"READABILITY" OF COMMUNICATION SCIENCES AND DISORDERS JOURNALS: A METHOD FOR IMPROVING THE SCHOLARLY/PROFESSIONAL WRITING PERFORMANCE OF COMMUNICATION SCIENCES AND DISORDERS STUDENTS

Ronald C. Jones, Ph.D., COI
Hampton University
Hampton, VA, USA

Robert Mayo, Ph.D., CCC-SLP
University of North Carolina at Greensboro
Greensboro, NC, USA

Michael Cotter, M.S.
Norfolk State University
Norfolk, VA, USA

Carolyn M. Mayo, Ph.D., CCC-SLP
Communication Research, Evaluation and Wellness Specialists, LLC
Burlington, NC, USA

Olivia Hinsley
Hampton University
Hampton, VA, USA

Alana Thompson
Franklin Pierce University
Rindge, NH, USA

ABSTRACT

The *Flesch-Kincaid Readability Scale* was used to assess the readability of abstracts from peer-reviewed articles randomly selected from journals in Communication Sciences and Disorders (CSD). It was postulated that the abstracts from professional journals, because of their peer-review or refereed standards, could serve as exemplars for students to model in trying to improve their scholarly or professional writing performance. The Flesch-Kincaid (F-K) was also used to evaluate writing samples from two groups of students: 1) freshmen communications students, and 2) graduate CSD majors. The results suggest that journal abstracts from CSD journals do reflect readability standards that are appropriate for a college-educated audience. Also, the results suggest a need to introduce scholarly/professional writing skills training to prospective CSD majors prior to their entry into graduate training programs where heightened writing performance is expected.

KEY WORDS: Writing performance, readability measures, preliminary CSD training, teaching and learning

INTRODUCTION

The transition from undergraduate to graduate study in Communication Sciences and Disorders (CSD) can be a challenging process for many students. Unlike undergraduate studies, where courses outside the discipline are designated as general education requirements and courses within the CSD major are offered as overview courses (e.g., voice *and* fluency disorders), graduate CSD students must complete an in-depth study of one discipline (i.e., speech-language pathology or audiology), and simultaneously enter an extended clinical training process supervised by faculty members. Additionally, graduate study in CSD demands more reading and writing---both academic and clinical. Moreover, much of the required reading and writing assignments in graduate school are exacting and challenging.

In our experience and in the words of others, among the many goals of the required reading and writing assignments at the graduate level are: (a) to familiarize the student with the scholarly literature of the profession of CSD and related disciplines; (b) to instill in the student the content, vocabulary, and methods of inquiry in the profession; (c) to foster in students the ability to communicate their knowledge of the profession in an intelligent and effective manner; (d) to offer a foundation for students to begin to translate "book knowledge" into clinical, evidence-based practices; and (e) to help CSD students become critical thinkers, both as students and later as practicing professionals (Finn, Brundage, & DiLollo, 2016). It is also possible, in our opinion, that the textbook chapters and journal articles CSD students are required to read and interpret could serve as exemplars to model when trying to improve their scholarly and professional writing. Given the competitive nature of admission to graduate study in CSD and the challenges associated with eventual success, in the form of degree attainment (Boles, 2018; Troche & Towson, 2018), it is incumbent upon CSD students to develop the writing skills they will need to become effective speech-language pathologists or audiologists, and well-versed contributors to the disciplines' bodies of knowledge.

Assessing Scholarly Text Readability

Assessing the readability of text to determine its clarity or intelligibility for a particular audience has been an endeavor of scholars dating back several decades. Of historical note are the Gunning Fog Index Readability Formula (Gunning, 1952), the Dale-Chall Readability formula (Dale and Chall, 1948), and McLaughlin's SMOG grading (McLaughlin, 1969). One of the more enduring measures and one conveniently assessible in many contemporary word-processing programs (e.g., Microsoft Word) is the combined *Flesch-Kincaid Readability Scale* (Kincaid et al, 1975).

The original *Flesch Reading Ease Scale* was developed in 1948 by Rudolf Flesch, an English professor and consultant with the Associated Press. His work was to help publishers improve the readability of newspapers. Later, Flesch's research moved to the education sector to help teachers choose texts appropriate to the reading level of their students (Comer, 2011). Now, the Flesch Reading Ease is used by digital marketers, research communicators, policy writers, and others. The scale is based on a formula that computes the average number of syllables-per-word and words-per-sentence. Syllables-per-word is a measure of word difficulty, and words-per-sentence is an indicator of syntactic complexity (Flesch, 1949).

In 1976, J. Peter Kincaid, a scientist and educator, along with a team of researchers, reformatted Flesch's formula to develop an *equivalent grade level* scale. This was in consultation with the U.S. Navy, which used this scale principally to measure the comprehension level of naval training manuals. The new approach was named the *Flesch-Kincaid Grade Level Scale* and has become a standard measure for the U.S. Department of Defense, the Internal Revenue Service and the Social Services Administration (Wylie Communications, 2018).

Reading Ease Scale

The reading ease scale is a measure that uses scores ranging from 0 - 100. The higher the score, the easier the read. Low scores indicate text that is more difficult to read or more complex for the average reader to understand. For most business writing, a score of 65 is

considered a good target, and scores between 60 and 80 should be understood by most 5th to 10th graders (WebFX, 2009). Reading ease scores for professional or scholarly writing are generally lower (e.g., 30 -50 range), reflecting more writing complexity (Wright, 2012).

The formula for the Flesch Reading Ease score is:

$206.835 - (1.015 \times ASL) - (84.6 \times ASW)$

where:

ASL = average sentence length (the number of words divided by the number of sentences)

ASW = average number of syllables per word (the number of syllables divided by the number of words)

Table 1 shows how reading ease scores align with readibility and educational levels.

Table 1. Reading Ease Ratings.

