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Readability of COVID-19 Parental Guidance Documents

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The purpose of this study is to examine the readability levels of the state departments of education guidance documents regarding COVID-19 protocols for families of students receiving special education services. The authors searched the 50 states and the District of Columbia's departments of education websites for their COVID-19, special education, parental guidance documents for the 2020-2021 school year. Parental guidance documents were available from 90% (46/51) of the department of education websites with 61% (31/51) of those documents specifically designed for parents of children receiving special education services. The researchers used the Flesch Reading Ease (FRES) to analyze the reading level of the 31 documents that the departments of education websites created for families of individuals receiving special education services. The FRES score was 43.05, indicating that the average reading difficulty was "difficult" with a "college reading level." The Flesch-Kincaid Grade Level (FKGL) average score for the reviewed documents revealed an average U.S. grade level of 12.34. Thus, documents produced during the COVID-19 pandemic significantly exceeded the appropriate reading level recommended by the current research (Nagro & Stein, 2016). To improve communication and provide caregivers with the necessary information to make informed decisions regarding their children's educational need during the COVID-19 pandemic, it is essential for parental guidance documents to be written at lower reading levels to accommodate the general population.

Keywords: COVID-19, Parental Rights, Health Literacy, Readability

Parental involvement within the education process is an essential component to children's cognitive development and social-emotional development, academic achievement, and overall success (Mandic et al., 2012). Furthermore, when parents actively engage in their children's school and academic life, the youth are more likely to experience social, behavioral, and academic success (Lo, 2014). Within special education, parental involvement goes beyond participation, as parents serve as advocates for their children and their services. Additionally, special education expects parents to examine, review, and comprehend numerous legal documents, such as an Individualized Education Plan (IEP) (Lo, 2014). These documents provide parents information regarding their children's present level of performance, related services, educational and academic goals, and the least restrictive environment. It is essential for these documents to be presented in a clear, concise, and digestible manner.

The Individuals with Disabilities Education Act [IDEA] states that documents pertaining to special education must notify parents of intent to take or deny to take an action regarding "identification, evaluation, placement", or provision of free appropriate public education (FAPE) in understandable language (IDEA, 2004b). This is essential to assist parents in making informed decisions about their child's special education services and their educational placements and success. In the same spirit, it is critical that important information regarding children's safety, health, and education is also disseminated in an understandable manner. Because of COVID-19 parents were forced to learn how to find and understand essential information in a digital, online format (Nelson & Murakami, 2020). Our educational system and policies were not ready for the COVID-19 pandemic; thus, there are currently no legal requirements that include content regarding readability level for COVID-19 related documents. Additionally, because of the novelty of the virus there is no current literature or research which addresses the readability of special education documentation regarding how to support students who receive special education services during COVID-19. According to the Plain Writing Act (2010) federal agencies should use communication that is understandable and digestible to the general population. Though this is not a mandate for the education system at the local level and does not legally require that schools provide information in easy-to-understand language, it does support that it is considered best practice to provide documentation in plain language. The

Centers for Disease Control and Prevention (n.d.) states, “Choosing to use jargon is an act of exclusion. Using clear communication advances health equity.” Providing caregivers with information regarding COVID-19 in easy-to-read language allows the caregivers to feel included in making decisions regarding their child’s education. Furthermore, despite the absence of a policy mandate or guideline, it was imperative for State Education Departments’ parental guidance documents to have readability appropriate for the general population during the COVID-19 shut down.

Health Literacy and Pre-COVID-19 Reading Levels

Literacy skills are essential to functioning in society, and directly affect an individual’s ability to “access information, use print materials, and participate in a society” (United States Department of Health and Human Services, 2010, p. 5). Health literacy specifically requires knowledge from multiple areas, including the body, healthy behaviors, and how the health system works. There are multiple aspects of health literacy that will be important to consider when assessing written materials provided to parents, as many children who have IEPs within the school system have medical conditions and receive services from related service providers. Health literacy is directly affected by “the language we speak, our ability to communicate clearly and listen carefully” and “age, socioeconomic status, cultural background, past experiences, cognitive ability, and mental health” (United States Department of Health and Human Services, 2010, p.5).

