Evaluating Plain Language in Public Health Communication: An Analysis of the Readability and Clarity of Documents from the Phelps County Health Department

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Introduction

I am writing this proposal to obtain approval from technical communication faculty members in the Department of English and Technical Communication, Missouri University of Science and Technology (Missouri S&T), to conduct a research study titled “Evaluating Plain Language in Public Health Communication: An Analysis of the Readability and Clarity of Documents from the Phelps County Health Department.” The main goal of this research project is to assess the readability and clarity of public health documents distributed by Phelps County Health Department (PCHD). These documents include brochures, flyers, vaccination information sheets, preventive care guides, and public safety notices. They are intended to educate and inform the public.

My study will draw upon established plain language principles, including measures of readability and clarity, to evaluate how effectively PCHD’s documents communicate important health information to diverse audiences. Plain language refers broadly to communication that is clear, concise, well-organized, and tailored to the audience's needs. It allows readers to quickly and easily understand the information being presented without needing additional explanation. According to the Plain Language Association International (PLAIN), plain language helps users “find what they need, understand what they find, and use that information” (International Plain Language Federation, n.d.). Readability refers to how easy it is for a reader to understand a written text. It depends on factors like word choice, sentence length, grammar, and structure. Readability is often measured using formulas that assess text complexity, such as Flesch-Kincaid, SMOG, or Gunning Fog Index. Clarity in writing refers to how effectively a message is communicated so that the audience can understand the intended meaning without confusion or

misinterpretation. It involves using precise language and logical organization as well as eliminating unnecessary jargon and ambiguity.

Goals and Objectives

The primary goal of my study is to evaluate the effectiveness of PCHD's public health communication by analyzing the readability and clarity of the documents it distributed. These materials are designed for the public and are essential tools in promoting health awareness.

I will assess the readability of these documents by using established formulas like the Flesch-Kincaid Grade Level, Flesch Reading Ease, and the SMOG Index to determine whether the content is appropriate for the intended audience. I will also explore clarity in terms of both lexical and syntactical elements, including word choice, sentence structure, use of jargon, tone, and overall document organization. In addition, I will consider other language features that may influence understanding, such as the use of second-person point of view, active versus passive voice, localization of information, and paragraph length.

Through this analysis, the study aims to determine how well these documents align with plain language principles and to identify potential areas for improvement. The broader objective is to support more accessible, inclusive, and effective health communication within the local community.

Type of Research

My proposed research can be classified as evaluative research that analyzes the readability and clarity of public health documents distributed by the Phelps County Health Department (PCHD). My study fits the evaluative research type because, as stated by Hayhoe and Brewer, **"**evaluative research begins with a completed product and seeks to generate generalizable knowledge about its effectiveness**"** (Hayhoe & Brewer, 2021, p. 9). This kind of research allows the researcher to

take a practical, real-world approach to evaluating the effectiveness of existing communication materials. Willerton (2023) explains that "plain language has become an approach focused on helping non-expert readers—citizens, consumers, medical patients, and others going about their lives—understand and act upon important documents they receive" (p. 207).

While my study is primarily evaluative in nature, it incorporates both quantitative and qualitative methods to provide a more comprehensive analysis. To strengthen my study's rigor and ensure a well-rounded analysis, my research incorporates triangulation of methods, combining both quantitative and qualitative data collection techniques. Readability formulas such as Flesch-Kincaid Grade Level (FKGL) and the Simple Measure of Gobbledygook **(**SMOG) Index will yield quantifiable data about the linguistic complexity of the documents, while the analysis of clarity will offer qualitative insights into how effectively the materials communicate health information to the public.

Additionally, I will interview the director of the Phelps County Health Department to investigate the document creation process, including how documents are generated, localized, and maintained throughout their life cycle. To further capture user perspectives, I will administer surveys to target audiences to assess their perceived clarity and usability of the documents. Finally, I will conduct usability testing with representative users to directly measure how easily they can find, understand, and use the information in the public health materials. By triangulating methods, my research aims to produce actionable findings while remaining grounded in the principles of plain language and user-centered technical communication. This mixed-methods strategy reflects best practices in plain language evaluation, emphasizing that genuine comprehension must be validated through human reading, not just scores (Mazur, 2000, pp. 207–208).

Research Questions

My research questions are based on my research goals. The research goals are as follows:

- To what extent do public health documents distributed by the Phelps County Health Department align with established plain language principles such as wording, structure, and design?
- What is the readability level of these public health documents based on standard assessment tools like the Flesch-Kincaid Grade Level and the SMOG Index?
- How is clarity reflected in the language and structure of these documents, particularly in terms of word choice, sentence complexity, and voice?
- How effectively can users locate, comprehend, and act upon the information presented in the public health documents, based on findings from usability testing and survey responses?

Relation of Topic and Research Questions to Technical Communication

My proposed study on evaluating plain language in public health communication aligns with the core principles and objectives of technical communication, particularly its focus on improving clarity and readability. Technical communication is fundamentally concerned with making complex information accessible, understandable, and usable for specific audiences. Public health documents, such as those distributed by the Phelps County Health Department (PCHD), serve as critical vehicles for delivering essential information to a broad and diverse audience. My research draws on core ideas from technical communication by studying how well the documents achieve clarity and maintain appropriate readability levels for the public. By examining word choice, sentence structure, and the organization of information, my study shows how technical communication helps improve the clarity, readability, and usability of real-world documents.

The research questions formulated for my research directly reflect major concerns within the field of technical communication. Questions about readability, clarity, and user comprehension address essential aspects of document design, usability testing, and audience adaptation. The evaluation of readability through established formulas, coupled with the qualitative analysis of clarity through language and organization, shows a balanced approach grounded in technical communication scholarship. Furthermore, the application of user-centered methods, such as surveys and usability tests, mirrors best practices in technical communication. In this field, the effectiveness of a document is measured not only by its technical accuracy but also by how easily and accurately it can be understood and used by its intended audience.

Finally, my research underscores how technical communication intersects with ethical responsibility by focusing on the clarity and readability of public health information. Documents that are difficult to read or unclear can create barriers to critical health knowledge, disproportionately affecting vulnerable populations. By identifying and addressing these barriers, my research supports the broader mission of technical communicators to promote ethical, inclusive, and equitable information practices. In particular, the attention to tailoring documents to audience needs and evaluating the real-world accessibility of public health materials highlights how technical communication practices can directly improve health outcomes within the community. Thus, my study not only contributes to academic discussions but also demonstrates the real-world impact of prioritizing clarity and readability in public communication.

Benefits and Beneficiaries

My research offers several important benefits for both academic and community audiences. Academically, my study will contribute to the growing body of research in technical

communication that focuses on plain language, and health communication. By applying technical communication theories and methods to a real-world context, my research will provide a model for evaluating public documents in ways that emphasize clarity, readability, and audience-centered design. Additionally, my study may serve as a resource for other researchers and students interested in applying technical communication practices to public health and community-based projects.