Reading Ease Score	Readability Level/Category (re: average reader)	Educational Level
0 - 29	Very Difficult	College Graduates
30 – 49	Difficult	College
50 – 59	Fairly Difficult	High School Senior
60 – 69	Standard	13 to15 year-olds
70 - 79	Fairly Easy	12 year-olds
80 - 89	Easy	11 year-olds
90 - 100	Very Easy	10 year-olds

Equivalent Grade-Level Scale

The equivalent grade-level scale presents a score as a U.S. grade level (i.e., 5th grade, 6th grade, etc.) equivalent. This is done to make it easier for teachers, parents, librarians, and others to judge the readability level of various books and instructional texts. It also suggests the number of years of equivalent education generally required to understand the text (My Byline Media, 2019).

The formula for the Flesch-Kincaid Grade Level score is:

$(.39 \times ASL) + (11.8 \times ASW) - 15.59$

where:

ASL = average sentence length (the number of words divided by the number of sentences)

ASW = average number of syllables per word (the number of syllables divided by the number of words)

The information shown in Table 2 aligns grade level scores with the level of reading difficulty, syllable/word and words/sentence structure, and estimated grade level completed (Clarkson College, 2018).

Table 2. Flesch Grade Level (Flesch, 1949).

Grade Level Score	Level of difficulty for average reader	Average number of syllables/word	Average number of words/ sentence	Estimated school grade completed
≤ 4.0	Very easy	1.23 of fewer	8 or fewer	4th
5.0	Easy	1.31	11	5th
6.0	Fairly easy	1.39	14	6th
7.0	Standard	1.47	17	7th
8.0	Standard	1.51	19	8th
9.0	Standard	1.55	21	HS freshman
10.0	Fairly difficult	1.67	25	HS sophomore
11.0	Fairly difficult	1.67	25	HS junior
12.0	Fairly difficult	1.67	25	HS senior
13.0	Difficult	1.92 or more	29 or more	College Freshman
14.0	Very difficult	1.92 or more	29 or more	College sophomore

Table 3 was constructed by the authors and shows an index aligning the reading ease scores for various text examples with equivalent U.S. grade levels.

Table 3. Flesch-Kincaid Readability Index.

Reading Ease Score – U.S. Grade Level		
	100 - 1	
Comics	96 - 2	
How the Grinch Stole Christmas	92 - 3	
	88 - 4	
	84 - 5	
Consumer ads	80 - 6	
Newspaper article	76 - 7	
	72 - 8	
People Magazine	68 - 9	
Reader's Digest	64 - 10	
	60 - 11	
Forbes Magazine	56 - 12	High School Diploma
	52 - 13	
Relativity by A. Einstein	48 - 14	
Harvard Business Review	44 - 15	
	40 - 16	College Degree
	36 - 17	
Harvard Law Review	32 - 18	Masters Degree
	28 - 19	
	24 - 20	Ph.D.
	20 - 21	
	16 – 22	
	12 – 23	
Complex Legal Document	8 – 24	
	4 – 25	
	0 – 26	

Computer Application

Computers with word-processing programs, for example, Microsoft Word, give users convenient access to the *Flesch-Kincaid Readability Scale*. The program provides a word count measure, it averages sentence length, calculates reading ease and equivalent grade level, and notes the percentage of passive-voice sentences. Chart 1, below, illustrates how these and other data are displayed (Stockmeyer 2009).
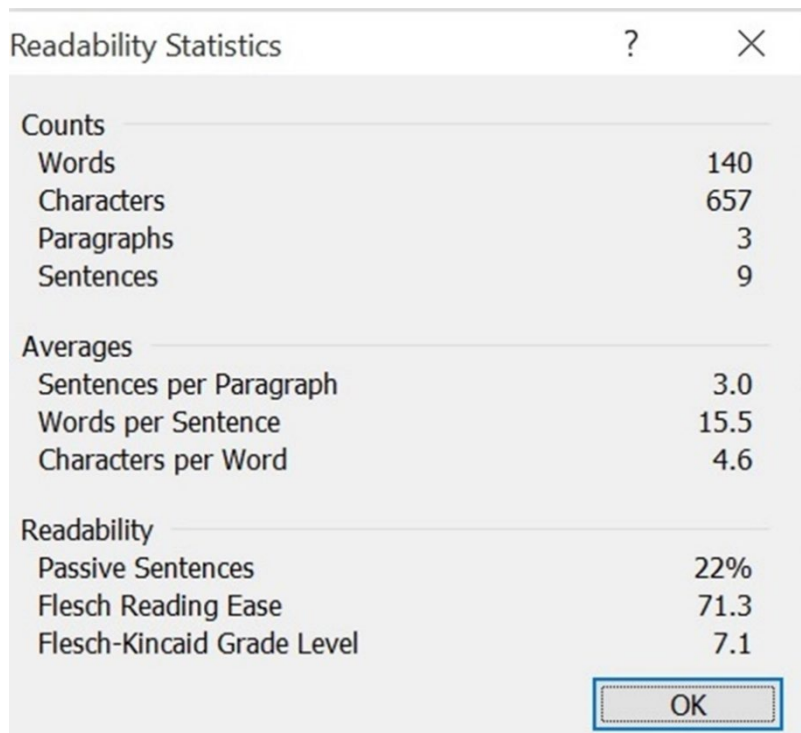
Accessing the Readability Statistics in Microsoft Word:

- Click the **File** tab, and then click **Options**.

- Click **Proofing**.
- Under **When correcting spelling and grammar in Word, m**ake sure the **Check grammar with spelling** check box is selected.
- Select **Show readability statistics**.

After you enable this feature, open a file that you want to check, and check the spelling by pressing F7 or going to **Review** > **Spelling &** **Grammar**. When Word finishes checking the spelling and grammar, it displays information about the reading level of the document.

Chart 1. Data table from Microsoft Word.