A history of the literature reveals a lack of consensus on the appropriate readability for formal documents. However, Nagro and Stein (2016) agreed that fifth grade is a suitable reading level for parental documents, as parents may read up to six grades lower than their highest grade completed during their educational careers. The most recent research conducted by the Program for the International Assessment of Adult Competencies (PIAAC) found that 40% of U.S. adults attained a high school level of education, 14% at a level less than high school, and 48% have attained a level of education beyond high school (National Center for Education Statistics, 2017). This information provides further support to produce parental guidance documents at a fifth grade reading level as stated by Nagro and Stein (2016).

Unfortunately, low readability scores of online health information are not a new phenomenon. McInnes and Haugland (2011) analyzed 352 unique websites for information on 22 health conditions and found that 96.31% of the information published surpassed the average reading level of American adults. Additionally, a study by Ryan et al. (2020) found that, of commonly used printed health materials, only 23% of the materials were found to be at the 5th grade reading level or below, with 28% scoring at a 9th grade or higher reading level.

Before COVID-19, research demonstrated that online special education documents displayed low readability scores, indicating that reading level was higher than that of the general population, a fifth grade reading level (Nagro & Stein, 2016). Additionally, a study conducted by Lo (2014) analyzed 28 IEPs from three different school districts and found that, except for the "parent's concern" section of the IEPs, all of the remaining IEP sections were written "at or above the high school reading level", with three sections being written at a college graduate reading level.

COVID-19 and Guidance Documents

Though guidance from national public agencies such as the CDC and WHO had increased, parents and children within the public school system continued to face challenges with education amidst a global pandemic. Nelson & Murakami (2020) explained that, during online schooling, students in special education specifically needed the most adjustments regarding communication, modified instructional resources, and specialized services. Thus, parents of children in special education are bombarded with important information and documents regarding COVID-19 updates and instructional changes. These updates consist of how the schools will be opened and operating, how online instruction will be carried out, hybrid schedules, and school policies on attendance. Parents are faced with the task of deciding what is best for their child, all the while searching through online health information on COVID-19, navigating technology and new platforms for their children's schooling, and attending virtual meetings. As parents are already facing the weight of online information, they need COVID-19 and educational information from their school systems that is as clear and direct as possible so that they can be informed and make decisions accordingly.

Multiple organizations and health departments suggested that educational material for patients should not exceed a reading level of an 11- to 12-year-old (Szmuda et al., 2020). Studies demonstrated, however, that this online information is not easily read, as it is often filled with medical jargon and is not written at a level that is able to be read and understood by the common person (Szmuda et al., 2020).

Specifically, Smuzda and colleagues (2020) conducted a study using the Google search engine to search terms such as “Coronavirus”, “COVID-2019”, and “What is the coronavirus.” Through analyzing 61 articles, they found that the average reading level of the articles was that of a high school senior or college freshman. Caballero et al. (2020) used a similar method to analyze online COVID-19 materials for readability and found that, of 28 online website materials, only 7% were considered in the “easy” reading level (grade 6 or below). Many of these materials, 57%, were assessed as “difficult”, with a reading level of grade 10 or above.

To further the difficulty with understanding online information, it is found that websites are hard to navigate due to their poor organization and large amounts of text with language that is difficult to read because it increases in difficulty as the reader gets closer to the end of the text (Stableford & Mettger, 2007; McInnes & Hagland, 2020). This could cause frustration for the reader and cause them to stop reading the information altogether. Therefore, it is vital for authors of online health material to use plain language that is clear and direct to provide ease of navigation and quality information to clients who are seeking information. Public health professionals have a unique opportunity to effectively communicate using information technology (IT). By combining health IT tools along with effective health communication, the Office of Disease Prevention and Health Promotion (n.d.) explains that there is the potential to “improve health care quality and safety, support care in the community and at home, facilitate clinical and consumer decision-making” and “build health skills and knowledge.”