The primary beneficiaries of my research are the Phelps County Health Department and the community it serves. By identifying areas where documents can be made clearer, easier to read, and more actionable, my research aims to support PCHD in its mission to promote public health through effective communication. Improvements to document design can lead to better public understanding of health information, increased compliance with health guidelines, and stronger trust between the health department and the community. Ultimately, by making public health materials more accessible, my research can contribute to more informed decision-making and healthier outcomes within the local population.

My research also benefits the broader field of technical communication by showing the value of plain language initiatives in addressing real-world communication challenges. It highlights the ethical and social responsibilities of technical communicators to ensure that information reaches all members of the public, especially those who may face barriers due to literacy levels, language proficiency, or educational background. By contributing to improvements in usability and accessibility, my study reinforces the importance of designing communication that serves diverse audiences and promotes equity in public information practices.

Deliverables

There will be two main deliverables from my proposed research study. The first deliverable will be the final thesis report, which will be submitted to the Department of English and Technical Communication at Missouri University of Science and Technology (Missouri S&T) by April 2026. The second deliverable will probably be a journal article based on the results of the study, which I plan to submit to a peer-reviewed academic journal in the field of technical communication, such as *Journal of Technical Writing and Communication* or *Communication Design Quarterly*, by July 2026.

Literature Review

Defining plain language can be elusive, as Beth Mazur (2000) points out: “Ask 10 people and you’ll get 10 different answers.” Bazerman (2010) notes that writing is inherently social, as it involves building on others’ ideas and addressing an audience (p. 1). Willerton (2023) supports this audience-centered view by noting, “The plainness of a text, like beauty, is in the eye of the beholder.” Similarly, the Center for Plain Language (2023a) emphasizes that plain language is determined by how the audience receives a message: “A communication is in plain language if its wording, structure, and design are so clear that the intended readers can easily find what they need, understand what they find, and use that information.” It stresses that what is considered plain for one group of readers may not be plain at all for another. As cited in Deptula et al. (2023), Jones and Williams (2017) define plain language as “how information is presented in a way that is—both textually and visually—accessible, understandable, and usable for specified audiences” (p. 60). Collectively, these findings support the argument that plain language is not a fixed set of rules, but rather a flexible approach shaped by audience need. Instead, it should be

judged by how well it meets the audience's needs, background, and ability to understand and use the information. This emphasis on clarity and audience-centered design is not new; in fact, plain language has long been a foundational concern in technical and professional communication education and workplace practice (Schriver, 2017). Building on this audience-centered perspective, organizations such as Clarity International and the Plain Language Association International have played a central role in promoting global standards and communities of practice around clear communication. These groups connect professionals across disciplines who are committed to making information accessible to diverse audiences, especially in contexts where clarity is essential for understanding and action (Willerton, 2023).

This emphasis on audience understanding also extends into public health communication, where the stakes of miscommunication can be far more serious. In this context, plain language becomes a vital tool for ensuring that health information is clear, accessible, and actionable. According to Stableford and Mettger (2007), one of the most pressing issues for modern health systems is the prevalence of limited health literacy, which hinders effective communication between providers and the public. Several studies have specifically evaluated public health materials for plain language use. For example, Wilson and Wolf (2009) analyzed health documents and found that most were written at readability levels exceeding the average reading ability of U.S. adults. Similarly, Badarudeen and Sabharwal (2010) examined patient education materials and concluded that despite widespread recommendations, few documents met the recommended sixth grade reading level. These studies show that although plain language principles are widely endorsed, they are inconsistently applied in public health documents.

Bernhardt (2003) reinforces this concern by recommending structured protocols and rhetorical reading strategies to improve communication effectiveness, suggesting that technical

communicators have a vital role in facilitating clarity and usability within institutional settings. Likewise, Zerbe (2007), in her review of Segal's work, emphasizes the real-world stakes of language in health care, noting that "the use of language results in material consequences for patients, their family members and friends, health care providers, and the institution of medicine as a whole" (p. 439). Bellwoar (2012) emphasizes that individuals interact with health-related texts not just to obtain information, but also to act, cope with emotions, and handle both social and medical challenges, highlighting the complex functions these texts serve in daily life. Ferguson et al. (2021) concluded that documents in the healthcare domain should be written in a way that is clearly readable and easily understood by the public. These insights affirm that plain language plays a vital role in transforming complex health information into actionable guidance for diverse audiences. Despite this growing body of research, few studies have examined how plain language is implemented in communication from local health departments. My study contributes to that conversation by focusing on a specific public health institution at the local level, evaluating public-facing documents from the Phelps County Health Department to assess their clarity and readability.

Although clarity is often treated as a self-evident aspect of plain language, its definition remains contested and ambiguous. Vecchiato (2022) notes that few attempts have been made to clearly define text clarity, which contributes to ongoing confusion about its meaning. In professional communication, clarity is frequently linked to the absence of ambiguity. For instance, Balzotti (2022) defines clarity as "the absence of ambiguity," urging writers to avoid anything that might confuse readers or leave them uncertain about the intended meaning (p. 52). Similarly, Emig (1977) emphasizes conceptual transparency in her definition of clear writing, stating that it "signals without ambiguity the nature of conceptual relationships, whether they be coordinate,

subordinate, superordinate, causal, or something other" (p. 126). Beaudet (2001, as cited in Vecchiato, 2022) includes related concepts such as readability within the broader scope of clarity highlighting the overlap between linguistic clarity and accessibility.

Readability, as a distinct but related feature, focuses on the structural elements of writing that support comprehension. According to Schroeder and Gibson (1990), readability refers to how easily and quickly a reader can process and understand a written text. Malone (Cunningham et al., 2019) defines readability as "the writing's suitability to a reader's literacy level and reading preferences" (p. 162). He also notes that "throughout the 20th century, technical writers and teachers of technical writing (among others) used formulas to estimate the readability of texts" (p. 161). These formulas, including Dale-Chall, Flesch-Kincaid, Fry, and Gunning-Fog, remain widely used in health communication to assess whether materials are appropriate for general audiences. However, scholars have noted limitations in relying solely on readability formulas. Schriver (2017) explains that "most readability formulas are outdated methods for assessing text quality" and emphasizes that "usability testing is the best benchmark for assessing text quality and plain language" (p. 344). Karmakar and Zhu (2010) reinforce this view by noting that "although their simplicity can be beneficial in many cases—such as quick classification—the readability indexes are often too simple, formulaic, and abstract for in-depth analysis" (p. 291). These critiques suggest that while readability formulas offer a helpful starting point, they are insufficient on their own for evaluating how well a document communicates to its intended audience. To address this limitation, my study incorporates usability testing as a complementary method to assess how actual users engage with and understand the public health materials. Considering these limitations, it becomes clear that clarity and readability are deeply interconnected. Effective plain language is not limited to grammatical correctness or simplicity,

but depends on writing that is structurally readable, free from ambiguity, and tailored to the audience's literacy level, expectations, and context.