Readability Statistics	?	✕
Counts		
Words		140
Characters		657
Paragraphs		3
Sentences		9
Averages		
Sentences per Paragraph		3.0
Words per Sentence		15.5
Characters per Word		4.6
Readability		
Passive Sentences		22%
Flesch Reading Ease		71.3
Flesch-Kincaid Grade Level		7.1
	OK	

Writing to inform, to persuade, to entertain, etc., requires the writer to use talent and skill to make his or her point. Yet, no readability formula can predict the impact the text will have on the reader. A readability formula's true purpose is only to give the writer an estimate of the reading difficulty of text with reference to a general audience (My Byline Media, 2019). The present authors are part of a collaborative team investigating applied knowledge in students and professionals through a scholarship of teaching and learning perspective. One of our goals is to identify ways of developing and strengthening the academic skills (reading, writing, critical thinking, etc.) of communication sciences and disorders students to assure their success as undergraduates, enhance their prospects of admission to graduate school, and prepare them for the world of professional practice.

The purpose of this study was to find writing samples that could serve as exemplars for CSD students to model when trying to improve their scholarly/professional (e.g., academic and clinical) writing skills. Articles appearing in discipline-related, refereed journals were targeted because they would have gone through a rigorous peer-review process to assure their suitability for a targeted professional audience.

METHODS

A decision was made to assess the readability (e.g., reading ease and equivalent grade level) of journal article abstracts rather than the entire articles themselves. This was based on research conducted by Hartley and Benjamin (1998) and Hartley (2003), where they found that abstracts for scientific manuscripts are repeatedly rewritten during the submission process to improve their readability to the "academics" who subscribe to the journals. As such, the abstracts, or better yet, their readability ratings should be able to be modeled by students trying to improve their scholarly/professional writing performance.

First, a readability analysis was conducted of 50 abstracts selected from articles appearing in five peer-reviewed journals in communication sciences and disorders (10 abstracts each). Each journal had an online publication presence. Three of the journals represented Speech-Language Pathology and two represent Audiology. They included the following:

- *Language, Speech and Hearing Services in the Schools (LSHSS)*
- *The Journal of the National Black Association for Speech, Language and Hearing (JNBASLH)*
- *Journal of Speech, Language, Hearing Research (JSLHR)*
- *American Journal of Audiology (AJA)*
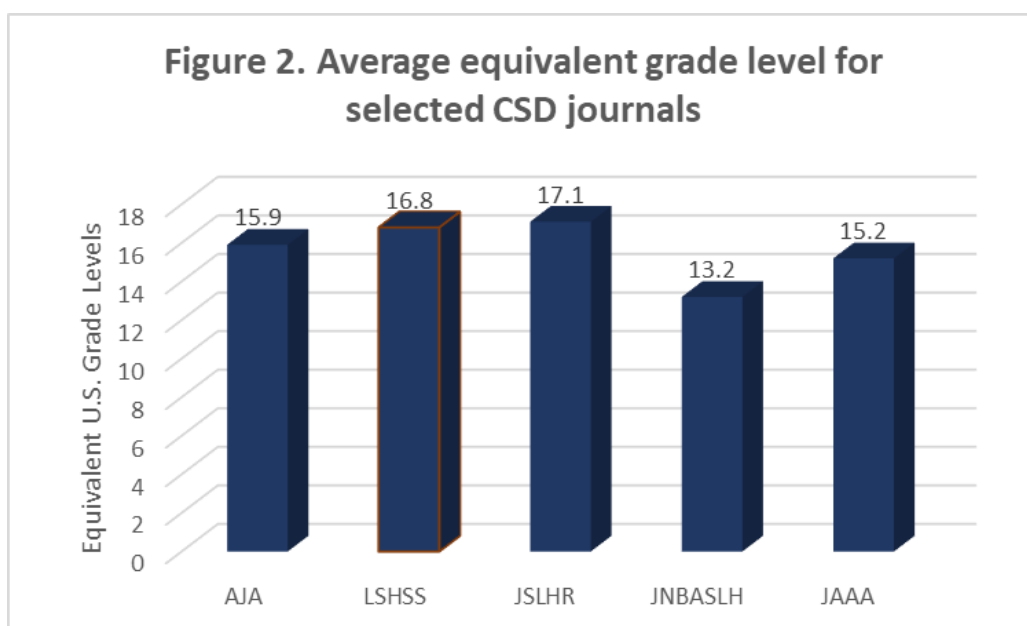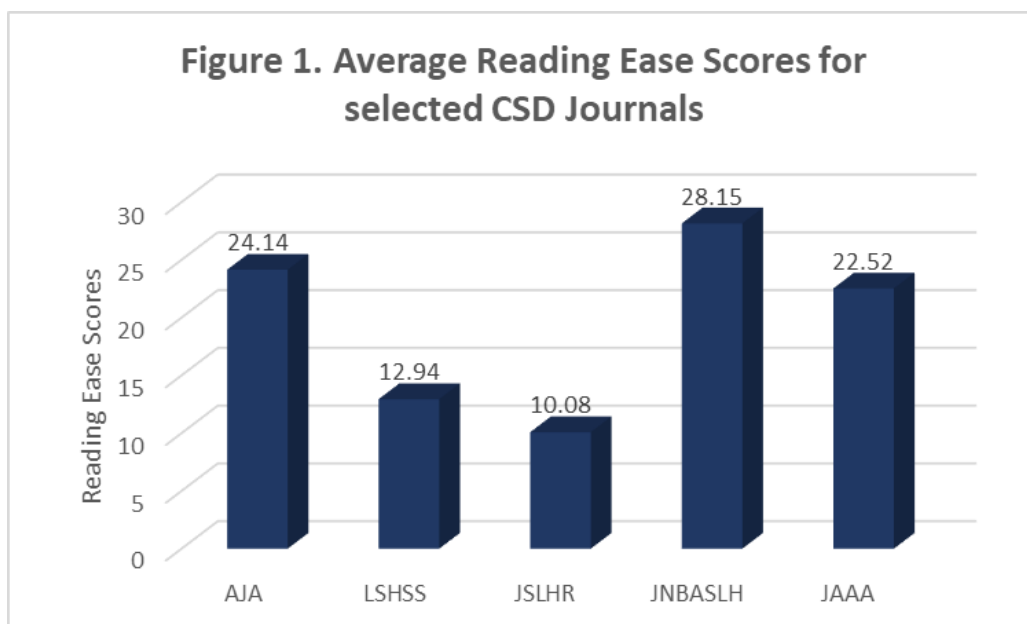- *The Journal of the American Academy of Audiology (JAAA)*

Articles along with their abstracts, were randomly selected from current or recent online issues (i.e., January 2016 to July 2017) of the five journals. Articles with abstracts less than 300 words in length were excluded. The abstracts that were selected were digitally copied, converted into a Word document, and subjected to the onboard *Flesch-Kincaid Readability Scale* analysis (e.g., counts, averages, readability) program. Only the F-K scores for *reading ease* and *grade level* were tabulated and averaged.