When narrowing the lens to examine the online information provided by the State Departments of Education for parents of children in special education, the results are next to none. Parents of children in special education have a right to receive updated information regarding their child’s instruction and safety, especially during a global pandemic. As both special education and health information have been found to display low readability scores

when researched, the researchers hypothesize that the online information on the State Departments of Education websites for parents regarding COVID-19 may be difficult to read as well.

The purpose of this manuscript was to assess the readability level of the COVID-19 parental guidance documents provided by the State Departments of Education websites. The researchers aim to inform the field regarding the current reading level of these documents.

Sample and Data Collection

The authors collected COVID-19 special education parental guidance documents from state department of education websites for each of the 50 states and the District of Columbia during the 2020-2021 school year in the months of October 2020, January 2021, and February 2021. The researchers began by navigating to the Special Education subpage within State Departments of Education websites. The authors used the following search terms, "special education", "COVID-19", and "IEP meetings" to assist in finding documents created for parents of students in special education during the 2020-2021 school year. If documents designed specifically for parents of children in special education could not be located on the special education subpage, the researchers searched through the website's homepage to find general parental guidance documents designed for COVID-19 updates. If the researchers located no parental guidance documents, they searched for the most applicable documents that parents may be able to gain information from within the state department of education's website. The search yielded blogs/news articles, advice for families, regulations for following CDC guidelines, and documents intended to provide guidance specifically for administrators with relevant information included. However, the researchers excluded blogs/news articles and guidance for administrators from the readability analysis as parents were not the intended audience. The only documents addressed to and intended for parents were included in the readability analysis.

Calculating Readability

The researchers manually assessed the readability of documents with the readability statistics software produced by Microsoft Word (Flesch Reading Ease Score (FRES) as well as the Flesch-Kincaid Grade Level (FKGL) score). These statistics are a reliable measure of readability

supported by their validity when compared to other readability formulas and standard tests, such as the McCall-Crabbs Standard test in reading lessons and the Fry readability formula (Jindal & MacDermid, 2017). Additionally, the authors selected these analyses as they provide a grade-level scoring system and are most used (Jindal & MacDermid, 2017).

First, the researchers manually copied the written content of each document from the State Departments of Education websites. Second, we followed the Flesch readability guidelines, and tested only the running text of the documents, indicating that we omitted the following components of the text, titles, headings, subheadings, section and paragraph numbers, captions, date lines, and signature lines (Flesch, 1948). Third, we counted the written text as a sentence if the author marked it with one of the following components, a period, colon, semicolon, dash, question mark, or exclamation point to create an accurate reading ease score and to avoid overestimation of reading difficulty (Cherla et al., 2012; Flesch, 1948). Lastly, we followed guidance from a second readability study and deleted unrelated text within the documents. For example, we excluded webpage navigation, copyright notice, disclaimers, author information, hyperlinks, website URLs, addresses, and telephone numbers to avoid affecting the readability score with unrelated information (Cherla et al., 2012).

Of the parent guides, seven were embedded within a larger document on the State Department of Education websites for the states of Arkansas, Hawaii, Illinois, Maryland, New Jersey, New Mexico, and the District of Columbia. For these documents, researchers analyzed only the parent guide itself or the information most applicable to parents of children in special education. The researchers chose information directed to parents that focused on how in-person or virtual instruction would be conducted, the special education process, or services such as occupational therapy and speech-language therapy. The researchers used the readability statistics available through Microsoft Word.

Once the researchers manually copied the running text into the documents, they analyzed the documents to identify the Flesch Reading Ease (FRES) and Flesch-Kincaid Grade Level (FKGL) scores. To assess the overall readability level of the document the researchers identified the average number of words per sentence and the average number of syllables per word in each document (Jhanwar & Bishnoi, 2010).