Methodology

To evaluate the effectiveness of public health documents produced by the Phelps County Health Department (PCHD), my study employs a triangulated mixed-methods approach grounded in principles of plain language and user-centered communication. This methodology integrates quantitative, qualitative, and rhetorical research strategies to ensure a thorough and balanced assessment of both textual quality and user comprehension. By combining objective readability metrics with rich contextual and experiential data, my study aims to produce actionable insights that reflect the experiences of both document creators and users.

The first phase of my study involves selecting a representative sample of PCHD's publicly available materials, including brochures, flyers, public safety notices, and informational health sheets. I will use two well-known readability tools, the Flesch-Kincaid and the SMOG Index, to check how easy the documents are to read. These tools "ignore significant linguistic, psychological, and sociological influences on readability" and should be supplemented with user-focused methods (Cunningham et al., p. 161). Similarly, Selzer (1981) argued that readability formulas are limited because they cannot accurately assess individual word complexity or identify deeper comprehension challenges beyond sentence-level features. Since such tools cannot fully capture how users interpret and interact with content, the next phase of my study will incorporate additional methods to evaluate the documents' clarity, rhetorical structure, and usability. To further understand how and why these materials were created, I will conduct a semi-structured interview with the director of the Phelps County Health Department.

This interview will provide insight into the document development process, including decisions related to content, design, and distribution.

Finally, I will do a user-focused evaluation using surveys and usability testing. The surveys will be distributed to community members who reflect the documents' intended users. Their feedback will help show how clear the content is, how easy it is to understand, and how well it shares important health information.

Readability Analysis

I visited the PCHD office and looked at the materials available to the public. I found and counted 42 documents. I will conduct a quantitative analysis of these documents using two widely recognized readability formulas: the Flesch-Kincaid and the SMOG Indexes. These tools estimate grade level based on sentence length and syllable count and have been commonly applied in technical contexts (Cunningham et al., p. 161). They will help measure the linguistic complexity of the texts and assess whether the materials align with recommended public readability levels.

The Flesch-Kincaid Grade Level and the SMOG Index

The Flesch-Kincaid Grade Level (FKGL) and the Simple Measure of Gobbledygook Index (SMOG) are both used to show how easy or hard a text is to read. They both give results as U.S. school grade levels, but they focus on different things.

Flesch-Kincaid looks at how long the sentences are and how many syllables the words have. It is good for checking general readability. Dubay (2004, as cited in Escobar-Acevedo et al., 2023) stated, "The most common metric is FKGL, although there are several more (over 200)" (p. 188). A Flesch-Kincaid Grade Level (FKGL) score ranging from 0 to 12 typically corresponds to

U.S. school grades and is considered appropriate for materials intended for the public (Pathirage & Thanthriwatta, 2023). Eq. 1 shows the calculation of FKGL.

Equation 1

Flesch-Kincaid Grade Level formula

$$Grade\ Level = 0.39\left(\frac{Total\ Words}{Total\ Sentences}\right) + 11.8\left(\frac{Total\ Syllables}{Total\ Words}\right) - 15.59$$

On the other hand, the SMOG Index counts how many long words (with three or more syllables) are in the text. The SMOG formula works by selecting 30 sentences from a text and counting how many of the words in those sentences contain three or more syllables (Pathirage & Thanthriwatta, 2023). It works well for health and safety materials that need to be very clear. SMOG demonstrated the most consistent results and was considered the most suitable for healthcare settings (Wang et al., 2013). Eq. 2 shows the calculation of SMOG.

Equation 2

Simple Measure of Gobbledygook (SMOG) readability formula

$$SMOG\ Grade = 1.0430 + \sqrt{Number\ of\ Polysyllabic\ Words \times \left(\frac{30}{Number\ of\ Sentences}\right)} + 3.1291$$

Clarity Analysis

To evaluate the clarity of PCHD's public health materials, my study will include a qualitative clarity analysis focusing specifically on word choice, sentence structure, and the use of active versus passive voice. These elements play a central role in how effectively a document communicates its message, particularly to general audiences. Following Cunningham et al. (2019), I will assess whether words are specific, unambiguous, and used consistently to ensure lexical clarity (pp. 162–165). I will also examine sentence structure for syntactic clarity and

readability, paying particular attention to the placement of key information and grammatical relationships. Additionally, I will analyze the balance between active and passive constructions, as passive voice can obscure agency and reduce clarity in public-facing documents (p. 167).

Rhetorical Analysis

I will conduct a rhetorical analysis to explore how the documents position their audience, guide behavior, and support decision-making. As Porter (2023) explains, rhetoric enables communicators to engage audiences in a cooperative and productive way to promote understanding and achieve shared goals. Within technical communication, this rhetorical mission carries ethical responsibilities. Porter writes, “Technical/professional communication has long defined its rhetorical mission as helping the reader or end user—in using clear and concise language, in designing usable documents, in creating accurate and valuable data visualizations, in conducting valid usability studies as a means of creating usable/useful interfaces, etc. These are ethical obligations to audience implicit in the rhetorical practices that define technical/professional communication.” (p. 249). This analysis will shed light on the documents’ effectiveness and help shape recommendations for clearer public health messaging.

To examine how PCHD’s public health documents engage and influence their intended audiences, I will conduct a rhetorical analysis guided by well-established principles in technical communication. This analysis will follow a structured, three-phase process:

Phase 1: Identifying the Rhetorical Situation

Phase 2: Analyzing Rhetorical Strategies Used

Phase 3: Evaluating Effectiveness

Identifying the Rhetorical Situation

To begin the rhetorical analysis, I will identify the rhetorical situation of each document. This includes determining the intended audience (e.g., parents, seniors, or individuals with limited health literacy), the overall purpose (e.g., to inform, persuade, or prompt action), and the broader context in which the document was created or distributed (e.g., during a seasonal flu campaign, the COVID-19 pandemic, or a local vaccine rollout). Understanding these elements will provide a foundation for interpreting the communicative strategies used in each document.

Analyzing Rhetorical Strategies Used

Once the rhetorical situation is established, I will examine the rhetorical techniques the documents use to engage their audience. This analysis will include an assessment of ethos**,** or appeals to credibility, such as references to trusted sources like the CDC or the use of official logos. I will also examine pathos, or emotional appeals that evoke concern, trust, empathy, or urgency to motivate audience engagement. Logos, or logical appeals, will be evaluated using facts, statistics, and step-by-step reasoning that support informed decision-making. In addition, I will analyze the tone of the documents, considering whether it is authoritative, friendly, neutral, or urgent. I will also assess the clarity and strength of calls to action and the use of visual design elements such as icons, charts, and layout features that support message comprehension and guide user behavior.