The Flesch-Kincaid Scale was also used to assess samples of students' writing. This was done for the purpose of determining just how close the readability scores of student essays aligned with those of the journal article abstracts (postulated to be able to serve as targeted writing standards).

The writing samples were digital essays (300+ words) solicited from two groups of students. The first group consisted of 66 college freshmen who were enrolled in an *Introduction to Communications* course taught at a local state college. The students had been required to write a series of short essays in response to *TED Talk* video presentations on various communication-related topics. Those who participated were given bonus points in the course for volunteering the submission of their best or highest graded essay (with a minimum 300-word count). No effort was made to randomize the samples. The second group consisted of 65, 2nd year graduate students enrolled in a Communication Sciences and Disorders program at a state university. These students had completed a digital essay assignment (minimum 300-word count) for their capstone course. They also received bonus points for volunteering their submissions. Again, no effort was made to randomize the samples. All students received a copy of their *Flesch-Kincaid Readability* results and information on how to improve their writing performance. Although, syllable/word counts, sentence length, and passivity ratings were also calculated, only the reading ease and equivalent grade level scores for each group's samples were averaged and reported in this study.

RESULTS

The data obtained were subjected to descriptive analyses. Figures 1 and 2 show the *reading ease* and *equivalent grade level* averages, respectively, for 50 abstracts randomly selected (10 each) from five refereed and peer-reviewed CSD journals.

Figure 1. Average Reading Ease Scores for selected CSD Journals

Reading Ease Scores

- AJA: 24.14
- LSHSS: 12.94
- JSLHR: 10.08
- JNBASLH: 28.15
- JAAA: 22.52

Figure 2. Average equivalent grade level for selected CSD journals

Equivalent U.S. Grade Levels

- AJA: 15.9
- LSHSS: 16.8
- JSLHR: 17.1
- JNBASLH: 13.2
- JAAA: 15.2

The data in Figure 1 show a range of averages for reading ease for abstracts from the selected CSD journals. Reading ease scores for the *American Journal of Audiology (AJA)*, the *Journal of the National Black Association for Speech, Language and Hearing (JNBASLH)*, and *the Journal of the American Academy of Audiology (JAAA)*, 24.1, 28.1, and 22.5, respectively, were notably higher, than the reading ease averages for abstracts from *Language, Speech and Hearing Services in the Schools (LSHSS)*, and *the Journal of Speech, Language, Hearing Research (JSLHR)*, which were 12.9 and 10.8, respectively. According to the information shown in Table 1 (above), the average reading ease scores for each of the targeted journals fell within the "Very Difficult" to read category, identifying them as being suitable for a college-level audience.
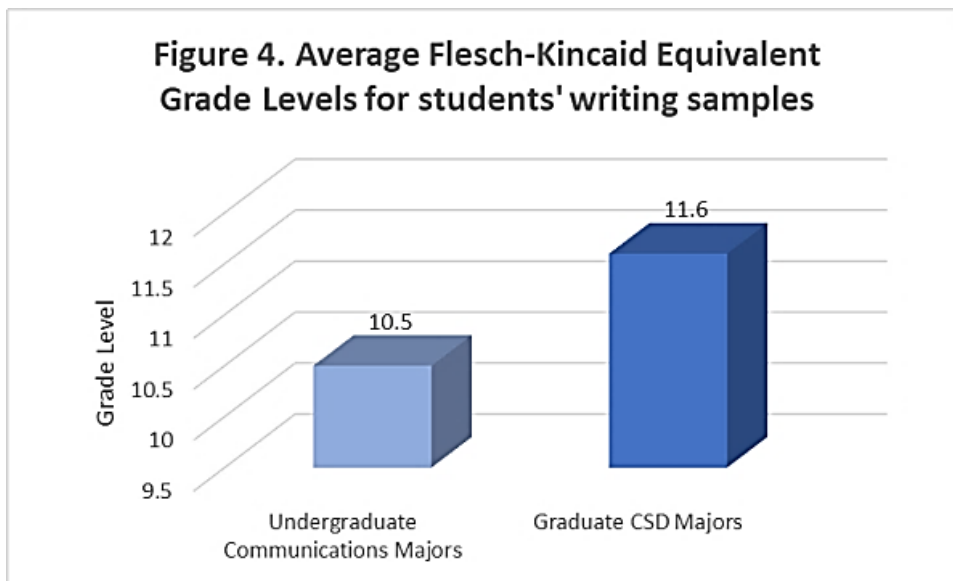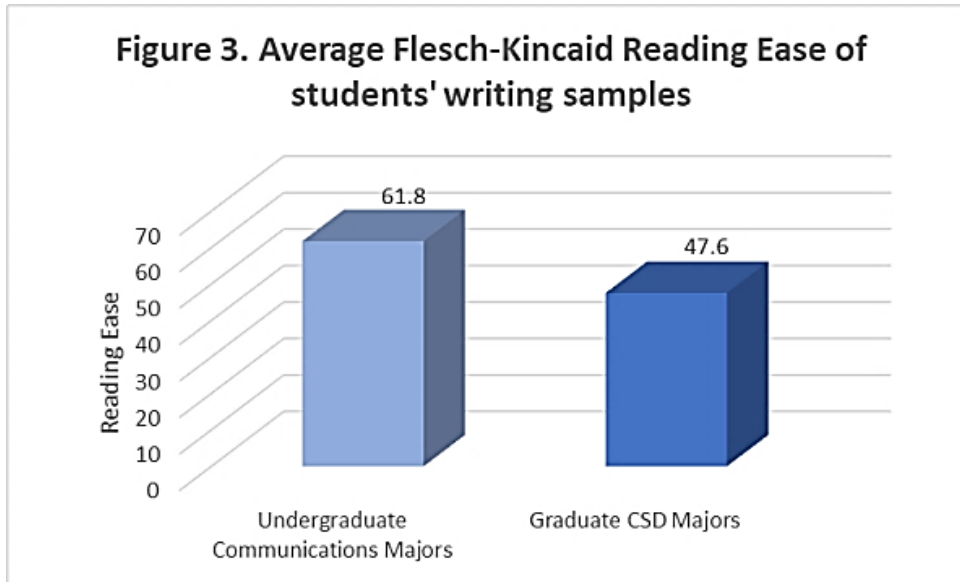
The data in Figure 2 show the average equivalent U.S. grade level for each of the selected CSD journals. The Equivalent grade level averages ranged from 13.2 for the *Journal of the National Black Association for Speech, Language and Hearing (JNBASLH)* to a grade level of 17.1 for the *Journal of Speech, Language, Hearing Research (JSLHR)*. The equivalent grade level averages for the other journals fell within this range. According to the information shown in Table 2, these averages show each of the journals' articles (abstracts) to be suited for a college population.