The FRES score produced by Microsoft Word was a number between 0 and 100, with higher scores indicating easier readability. Table 1 below describes each level of Flesch's (1948) Reading Ease scoring system.

Table 1

Flesch's (1948) Reading Ease Scoring System

Score	Difficulty Level	Reading Level
90-100	Very Easy	5th grade
80-89	Easy	6th grade
70-79	Fairly Easy	7th grade
60-69	Standard	8th and 9th grade
50-59	Fairly Difficult	10th to 12th grade
30-49	Difficult	College
0-29	Very Confusing	College Graduate

Note. Flesch's reading ease scoring system is outlined above, with higher scores indicating easier readability. The researchers created this table to represent Flesch's scoring system and combine both components, the difficulty level and reading level, into one table (Flesch, 1948).

The FKGL elaborated upon the FRES score by giving the exact U.S. grade level required to read the parental documents provided. We used this score to describe and compare the reading level of each document analyzed within this study. The current research states that fifth grade is a suitable reading level for parental documents because parents may read up to six grades lower than their highest grade completed in education (Nagro & Stein, 2016; Lo, 2014). Thus, FRES scores between 90-100 and FRES scores of 5.9 or lower were considered a suitable reading level.

Results

The researcher searched the 50 states and the District of Columbia's departments of education websites for their COVID-19, special education, parental guidance documents for the 2020-2021 school year. Parental guidance documents were available from 90% (46/51) of the department of education websites with 61% (31/51) of those documents specifically designed for parents of children receiving special education services. The remaining documents discussed

general school opening/closing guidance (15%), general advice for all families (6%), information about following CDC guidelines (8%), guidance for administrators (6%), and blogs/news articles (4%) (Figure 1). The researchers excluded the five documents labeled as guidance for administrators or blogs and news articles in the FRES and FKGL analysis. The researchers omitted these documents because they were neither created for parents as the intended audience nor created by the State Departments of Education.

The average Flesch Reading Ease (FRES) score of the total number of parental guidance documents was 43.05, indicating that the average reading difficulty was “difficult” with a “college reading level.” The Flesch-Kincaid Grade Level (FKGL) average score revealed an average U.S. grade level of 12.34 required to read the parental guidance documents. The FRES scores ranged from 14.0-83.7 (“very confusing”/“college graduate reading level” to “easy”/“6th grade reading level”). Using these scores, 100% of the documents exceeded the recommended grade level. The FKGL scores ranged from U.S. grade levels of 4.2-20.0 required to read the parental guidance documents. Using these scores, 98% of the documents exceeded the recommended grade level. The overall score breakdown by difficulty level can be viewed in Table 2.

When examining the documents specifically designed for parents of children in special education (31/51 of documents), the FRES average was 39.1, falling into the “difficult” or “college” reading level. The FKGL average was 13.2, reflecting a reading level above the high school grading system.

When assessing the documents designed to provide information on following CDC guidelines (4/51 of documents), the FRES average was 64.3, falling into the “standard” or “8th and 9th grade” reading level. The FKGL average reflected a similar average score of 7.9. For the documents designed as general advice for families (3/51 of documents), the FRES average was 54.1, falling into the “fairly difficult” or “10th to 12th grade” reading level. The FKGL score reflected similar findings with an average score of 10.1.