Evaluating Effectiveness

Finally, I will evaluate the overall rhetorical effectiveness of each document by considering how well it aligns with the intended audience's values, knowledge level, and informational needs. This includes assessing audience appropriateness, such as whether the vocabulary is clear, familiar, and culturally appropriate. I will evaluate actionability of content by determining whether next steps are easy to find and follow. The document's tone and its potential to build

trust or create distance will also be analyzed, with attention to whether the language is friendly, inclusive, or overly formal. Additionally, I will assess the balance of rhetorical appeals, ensuring that ethos, pathos, and logos are used effectively without over-reliance on any one strategy. Finally, I will examine visual-rhetorical alignment, focusing on whether the layout, images, icons, and typography support message clarity and reinforce key information. This evaluation will help determine the overall effectiveness of the materials in achieving public health communication goals.

Interview with Health Department Director

Further, to understand the documents' production context, I will conduct a semi-structured interview with the director of the Phelps County Health Department. I will email the director of the Phelps County Health Department to schedule an in-person interview appointment. An interview is a guided discussion between the researcher and the participant, designed to gather relevant information (Hayhoe & Brewer, 2021, p. 102). This interview will explore the life cycle of the documents, including how they are created, localized, reviewed, and maintained. I will use an interview guide with a list of prepared questions (see Appendix A). My interview will include a mix of open-ended and closed-ended questions to gather both detailed, descriptive responses and brief, validating answers. During the interview I will take notes and record the interview for my future analysis. I have also prepared a consent form to provide to the PCHD’s director. The form will explain that participation is voluntary and that they may skip any interview questions they do not wish to answer. It will also clarify that their names will not appear in my thesis; only their department affiliation will be mentioned. A sample of the written informed consent form is included in Appendix B.

User-Centered Evaluation: Usability Testing

"Usability testing, especially that which Nielsen (1994) advocated, focuses squarely on contextualized user interaction with the product or process" (Still & Koerber, 2010, p. 210). Following this approach, I will conduct in-person usability testing sessions with a small group of participants from the local community. A copy of a usability testing plan can be found in Appendix C. These individuals will be representative of the documents' intended users. Each participant will be asked to complete a series of predefined tasks using one or more PCHD documents. Example tasks will include locating the clinic phone number, identifying walk-in hours, describing the purpose of the document, and explaining what action the document recommends. As Ramler (2021) notes, effective usability allows users to interact smoothly and efficiently with a product, helping them reach their goals with minimal friction. The tasks I have designed will directly assess these qualities in the PCHD material

During each session, I will observe and record three key usability metrics: (1) task completion rate, indicating whether the participant successfully completed each task; (2) time on task, measuring how long it took to complete each task; and (3) verbal comments or difficulties, which will be noted to capture participant confusion, frustration, or helpful feedback. These sessions will be recorded, and I will take notes to document user behavior and reactions.

Before participating, each person will be provided with a written informed consent form explaining the purpose of the study, what the session involves, their right to withdraw at any time, and how their privacy will be protected. Participants will be asked to read and sign the form before beginning the session. A copy of the consent form is included in Appendix D.

User-Centered Evaluation: Survey

As part of this study's user-centered approach, I will conduct a structured survey to evaluate how effectively public health documents from the Phelps County Health Department (PCHD)

communicate information using plain language principles. According to Scheuren (2004), the word “survey” is most often used to describe “a method of gathering information from a sample of individuals” (p. 8). This survey is designed to gather feedback directly from community members, offering insights into how real users perceive and interact with these materials. This method complements the readability formula analysis and clarity evaluation by incorporating the lived experiences and interpretations of actual end-users.

The primary goal of the survey is to assess whether the language used in the selected documents is easy to understand, whether the key messages and instructions are clear and actionable, and how effectively the document’s visual layout supports user comprehension. Additionally, the survey will help identify any sections of the materials that may be confusing, vague, or overly complex for readers with varying levels of health literacy.

I will include both closed-ended and open-ended questions in this survey. Closed-ended items will use a five-point Likert scale to measure agreement with statements about sentence clarity, tone, document organization, and ease of use (e.g., “The wording in this document was clear and easy to understand” or “I could quickly find the information I needed”). Open-ended questions will ask participants to describe which parts of the document they found helpful or confusing, and to suggest improvements for making the materials more user-friendly.

Participants will be recruited from local community settings such as clinics, libraries, and public health outreach events. The recruitment process will aim to include individuals from diverse age groups, education levels, and language backgrounds to ensure a representative sample. Participation will be voluntary and anonymous, and informed consent will be obtained prior to survey completion. For a sample of the survey, refer to Appendix E**.**

Triangulation and Integration of Findings

By triangulating results from readability testing, rhetorical and clarity analysis, stakeholder interview, user surveys, and usability tests, this methodology ensures a robust and multifaceted evaluation of PCHD's public health communication. This approach aligns with best practices in technical communication research and responds directly to the need for both empirical measurement and human-centered evaluation. Ultimately, this methodology aims not only to assess but also to improve the accessibility, inclusivity, and impact of public health information in the local community.

IRB Approval

Because my study involves human participants, including survey respondents, usability test users, and an interview with the PCHD director, I will need approval from the Institutional Review Board (IRB) at Missouri University of Science and Technology. The IRB ensures that all research involving human subjects follows ethical standards such as informed consent, privacy, and voluntary participation. Once my proposal is accepted, I will submit a detailed IRB application that describes my research goals, methods, how I will recruit participants, and how I will collect data. I will also include all required materials, such as consent forms and interview questions, to meet university and federal guidelines. After receiving IRB approval, I will begin recruiting participants and collecting data. Each participant will receive a clear explanation of the study's purpose, how their information will be used, and their right to withdraw from the study at any time without penalty. To protect privacy, I will remove all personal information from the data and store responses securely. No names or identifying details will appear in any reports, presentations, or publications. By following IRB guidelines, I will ensure the study is ethical and that all participants' rights, dignity, and privacy are respected throughout the research process.

Results

In this section, I present the results of my study, which includes five parts. First, I will analyze the readability of 42 public health documents from the Phelps County Health Department using two well-known formulas: the Flesch-Kincaid Grade Level (FKGL) and the Simple Measure of Gobbledygook **(**SMOG) Index. Second, I will a clarity and rhetorical analysis of the same documents. This means I will look closely at how clearly the information is presented and how the documents use word choice, sentence structure, and active versus passive voice. I want to see whether the documents support plain language principles and meet the needs of the public. Third, I will conduct a one-on-one interview with the director of the Phelps County Health Department. This conversation will me understand how the documents are created, reviewed, and maintained, and what challenges the department faces in making sure the information is clear and accessible. Fourth, I will gather feedback from community members by giving them a survey. The goal is to learn how people who represent the intended users of the documents feel about the materials and whether they find them easy to read, useful, or confusing. Finally, I will usability testing sessions with a smaller group of participants. I will aske them to complete some tasks, like finding specific information in a document or explaining what a section means. I will observe how long it will take, how easily they will complete the tasks, and will listen to their comments. These tests will give me helpful information about how the documents work in real-life situations. Together, these five methods will allow me to study the documents from both a technical and user-centered perspective. In the next sections, I will explain how I will analyze the results from each part of the study, beginning with the readability analysis.