Figures 3 and 4 show the reading ease and equivalent grade level averages, respectively, of writing samples from two groups of students--- 66 Freshmen communications students and 65 graduate CSD majors.
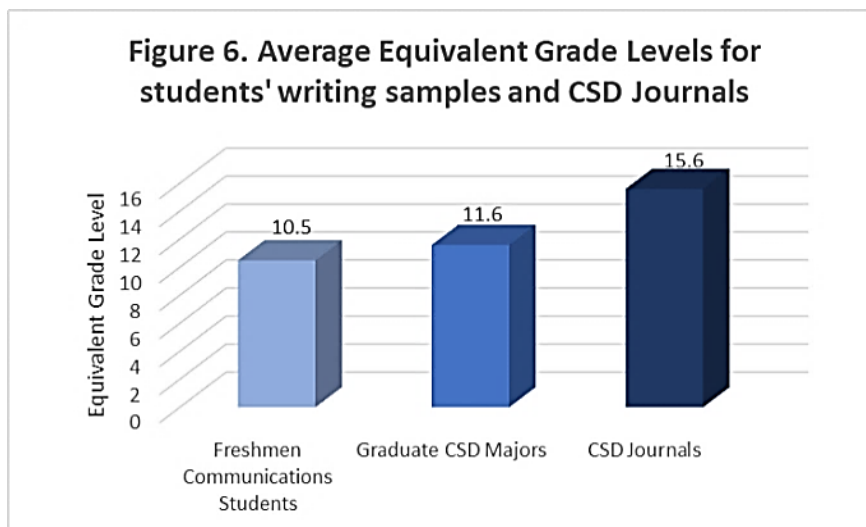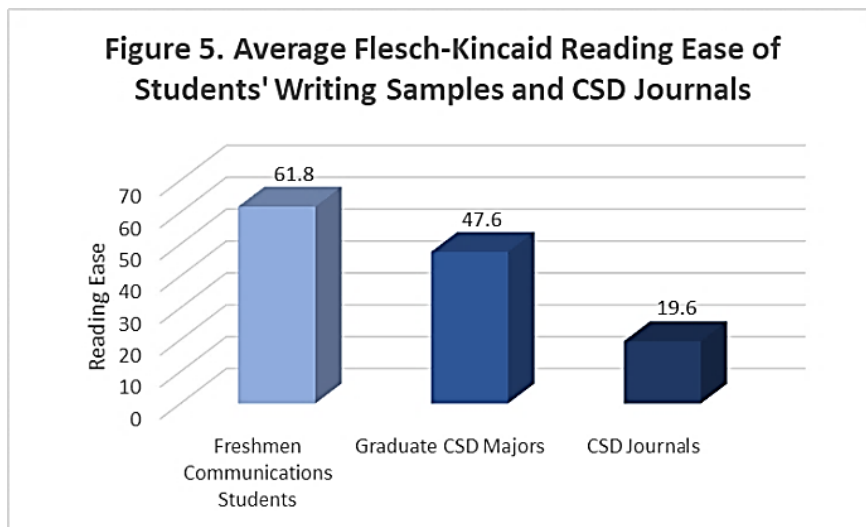
Figure 3. Average Flesch-Kincaid Reading Ease of students' writing samples

Reading Ease

- Undergraduate Communications Majors: 61.8
- Graduate CSD Majors: 47.6

Figure 4. Average Flesch-Kincaid Equivalent Grade Levels for students' writing samples

Grade Level

- Undergraduate Communications Majors: 10.5
- Graduate CSD Majors: 11.6

The data in Figure 3 show different findings for the reading ease of undergraduate and graduate students' writing samples. Undergraduate students' average reading ease score was 61.8 points, while the graduate's reading ease average was 47.6 points. This means that the reading ease score for undergraduate writing samples fell within the "Standard" category shown in Table 1, identifying the samples as being suitable for a 13-15 year-old audience. The reading ease score for graduate students' writing samples fell within the "Difficult" category, as shown on Table 1 and identified them as being suitable for a college-level audience.

The data for equivalent grade level (Figure 4) reveal that freshmen student's average grade level was 10.5, and the graduate students' average grade level was 11.6. According to the information shown on Table 2, these grade level scores characterize the students' writing performance as that suitable for sophomore and junior high school students, respectively.

Figures 5 and 6 show the reading ease averages and average equivalent grade levels, respectively, for the freshmen and graduate students' writing samples compared to the readability averages of the selected CSD journals.