Table 2

Results Displayed Using Flesch's (1948) Reading Ease Scoring System

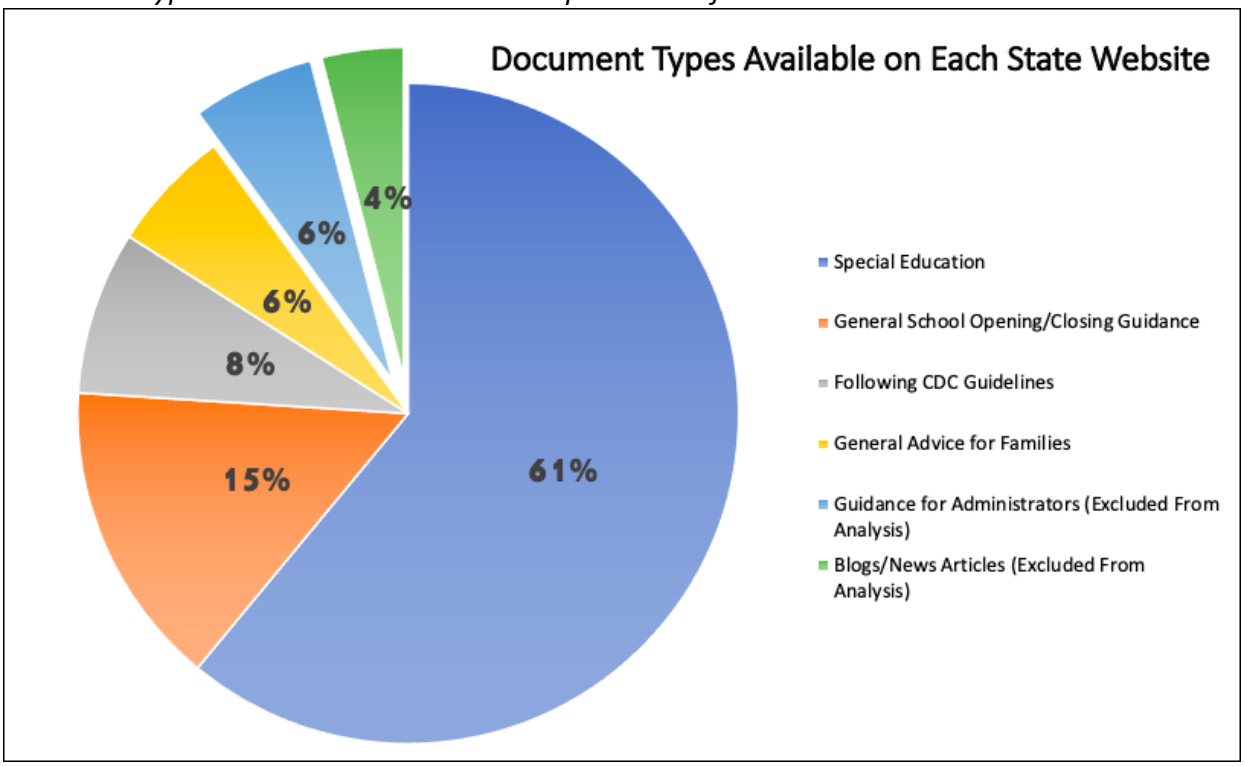
Flesch's (1948) Reading Ease Scoring System

Score	Difficulty Level	Reading Level	State Documents
90-100	Very Easy	5th grade	0
80-89	Easy	6th grade	**2.1%** (1/46)
70-79	Fairly Easy	7th grade	0
60-69	Standard	8th and 9th grade	**8.6%** (4/46)
50-59	Fairly Difficult	10th to 12th grade	**19.5%** (9/46)
30-49	Difficult	College	**50%** (23/46)
0-29	Very Confusing	College Graduate	**19.5%** (9/46)

Note. Flesch's reading ease scoring system was utilized to analyze the results - using these scores presented, 100% of the documents exceeded the recommended grade level/score (Score of 90-100 or a reading level of 5th grade).

Figure 1

Document Types Available on Each State Department of Education website



Note. This graph displays the range of document types available on each state department of education website. Researchers aimed to find special education guidance documents for parents first, then searched to find general school opening/closure guidance documents for parents. If these document types were not available, researchers searched for any document type most applicable to parents.

Discussion and Implications

The results of this study demonstrated that parental guidance documents provided at the state level display low readability and require a much higher-grade reading level than appropriate for parental guidance documents. It is important to assess readability of parental documents to ensure that parents can understand online written information regarding their children's education.