Readability Results

The Flesch-Kincaid Grade Level (FKGL)

I will use the Flesch-Kincaid Grade Level (FKGL) formula to find out how easy or hard each public health document is to read. This formula looks at how long the sentences are and how many syllables the words have. It gives a number that matches a U.S. school grade level. Table 1 shows how I will organize and present these results. For each document, I will write down the number of words, number of sentences, total syllables, and the FKGL score. There will also be a column for notes to explain anything special about the document, like difficult words or a simple layout. This table will help me compare all the documents and see which ones are harder to read and may need to be made easier for the public. To calculate the FKGL scores, I will use either Microsoft Word's built-in readability statistics tool or perform the calculations manually using the standard FKGL formula. Microsoft Word provides an automatic readability score after a spell check, which is useful for quick analysis, but it requires the text to be in digital format. Since my documents are in print, I will most likely calculate the scores by hand using word, sentence, and syllable counts from selected text samples. This flexible approach allows me to ensure accurate results even when automatic tools are not an option.

Table 1

Readability results using the Flesch-Kincaid Grade Level (FKGL) formula

Document Title	Total Words	Total Sentences	Total Syllables	FKGL Score	Notes
Doc 1:					
Doc 2:					
Doc 3:					
Doc 4:					
Doc 5:					

Doc 6:					
Doc 7:					
Doc 8:					
Doc 9:					
Doc 10:					

The Simple Measure of Gobbledygook (SMOG) Index

I will use the SMOG Index to measure the readability of each public health document by estimating the grade level needed to understand it. This formula focuses on identifying polysyllabic words (words with three or more syllables), which are often more difficult for general audiences to read.

Table 2 shows how I will organize and present the SMOG results. For each document, I will include the number of sampled sentences, the number of polysyllabic words found in those sentences, and the final SMOG score. The table will also include a notes column to explain any features that may have influenced the score, such as the presence of medical terminology or simplified language. This structure will help compare the documents and identify which ones may need to be rewritten in clearer, more accessible language.

I will calculate the SMOG Index by hand, which is appropriate for this study since the documents are in printed format. To follow the standard SMOG method, I will select 30 full sentences from each document. I will choose 10 from the beginning, 10 from the middle, and 10 from the end to ensure a representative sample. I will then carefully read these sentences and count the number of words that have three or more syllables. Once I have the total, I will apply

the standard SMOG formula (Equation 2) to calculate the estimated reading grade level for each document.

I will complete the calculation using a basic calculator. Doing this process manually allows me to work directly with printed materials while still ensuring accurate and academically valid results. Wang et al. (2013) manually counted polysyllabic words in health documents using sentence samples and hand calculations when applying the SMOG formula, as demonstrated in their study.

Table 2

Readability results using the Simple Measure of Gobbledygook (SMOG) index

Document Title	Sampled Sentences (N)	Polysyllabic Words	SMOG Score	Notes
Doc 1:				
Doc 2:				
Doc 3:				
Doc 4:				
Doc 5:				
Doc 6:				
Doc 7:				
Doc 8:				
Doc 9:				
Doc 10:				

Clarity Results

To evaluate the linguistic clarity of PCHD's public health materials, I will conduct a qualitative analysis focusing on three primary elements: word choice, sentence structure, and voice (active vs. passive). These elements reflect core principles of plain language and directly influence how effectively a document communicates to general audiences.

Following Malone's (2019) framework, the analysis will assess:

- **Lexical Clarity**: I will examine whether the words used are specific, unambiguous, and applied consistently. This includes identifying vague terms, undefined technical language, and inconsistent terminology across similar documents.
- **Syntactical Clarity**: I will analyze sentence structure for length and complexity. Particular attention will be paid to embedded clauses, awkward phrasing, and the placement of key information within a sentence. Documents with long, convoluted sentences may reduce reader comprehension, especially for those with lower health literacy.
- **Voice**: I will identify instances of passive voice and assess whether they weaken the document's clarity. While passive voice is appropriate in some contexts, excessive use can make it unclear who is responsible for an action.

The results of this clarity analysis will be presented in a comparative table that highlights patterns across documents and supports recommendations for improvement.

Table 3 presents how I will organize and display the results of the clarity analysis for PCHD's public health documents. The first three columns address issues related to word choice, including vague terms, undefined technical language, and inconsistent terminology use. The fourth column focuses on sentence complexity, identifying long or structurally dense sentences that may hinder

comprehension. The fifth column records instances of passive voice, with examples and frequency. The final column provides a summary of the document's overall clarity.

Table 3

Readability results using Simple Measure of Gobbledygook (SMOG) index

Document Title	Vague or Ambiguous Terms	Technical or Undefined Terms	Inconsistent Terminology	Sentence Length or Complexity Issues	Passive Voice (Example +Frequency)	Overall Clarity Comments
Doc 1:						
Doc 2:						
Doc 3:						
Doc 4:						
Doc 5:						
Doc 6:						
Doc 7:						
Doc 8:						
Doc 9:						
Doc 10:						

Rhetorical Analysis

To evaluate the rhetorical quality and audience impact of PCHD's public health communication materials, I will present the results in three parts, aligned with the structured analysis process: (1) rhetorical situation, (2) rhetorical strategies, and (3) rhetorical effectiveness. These results will be displayed using comparative tables and sample excerpts from the materials to support qualitative observations.

Identifying the Rhetorical Situation

To better understand how each document communicates with its audience, I will begin by identifying the rhetorical situation. This includes the intended audience, the primary purpose of the message, and the context in which the document was distributed. Table 4 shows how I will organize this information. For each document, I will note who it was designed for, what it aims to do (such as inform, persuade, or prompt action), and the specific event or campaign that shaped its creation.

Table 4

Rhetorical situation analysis of public health documents

Document Title	Intended Audience	Communicative Purpose	Context of Release
Doc 1:			
Doc 2:			
Doc 3:			
Doc 4:			
Doc 5:			
Doc 6:			
Doc 7:			
Doc 8:			
Doc 9:			
Doc 10:			

Analyzing Rhetorical Strategies

Each document's use of ethos, pathos, logos, tone, calls to action, and visual design will be analyzed individually. To allow for clarity and comparison, rhetorical appeals will be reported in separate columns. Table 5 shows how I will organize my analysis of the rhetorical strategies used in each public health document. Table 5 focuses on six key elements:

ethos, pathos, logos, tone, call to action, and visual design. I will examine each document to see how it builds credibility (ethos), uses emotional appeals (pathos), and presents logical information (logos). I will also evaluate the tone of the language, the clarity and strength of the call to action, and whether visual elements like layout and icons support the message.

