most acclaimed newspapers probably produce fluctuating degrees of quality in their work. Also, some of the literature used to anchor the predictions of this thesis - like the studies by Stevenson (1964) and Fusaro and Conover (1990), which associated style difficulty with newspaper content, or like the study by Danielson et al. (1992), which involved separate analyses of word lengths and sentence lengths - might not be suitable to the particular circumstances of this thesis.

Figure 1 is a rough schematization of some of the major elements associated with the central concern of this thesis. It illustrates that this thesis has involved what is basically a socioeconomic approach to describing the significance of the connection between style difficulty and newspaper quality.

Figure 1



All three newspapers exhibited at least 13th-grade (college-freshmen) levels of style difficulty. The U.S. Bureau of the Census (1995) reported that in 1994 only 46% of Americans 25 years or older had some college experience (p. 159). What this possibly suggests is that only about half of the population can adequately read the three newspapers studied in this thesis.

But, that implication does not necessarily lead to concluding that the readerships of the three newspapers are limited to small segments of the newspaper-reading public. Out of all the daily newspapers in the United States, The New York Times, The Los Angeles Times, and The San Jose Mercury News had the 3rd, the 4th, and the 34th highest circulations in 1995 respectively (Phillips & Phillips, 1996, p. xiii). Although the three newspapers serve only a limited portion of the entire population, they also serve some of the largest portions of the newspaper-reading population.

One might want to determine what factors relate to the production of higher style difficulty if higher style difficulty is indeed a distinguishing feature of newspapers with the highest readerships. This particular thesis has been an attempt to determine if newspaper quality is one of those factors, and it has shown qualifiedly positive results.

Some suggestions for possible further studies include (a) comparing the style difficulties of text in different kinds of media, such as in the study by Danielson et al. (1992) that compared the style difficulties of newspapers and novels, or such as in a study that measures the style difficulties of news in print and news from the Internet; (b) examining newspapers from high schools, community colleges, and universities to determine how closely their grade levels of style difficulty match the supposed levels of literacy of their students; and (c) for multilingual students, comparing the style difficulties for newspapers written in different languages.

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