Parental involvement is federally mandated through IDEA (2004), but as explained by Burke (2013) parents of students in special education services are "often required to interpret an onslaught of complicated technical information and legal jargon attached to special education materials" (Gray et al., 2019, p. 373). If these documents are online, it is imperative that they have a high readability score to ensure that parents can understand and partake in their children's educational decisions.

There are measures that the State Departments of Education can use to increase readability on parental educational materials. Dubay (2004) discussed recommendations to improve the readability for procedural safeguards. Even though, we discuss the readability of COVID-19 parental guidance documents and not procedural safeguards, these recommendations are applicable to all parental documents. Dubay (2004) recommends the following strategies which the authors believe will also help increase readability for COVID-19 parental guidance documents: (1) write information in bullet point format, which creates more white space, and add pictures and diagrams to support parents' understanding, (2) avoid using professional jargon and use plain English, (3) write in active voice to make concepts more concrete, (4) provide multiple translations to increase accessibility, and (5) provide contact information to allow families to reach out for aid or more detail.

Additionally, the Patient Education Materials Assessment Tool (PEMAT) created by the Agency for Healthcare Research and Quality offers a systematic method which evaluates and

compares the comprehension of patient education materials. Additionally, the PEMAT serves as a tool to gauge whether a patient will be able to understand and act on the information provided to them (Shoemaker et al., n.d.). Below we provided a few additional strategies which the PEMAT includes to help ensure high readability. The PEMAT recommends the following, (1) make sure the material is purposeful, (2) ensure that numbers are easily understood, (3) include heads to help with organization, (4) present the content in an organized manner to help with comprehension, (5) provide visual aids that help highlight important information (e.g., arrows, boxes, bold font etc.).

These resources provide the field and the state departments with generic guidance for increasing readability of all parental documents. Future research should examine the impact of these above recommendations on state departments of education parental guidance documents and whether parents feel more supported due to the improvement in readability.

Limitations and Future Directions

Several limitations should be accounted for when interpreting the outcomes of this study.

First, the FRES and FKGL instruments contain the following limitations: they only assess sentence length and word length and do not consider smaller words at a higher reading level, and do not assess pictures, diagrams, or video presentations, which can assist in enhancing parental understanding and improve readability (O'Connell Ferster & Hu, 2017). Second, this study only assessed documents at the state level. Documents given to parents at the local level may be very different from those at the state level, including more detailed information about their district's plans. Third, it should also be considered that the reading ability of parents or guardians who are able to conduct an Internet search and navigate through websites to find information may differ in reading ability of parents within the general population. Fourth, the researchers gathered documents during three different months at different points during the school year. It is likely that documents produced later in the school year may be more informative as more the CDC continually released updated information. Fifth, the researchers only collected documents once from each state, the websites were not re-visited in order to assess if additional documents or revised documents. Sixth, the researchers did not include

information that parents received from the public schools themselves and only analyzed information published on the state departments of education websites. Therefore, this article does not present the whole picture of the information that families of children with special education services received during COVID-19. Lastly, the authors acknowledge that there was no national mandate regarding COVID-19 protocols. Therefore, each state created and provided parents with various types of documents and content about COVID-19 along with the information regarding navigation of special education services during the school shutdown. Our conclusions regarding readability could be biased based on the type of documents the state provided. Future research should examine from where public-school systems received guidance and protocols on working with families of children with special education services and how they implemented these protocols and procedures. Additionally, future research can expand on this study by investigating the documents produced at the local school level. Further studies can develop, pilot, and use readability tests that assess visual aids within documents in addition to written content.

In conclusion, based on the findings of our study, parental guidance documents must be adjusted to improve communication with the parents and guardians of children within special education. This will ensure that they are provided with clear, direct explanations to make informed decisions regarding their child's educational needs. The authors hope that the findings of the study contain valuable information that the State Departments of Education can use to address the readability level of their documents to ensure caregivers can access the most up to date information on a reliable public website at a reading level that is easily understood.

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