Table 5

Rhetorical strategy analysis of public health documents

Document Title	Ethos (Credibility)	Pathos (Emotion)	Logos (Logic)	Tone	Call to Action	Visual Design Elements
Doc 1:						
Doc 2:						
Doc 3:						
Doc 4:						
Doc 5:						
Doc 6:						
Doc 7						
Doc 8:						
Doc 9:						
Doc 10:						

Evaluating Rhetorical Effectiveness

Table 6 presents how I will assess the overall effectiveness of each public health document. This table includes five key areas: audience appropriateness, actionability of content, tone and trustworthiness, balance of rhetorical appeals, and visual-rhetorical alignment. For each document, I will evaluate whether the vocabulary and tone are suitable for the intended audience, whether the next steps are easy to understand and follow, and whether the tone builds trust. I will also assess how well the document balances ethos (credibility), pathos (emotion), and logos (logic), and whether visual elements like layout and icons support the message clearly.

Table 6

Evaluation of Rhetorical effectiveness in public health documents

Document Title	Audience Appropriateness	Actionability of Content	Tone and Trustworthiness	Balance of Appeals	Visual-Rhetorical Alignment
Doc 1:					
Doc 2:					
Doc 3:					
Doc 4:					
Doc 5:					
Doc 6					
Doc 7:					
Doc 8:					
Doc 9:					
Doc 10:					

Interview with Phelps County ‘s Health Department Director

To better understand how public health documents are created, reviewed, and adapted at the local level, I will conduct a semi-structured interview with the director of the Phelps County Health Department. After the interview is transcribed, I will use manual thematic coding to analyze the data. This involves reading through the transcript, assigning short codes to meaningful segments and grouping these codes into larger themes.

These themes will reflect recurring practices and communication strategies that align with core principles in technical communication, such as audience-centered design, plain language, and document usability. The results will be presented in a narrative format, with quotes supporting each theme. Additionally, a summary table will be used to show the key themes, the codes grouped under each one, and representative quotes. Table 7 presents a summary of the major themes that I expect to identify from the interview with the Phelps County Health Department director. The table includes three columns: the first lists the main themes, the second provides the related codes, and the third includes a sample quote that illustrates each theme.

Table 7

Summary of themes from interview with the Phelps County Health Department

Theme	Codes (Based on Interview Questions)	Example Quotes
Document Creation Process	Internal drafting, multi-person involvement, use of state templates	
Visual and Design Decisions	Layout done in-house or by external help, choice of icons, formatting, color decisions	
Source and Content Adaptation	Localized content, adaptation of state or federal materials, topic selection process	
Audience Consideration	Literacy level, translation, tailoring for seniors or ESL audiences	

User Feedback and Testing	Informal community feedback, lack of formal usability testing	
Templates and Guidelines Used	Use of writing standards or health communication guides	
Review and Approval Workflow	Internal review, approval hierarchy, outside stakeholders occasionally involved	
Document Maintenance	Frequency of updates, triggers for revision (e.g., seasonal, event-driven	
Barriers and Constraints	Time pressure, limited staff or resources	

User-Centered Evaluation: Usability Testing

I selected the PCHD Tick Prevention flyer as a sample from the department's public health materials. A photo of the flyer is in Appendix F. To evaluate its effectiveness, I will analyze data from three key sources: task performance, post-test questionnaire responses, and open-ended user feedback. This assessment will reveal how well the flyer supports user comprehension, actionability, and clarity.

Task Performance Analysis

Each task will be evaluated based on user completion, errors, time on task, and observed confusion. I will organize and analyze the results in Microsoft Excel.

Table 8

Task performance analysis from usability testing of the PCHD flyer

Task Number	Task Description	% Completed	% Errors	Avg. Time (Sec)	Common Issues Observed
1	Find one prevention step before going outdoors				
2	Identify protective clothing				
3	Describe how to remove a tick				

4	Identify recommended removal tool				
5	Find symptoms of tick-related infection				
6	Locate where to go for more information				

Post-Test Questionnaire Analysis

Quantitative responses collected via Likert-scale ratings will be entered into Microsoft Excel to compute descriptive statistics and visualize trends in participant satisfaction and understanding. I will also create Charts (e.g., bar graphs or heat maps) in Excel to visually represent the distribution of user responses.

Table 9

Post-test questionnaire summary and analysis

Question	Mean Score (1-5)	% Agree or Strongly Agree	% Disagree or Strongly Disagree
Understood the prevention step before going outdoors			
Protective clothing information was clear			
Tick removal instructions were easy to follow			
Flyer clearly identified removal tool			
Understood symptoms of potential infection			
Easy to find where to go or what to do for more information			

Thematic Analysis of Open-Ended Responses

Open-ended responses will be reviewed and coded for recurring themes using Excel. Categories such as “clarity,” “difficulty,” and “suggestions” will be used to group responses and highlight common patterns.

Table 10

Thematic analysis of open-ended responses

Question	Frequently Reported Themes	Example Comments
Easiest task	e.g., Visual clarity, recognizable icons	
Most difficult/confusing task	e.g., small font, unclear step in tick removal	
Unclear words or visuals	e.g., medical terms, lack of caption for images	
Suggested improvements	e.g., Font size, simpler terms, more visuals	

Synthesis and Recommendations

By triangulating data across user behavior, ratings, and narrative feedback, I will identify which parts of the flyer are effective and which require revision. For instance, if Task 3 (tick removal) has a high error rate, a low mean rating, and recurring complaints in feedback, that section will be prioritized for improvement. Findings will directly inform redesign recommendations to enhance the flyer's clarity, readability, and usability for a diverse community audience.

User-Centered Evaluation: Survey

I will use the survey results to better understand how community members see the clarity, readability, and usefulness of public health documents from the Phelps County Health Department (PCHD). To analyze the responses, I will use both numbers (quantitative data) and written comments (qualitative data). I will enter the multiple-choice answers into Microsoft Excel to calculate how many people agreed or disagreed with each statement. This analysis will help me identify which parts of the documents are working well and which may need improvement. Below is a sample table I will use to show the results after the survey is done:

Table 11

User-centered evaluation of document clarity and usability based on survey responses

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean

The wording in the document was clear and easy to understand.						
I could quickly find the most important information.						
The instructions or health advice were easy to follow.						
The layout and design helped me understand the content better.						
The tone of the document was respectful and appropriate.						
I would trust this document as a reliable source of health information						
I believe people of different education levels could understand this document easily.						