Figure 5. Average Flesch-Kincaid Reading Ease of Students' Writing Samples and CSD Journals

Figure 6. Average Equivalent Grade Levels for students' writing samples and CSD Journals

Figure 5 shows the reading ease averages for freshmen communications students (61.8) to be notably higher than that of the graduate CSD majors (47.6), with both being quite disparate with the reading ease average of the CSD journals (19.6). According to the information provided in Table 1 these findings suggest the reading ease of the CSD journals is "very difficult" to read but suitable for college graduates, with the reading ease of writing samples from the graduate CSD students (47.6) characterized as "difficult" to read by college students. Table 1 information suggests, further, that the reading ease of the freshmen students writing samples (61.8) is at a "standard" level of difficulty, but suitable for a 13-15 year old (7th - 9th grade) reading level.

Figure 6 shows the average equivalent grade level for students' (e.g., Freshmen communications students (10.5) and graduate CSD majors (11.5)) writing samples to be comparatively lower than the average grade level measure for the selected CSD journals (15.6). According to the information posted on Table 2, the equivalent grade level scores for writing samples from both cohorts of students (freshmen communications students and graduate CSD majors), rate the samples as fairly difficult to read for high school sophomore and junior students, respectively. However, the average equivalent grade level for the CSD journals, 15.6, exceeds the limits of the information shown in Table 2. This suggests that the CSD journal's grade level performance is beyond the college sophomore grade level.

DISCUSSION

The purpose of this study was to determine if abstracts from articles appearing in professional CSD journals could serve as examples for students to model when trying to improve their academic and/or clinical writing skills. It was postulated that because such articles routinely go through a "peer-review" or refereed process, which subjects them to a rigorous examination of their content and professional writing quality, that they could serve as exemplars for students to emulate when trying to improve their writing performance. The results of this study show that journal abstracts can be easily evaluated for their

"reading ease" and "equivalent grade level" using a readability scale like the *Flesch-Kincaid.*

The finding that each of the journals used in this study was suitable for a college-level audience was not surprising. The audience targeted by the journals are graduate and post graduate career professionals. But, that some variability was shown for the average *reading ease* scores (e.g., between 10.8 to 28.15) suggests that some articles in some journals are more difficult to read than articles in other journals. The differences are likely contributed to by the different research orientations of the respective journals (e.g., applied or empirical research vs. descriptive analytical research vs. case-study or narrative reporting). Knowing that there are differences in reading ease, and for that matter, *equivalent grade level* can be important, particularly, when authors are considering which journals to submit their manuscripts.

What was surprising were the readability results of the students' writing samples, specifically, the equivalent grade level findings. Grade levels for undergraduate students' writing samples, would be expected to be at least at the 13th grade level (college freshman). Instead, the undergraduate equivalent grade level was at the 10th grade; a relatively low performance. Graduate student writing samples fared little better, with an average at the 11th grade; well below an expected 15th-16th grade level. This raises the issue, that if undergraduate and graduate students are expected to become familiar with the scholarly literature and then be able to communicate their knowledge of the profession in an intelligent and effective manner; then how can they when their writing performance, as represented by these results, is as deficient as it appears to be?

With regard to the reading ease averages for the two groups of students---Freshmen (61.8) and graduates (41.6)), they differed substantially, and proportionally more so, from the average for the CSD journals (19.6). Arguably, writing for the reading ease of a targeted audience is more of an art than a science. There are variables such as using familiar technical terms, conventional phrasing, formulas, etc., which can lengthen words and sentences that impact reading ease.

Learning how to incorporate these and other features for scholarly or professional writing may require training. There is evidence here that such training is warranted and should be incorporated into the undergraduate curriculum, well before students pursue graduate education.

Limitations

This study examined a limited number of writing samples (50 journal abstracts and 131 essays). The essays were solicited from two relatively small student populations (e.g., 66 freshmen communications students and 65 graduate CSD students). Additionally, inferential statistical

Recommendations

First reading…

In his book "The pleasures of reading in an age of distractions" Alan Jacobs (2011) explains that many students approach required reading filled with a sense of reluctance. For them, reading is something they "endure" in order to achieve a desired grade for a class or assignment. To be expedient, they memorize what they read instead of trying to learn the information for future application(s). Jacobs goes on to say that such students may be willing to read one or perhaps two textbooks for a course; but, in the instance that a professor requires multiple texts to be read, those most reluctant will likely drop the course rather than devote the amount of time they will need to increase their capacity to read, much less to learn to read well.

Students entering graduate or professional programs are presumed to have progressed beyond this reluctant or immature approach to reading. Mere memorization of facts is not sufficient. Their reading must take be more detailed or critical. They not only must be able to understand what was read, they must also be able to convey their knowledge to others. This is referred to as *conversancy*.

In their book *How to Read a Book*, Adler and Van Doren (1972) link the process of reading (for understanding) with an intention to develop conversancy (i.e., speaking and writing about a subject). Accordingly, students, particularly,

analysis was not performed which limited us to describing observed differences between the groups as opposed to delineating differences of a statistically significant nature. At best, the study can be considered a preliminary approach to finding methods for helping to improve students' scholarly/professional writing performance. The study does provide a starting point, though, for course instructors and students to initiate a writing training program. A more robust examination of the subject, to include other readability programs, might prove more effective. So too a more critical analysis of the writing samples, to include subjective measures.

graduate students must move well beyond strict memorization and develop the habit of reading to become more conversant in an area of scholarly inquiry, as well as to increase their knowledge base.

To approach required reading with the intention to develop conversancy, the authors suggest the following:

- Read the text or article as if it is a prescription for actual professional practice. That is, what is the literature telling you to do in actual practice?
- Decide whether the text or article is theoretical or practical in its intent. That is, what is the author's intent? To theorize? To prescribe?
- Classify the text or article according to the major strands of intellectual history. That is, does the literature give primary emphasis to general ideas that authors argue about?
- Decide whether the text or article is about general issues or about more specific problems. That is, does the literature have as its objective to orient the reader and the reader's subsequent practice to deal with global issues or to provide tools to solve specific problems?
- Identify the author's perspective. That is, what is the implicit philosophy embedded in the text or article?