In addition to the multiple-choice questions, I will look at the open-ended answers where participants can write their thoughts in their own words. I will group similar responses together by theme. For example, if several people mention confusing wording, unclear visuals, or helpful layout features, I will place those responses in the same category. This process will help me better understand what users liked, what confused them, and what suggestions they had. Below is a sample table I will use to organize the Likert-scale results after the survey is completed:

Table 12

Thematic coding of open-ended survey responses

Theme	Number of Comments	Example Feedback
Clear language		
Confusing word		
Helpful layout		
Suggestions		

I will also use Microsoft Excel to create charts and tables that visually represent the survey results, including bar graphs for Likert-scale responses and frequency charts for the major themes in open-ended feedback.

Schedule

I need to submit the complete draft of my thesis by March 1, 2026, to ensure there is enough time for faculty feedback, revisions, and formatting checks before the official deadline on April 6, 2026, set by the Graduate Education Office. To meet this requirement, I have created the following schedule to guide the timely completion of my research. The timeline outlines major steps such as the literature review, IRB approval, data collection, analysis, and thesis writing, while ensuring compliance with all university and ethical guidelines.

Table 13

Planned project timeline

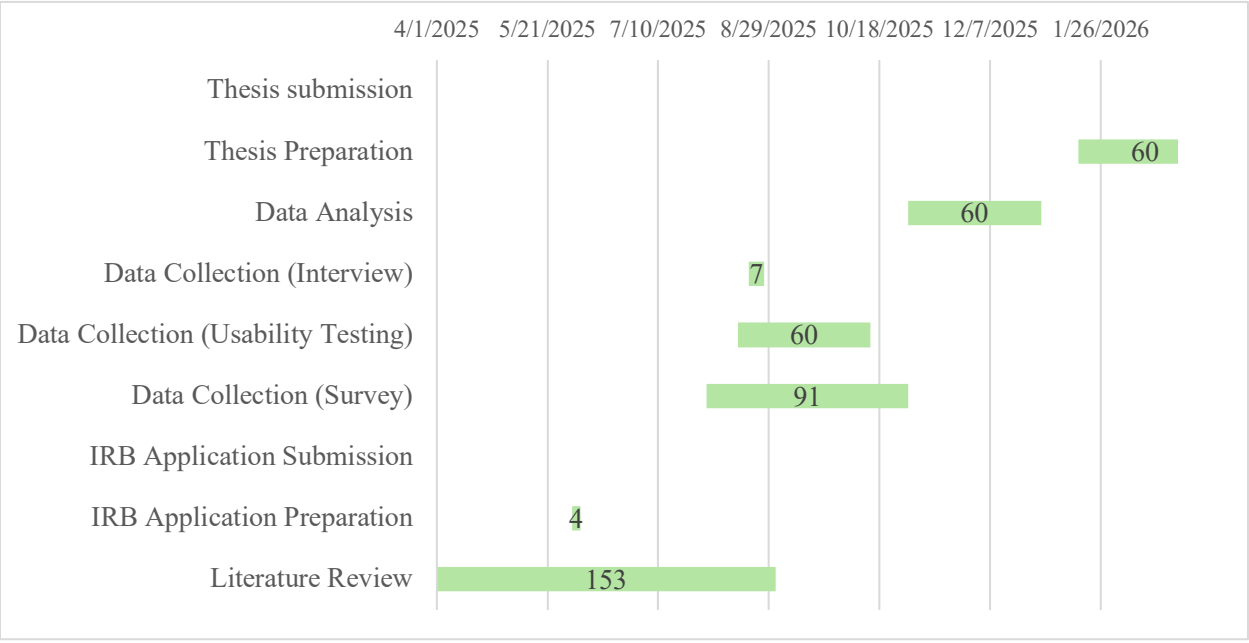

Table 14

Planned schedule and duration of thesis project phases

	Literature Review	IRB Application Preparation	IRB Application Submission	Data Collection (Survey)	Data Collection (Usability Testing)	Data Collection (Interview)	Data Analysis	Thesis Preparation	Thesis Submission
Start Date	4/1/2025	6/1/2025	6/5/2025	8/1/2025	8/15/2025	8/20/2025	10/31/2025	1/16/2025	3/1/2026
End Date	9/1/2025	6/5/2025	6/5/2025	10/31/2025	10/14/2025	8/27/2025	12/30/2025	3/17/2026	3/1/2026
Duration (Days)	153	4	0	91	60	7	60	60	0

I have already started the literature review, and I will keep adding to it as I learn more about the topic and find new sources during my research. Once my proposal is approved, I will immediately begin preparing and submitting my IRB application. Because my study involves human participants, I cannot start collecting data such as surveys, interviews, or usability testing until I receive full IRB approval. Since this process can take several weeks or even months, I have planned accordingly. I intend to begin data collection in August 2025. Data analysis will take place between October and December 2025, and I will begin writing my thesis in January 2026. My goal is to complete a full draft by March 1, 2026, which will allow enough time for revisions, advisor feedback, formatting, and final submission by the university's April 6, 2026, deadline.

Budget

My study requires only minimal financial resources. I will conduct most research activities, such as readability testing and data collection through surveys and usability testing, using free or university-provided tools. I plan to distribute surveys online, and I will carry out usability testing either remotely or in campus study spaces that do not require rental fees. I do not plan to offer any incentives to participants.

Qualification

I am qualified to conduct this research because of my background in research, technical communication, and writing. I served as a Graduate Research Assistant and conducted primary research on academic dishonesty and plagiarism, culminating in a peer-reviewed publication titled *"Investigating Some Main Causes and Reasons of Writing Plagiarism in an EFL Context"* in the *International Journal of Applied Linguistics and English Literature*. As part of my current graduate studies in Technical Communication at Missouri University of Science and Technology, I have provided professional editing support for graduate-level dissertations and theses, developing a strong understanding of document clarity, structure, and audience engagement.

In addition, I completed a graduate-level Research Methods course, where I gained practical training in designing and conducting usability tests, organizing and moderating focus groups, and developing effective survey instruments. This coursework strengthened my ability to apply a variety of data collection methods and triangulate findings in academic research.

My experience also includes mentoring undergraduate students on technical writing practices, reviewing research-based technical documents, and supporting academic integrity and usability standards. Through my work at the Writing and Communication Center, I have developed expertise in evaluating technical documents. I also have significant professional experience teaching English writing skills and managing educational projects, which required strong time management and team leadership skills. These experiences have strengthened my ability to design, implement, and deliver research projects on time, meeting high academic and professional standards. My detailed qualifications are outlined in my CV, provided in Appendix G.

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Appendices

Appendix A

Interview questionnaire

Interview questions for the director of the Phelps County Health Department

Background Information

1. Can you please state your name and your current position at the Phelps County Health Department?
2. How long have you been working in this role?
3. Have you been involved in creating or overseeing public health documents during your time here?