- Specify what the text or article advocates you to do. That is, ask yourself, "What does the author want me to do?"
- Identify the purpose for which this is to be done. That is, ask yourself, "Why does the author want me to do this?"
- Make an informed judgment about the validity of these matters for actual practice. That is, ask yourself, "Do I believe that what the text or article suggests is a good thing? Is this better than what I am doing at present?"

Then writing…

There is a wealth of information on the Web that explains how to improve writing performance or the readability of text. It is the opinion of these writers that the information provided by My Byline Media (2019) at Readabilityformulas.com and Perles, (2009) at Brighthubeducation.com are excellent starting points. That information has been summarized and is presented below (with permission):

"How to Improve the Readability of Anything You Write."

Suggestion #1:
- Use one and two syllable words if and when appropriate.
- Avoid using too many 3-syllable words, unless that word is familiar to your readers.

Suggestion #2:
- When possible, write short, simple sentences.
- Introduce one idea in a sentence.
- Restrict the number of new ideas on a page.
- State the main idea at the beginning of each paragraph so the reader immediately knows the idea.

Suggestion #3:
- Use connective words ('firstly,' 'initially,' 'lastly,' 'however,' 'therefore,' etc.) to help guide the reader through sentences and paragraphs.

Suggestion #4:
- Use the active voice. Active voice makes your writing style and voice more concise and succinct.
- Too many instances of passive voice will trouble poor readers and make sentences longer.

Suggestion #5:
- Define difficult words by context clues, such as using parentheses to elaborate on a word, or using a footnote or citation to further explain the word.

Suggestion #6:
- Summarize important points in short paragraphs, perhaps with subheadings to break up bulky paragraphs.
- This helps the reader skim the material or to refer back to a specific paragraph.

Suggestion #7:
- Illustrations, speech bubbles, bullets, photos, graphs and different typefaces can add appeal to your material and increase reader retention.

Suggestion #8:
- Readers like "lists" because they can easily read sequential information or a series of events or ideas in narrative form.
- Good writers lead readers from point A to point B to point C and so on, without skipping around or zig-zagging around multiple ideas.
- Readers will quickly lose interest if you have them jumping around trying to make sense of things.

Suggestion #9:
- Choose a writing style that is easy to follow.
- Two popular writing styles include: 1) the "question-answer" style in which the author asks a question and then answers it in detail; and 2) the "sharing-experience" style in which the author describes an experience in personal terms.
- You can also use the "list" style (as mentioned above) to emphasize main ideas in sequential order.

Suggestion #10:
- Print size and style affect both readability and reader retention.
- Select typeface and paper that attracts readers and works in harmony with the purpose and tone of your message.

Suggestion #11:
- Add greater interest to your writing by using personal words, pronouns, names of people, etc.
- You can further connect with your readers by using personal sentences, such as quoted dialogue, spoken sentences, questions, commands, requests, exclamations, etc.

Suggestion #12:
- Depending on what you are writing and for what reason, it may be suitable to use a short slogan to convey information in a memorable way.
- The former statement also uses "basic sight words" and can be read by anyone with a primary-grade reading ability.

Suggestion #13:
- Break up long stretches of narrative passages with bold or italicized subtitles and/or captions.

- Captions and subtitles allow the reader to comprehend major points and digest your material more easily.

Suggestion #14:
- Highlight important ideas and terms with boldface type, italics or sentence indentions.

Suggestion #15:
- Leaving plenty of white space around black text is inviting.
- Crowding a page with blocks of text makes it look more confusing to a low-level reader.

Suggestion #16:
- Make technical terms look easier to read.
- You can do this by adding a phonetic pronunciation or a similar-sounding word in parentheses to help the reader familiarize himself with the word.

Using Flesh Kincaid Grade Level in Microsoft Word to Help You Write at an Appropriate Grade Level:

- Try to combine sentences whenever possible, using commas and conjunctions or other methods. Remember that Flesch Kincaid Grade Level is partially based on sentence length, so this is one of the easiest ways to raise the grade level.
- Do not waste your time combining sentences by inserting semicolons. Flesch Kincaid treats semicolons as breaks between sentences, just like periods.
- Try to insert as many longer words as possible, especially words with three or more syllables. Keep in mind, however, that Flesch Kincaid does not take the suffix –ed into account when calculating syllables, so the word "corrected," for

example, would only count as a two-syllable word.

- Remove long strings of one syllable words whenever possible. For example, if you have a sentence that reads "The squirrel scurried up the tree, searching here and there for more nuts to fill his cheeks with" in your text, try shortening the text to read "The squirrel scurried up the tree, searching for more nuts." This

will remove some of the one-syllable words, which will lower your Flesch Kincaid score.

- To lower the grade level of your text, do the opposite of each bullet above. Break sentences into two whenever possible, replace longer words with shorter ones, and insert additional one syllable word strings.

REFERENCES

Adler, M. J., & Van Doren, C. (1972). *How to Read a Book*. New York: Simon and Schuster.

Baer, J. D., Cook, A. L., & Baldi, S. (2006). *The Literacy of America's College Students*. American Institutes for Research.

Boles, L. (2018). Predicting graduate school success in a speech-language pathology program. *Teaching and Learning in Communication Sciences & Disorders*, Vol. 2 (Issue 2), 1-9.

Chall, J.S. (1983). *Stages of Reading Development*. New York, NY: McGraw-Hill. pp.10-24.

Clarkson College (2018). What is Readability? https://www.clarksoncollege.edu/acade mics/masters-program-resources/research-resources/what-is-readability/. Retrieved December, 2018

Comer, R. (2011). The Flesch Reading Ease and Flesch-Kincaid Grade Level. https://readable.io/blog/the-flesch-reading-ease-and-flesch-kincaid-grade-level/. Retrieved, December, 2018.

Dale, E., & Chall, J. S. (1948). A formula for predicting readability. Educational Research Bulletin, 27, 11–28

DuBay, L. (2004). The Principles of Readability available at http://www.impact-information.com/impactinfo/ readability02.pdf.

Finn, P., Brundage, S., & DiLollo, A. (2016). Preparing our future helping professionals to become critical thinkers: A tutorial. *Perspectives of the*

ASHA Special Interest Groups SIG 10, Vol. 1 (Part 2), 43-68.

Flesch, R. (1948). "A new readability yardstick". Journal of Applied Psychology. 32: 221–233. doi:10.1037/h0057532.

Flesch, R. (1949), The Art of Readable Writing, Harper (New York).

Gunning, R. (1952). The Technique of Clear Writing. McGraw-Hill. pp. 36–37.

Hartley J. (2003). Improving the clarity of journal abstracts in psychology: the case for structure. Science Communication 24:366–379. DOI: https://doi.org/10. 1177/1075547002250301.

Hartley J, & Benjamin, M. (1998). An evaluation of structured abstracts in journals published by the British Psychological Society. British Journal of Educational Psychology 68:443–456. DOI: https://doi.org/10.1111/j.2044-8279.1998.tb01303.x,

Kincaid, J.P., Fishburne, R.P. Jr., Rogers, R.L., & Chissom, B.S. (February 1975). "Derivation of new readability formulas (Automated Readability Index, Fog Count and Flesch Reading Ease Formula) for Navy enlisted personnel" (PDF). Research Branch Report 8-75, Millington, TN: Naval Technical Training, U. S. Naval Air Station, Memphis, TN.

McLaughlin, G. Harry (May 1969). "SMOG Grading — a New Readability Formula" (PDF). Journal of Reading. 12 (8): 639–646. Retrieved 2018-04-26.

My Byline Media. (2019). 8 Practical Purposes of Using Readability Formulas http://www.readabilityformulas.com/practical-purposes-of-using-readability-formulas.php. Retrieved December, 2018.

Perles, K. (2009). Using Flesh Kincaid Grade Level in Microsoft Word to Help You Write at an Appropriate Grade Level, *Student Assessment Tools & Principles: Teaching Methods, Tools & Strategies.* https://www.brighthubeducation.com/student-assessment-tools/38756-measuring-readability-with-flesh-kincaid-grade-level/. Retrieved December, 2018.

Sirico, L.J. (2007). Readability studies: How technocentrism can compromise research and legal determinations, 26 Quinnipiac L R 147.

Stockmeyer, N. (2009). Using Microsoft Word's Readability Program. Michigan Bar Journal. 88.

WebFX, Inc. (2009). Readability Test Tool. https://www.webfx.com/tools/readable/flesch-kincaid.html. Retrieved December 2018.

Wright, E. (2012). Understanding Readability Scores. https://erinwrightwriting.com/understanding-readability-scores/. Retrieved December, 2018.

Wylie Communications. (2018). Flesch-Kincaid Grade Level: How many years of education do your readers need? https://www.wyliecomm.com/2016/04/flesch-kincaid-grade-level/. Retrieved December, 2018.

ABOUT THE AUTHORS

Ronald Jones, Ph.D., CCC-A (retired), is a certified online instructor (COI) in the Language, Mathematics and Science Department at Tidewater Community College, Norfolk, Virginia and an adjunct professor in the Communicative Sciences and Disorders Department at Hampton University. E-mail: ronald.jones@hamptonu.edu.

Robert Mayo, Ph.D., CCC-SLP, is a Professor in the Department of Communication Sciences and Disorders, School of Health and Human Sciences at the University of North Carolina at Greensboro in Greensboro, North Carolina. E-mail: r_mayo@uncg.edu.

Michael Cotter, M.S., is a certified online instructor (COI) and Project Manager for the Writing Center at Norfolk State University, Norfolk, Virginia. Mr. Cotter is also the Speech Communication Lab Coordinator at Virginia Wesleyan University, Norfolk, Virginia. E-mail: mcotter@nsu.edu.

Carolyn M. Mayo, Ph.D., CCC-SLP, is Executive Director of Communication Research, Evaluation and Wellness Specialists, LLC. Prior to her current position, Dr. Mayo was the Founding Chair of the master's degree program in Speech-Language Pathology and Program Director of the Department of Speech-Language Pathology at Salus University, Elkins Park, Pennsylvania. E-mail: mayocm65@gmail.com.

Olivia Hinsley is a Speech-Language Pathology major in the Communicative Sciences and Disorders Department at Hampton University, Hampton, Virginia. Ms. Hinsley was responsible for the collection, analysis and tabulation of data provided by graduate students, and she contributed to manuscript development.

Alana Thompson is a freshman science major at Franklin Pierce University, Rindge, New Hampshire. Ms. Thompson was responsible for the collection, analysis and tabulation of data provided by undergraduate students and she contributed to manuscript development.

THE IMPACT OF AFRICAN AMERICAN ENGLISH ON LANGUAGE PROFICIENCY IN ADOLESCENT SPEAKERS

June Graham-Bethea, Ph.D., CCC-SLP
North Carolina A&T State University
Greensboro, NC, USA

Alan Kamhi, Ph.D., CCC-SLP
University of North Carolina at Greensboro
Greensboro, NC, USA

ABSTRACT

To examine previous findings that AAE use is related to complex syntax in spoken language, this study examined the relationship between AAE, complex syntax, and lexical diversity in adolescent African American English-speaking students in spoken and written language. There were no significant differences in syntactic complexity, type token ratio, and vocabulary use as a function of AAE use. The only significant correlations between AAE use and these measures were in the low moderate range ($r = .32-.36$). The findings of this study were thus inconsistent with previous studies by Craig and Washington (1994, 1995), but were consistent with the more recent study by Jackson and Roberts (2001). Future studies should continue to examine how AAE changes over time and how AAE use may influence syntactic and lexical aspects of language.

KEY WORDS: African American English, complex syntax, lexical diversity, adolescents