Document Creation

4. Can you walk me through the typical process for creating public health documents in your department?
5. Who is involved in drafting or developing these materials?
6. Who is responsible for designing the layout and visual elements of the documents? Is it one person, a team, or an outside contractor?

    Possible follow-up question:

    (a) How do you decide on the use of visuals, colors, or formatting?

7. Where do these documents usually come from? Are they developed in-house, adapted from state or federal sources, or received from another organization?

    Possible follow-up question:

    (a) If adapted, how much do you typically change or localize the content?

8. How are topics or content areas chosen?

    Possible follow-up question:

    (a) Are community needs or recent events part of that decision?

9. What are the templates, writing standards, or health communication guidelines your team follows?

Localization and Audience Consideration

10. How do you make sure the documents are relevant and understandable to the local community?

    Possible follow-up questions:

    (a) Do you test them with users or get feedback before release?
    (b) Have you ever received any feedback or complaints from community members saying that they had difficulty understanding the documents or found them confusing?

11. Do you tailor the language or visuals for different audiences (such as seniors, non-native English speakers, or people with lower literacy levels)?
12. Are any materials translated or adapted based on community feedback or needs?

Review and Approval

13. What steps are involved in reviewing a document before it is finalized?
14. Who typically reviews and approves the content?
15. Are any outside stakeholders ever involved in the review process?

    Possible follow-up question:

    (a) What kind of feedback do you usually get from them?

Maintenance and Updates

16. How often are your public health materials updated?

Appendix B

Interview informed consent

Informed Consent Form for Interview Participation

Study Title: Evaluating Plain Language in Public Health Communication: An Analysis of the Readability and Clarity of Documents from the Phelps County Health Department

Researcher: Roghaye (Nadia) Ahmadi
Department: Technical Communication
Institution: Missouri University of Science and Technology
Researcher's Email: rahmadi@mst.edu
Faculty Supervisor: Ed Malone
Supervisor's Email: malonee@mst.edu

Purpose of the Study

You are invited to participate in a research study that aims to evaluate the clarity, readability, and effectiveness of public health documents produced by the Phelps County Health Department. Your insights as a key stakeholder will help identify strengths and opportunities for improving the quality of these materials.

What You Will Be Asked to Do

If you agree to participate, you will take part in a semi-structured interview that will last approximately 30–45 minutes. The questions will focus on how public health documents are created, reviewed, and maintained within your department. With your permission, the interview will be recorded to ensure accurate transcription.

Voluntary Participation

Your participation is completely voluntary. You may skip any question or stop the interview at any time without penalty or explanation.

Confidentiality

Your identity and responses will be kept confidential. No personally identifiable information will be included in any reports or publications. Interview recordings and notes will be securely stored and accessible only to the researcher.

Use of Data

The information collected will be used solely for academic purposes as part of a research project in the field of technical communication. Data may be presented in research papers, presentations, or academic publications, but your name and identifying details will not be shared.

Consent

By signing this form, you acknowledge that:

- You have read and understood the purpose of this study.
- You voluntarily agree to participate in the interview.
- You consent to the audio recording of the session.

Participant's Name: ----------

Participant's Signature: ----------

Date: ----------

Appendix C

Usability test plan

Usability Testing Plan for PCHD Tick Prevention Flyer

Introduction

The Phelps County Health Department (PCHD) created a double-sided flyer titled “Check, Check, Check for Ticks / Tick Removal” to educate community members about tick bite prevention and proper removal. This usability test evaluates how effectively the flyer communicates essential health information using plain language principles. The flyer includes step-by-step instructions, visual icons, and prevention tips intended for a general audience, including individuals with varying levels of literacy and health knowledge.

This test will help identify whether the flyer’s design and language support quick understanding, accurate action, and informed decision-making by users. Results will be used to inform potential revisions that enhance clarity, readability, and usability.

Testing Goals

- Evaluate how efficiently users can locate specific pieces of information (e.g., prevention methods, removal steps)
- Determine whether the flyer communicates instructions clearly using plain language
- Identify confusing words, phrases, or visual elements
- Assess overall user satisfaction and confidence when using the flyer in a real-world scenario

Test Plan

Briefing

Thank you for participating in this study. My name is Roghaye (Nadia) Ahmadi and I'm conducting usability testing for a public health flyer developed by the Phelps County Health Department. This session will help us understand whether the flyer is clear, easy to use, and helpful in real situations. You will be asked to complete a few tasks using the flyer, then share your feedback. Please feel free to think aloud, share what you are noticing, and express any confusion. We are not testing you; we are testing how well the flyer works.

With your permission, I will record this session to review comments and observations later. The entire session should take 30 to 45 minutes.

Screening Questionnaire

1. Are you familiar with tick prevention or removal?
2. Have you received printed health materials from a clinic or health department before?
3. Do you consider yourself a confident reader?
4. Is English your first language?

Scenario

You've just come home after walking through a grassy area. You want to check for ticks and know what to do if you find one on yourself or someone else. You have a flyer from the health department and want to use it to help guide your actions.

Task List

1. Find one prevention step you should take before going outdoors.
2. Identify what type of clothing can help protect against tick bites.
3. Find and describe how to remove a tick from your skin.
4. Explain what tool the flyer recommends for tick removal.
5. Find the symptoms that might indicate an infection from a tick bite.
6. Locate where to go or what to do for more information.

Moderator Checklist

Pre-Test

- Confirm consent form is signed
- Provide printed flyer
- Ask participant to read the scenario aloud
- Remind them to think aloud while completing tasks

During Test

- Begin audio recording (if permitted)
- Observe behavior, confusion, or hesitation
- Encourage verbal feedback and thinking aloud
- Record task completion and time taken

Post-Test

- Ask follow-up questions (see Post-Test Questionnaire)
- Stop recording
- Thank the participant for their time

Post-Test Questionnaire

Name_____ Date_____

Table 15

Post-test questionnaire for evaluating user understanding and flyer clarity

		N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Question		1	2	3	4	5
1	I understood the prevention step I found before going outdoors.						
2	The information about protective clothing was clear.						
3	The instructions for tick removal were easy to follow.						
4	The flyer clearly identified what tool to use for tick removal.						
5	I was able to understand the symptoms that might indicate infection.						
6	It was easy to find where to go or what to do for more information.						

Open-Ended Questions

1. Which task was the easiest for you? Why?
2. Which task was the most difficult or confusing? Why?
3. Were there any words, phrases, or visuals that you did not understand?
4. What would you change or improve about the flyer?

Session Log Sheet

Name_____ Date_____

Table 16

Usability testing session log sheet for task performance tracking

	Completion (Y/N)	Errors	Error Description	Time on Task	User Comments	Moderator Comments
1						
2						
3						
4						
5						
6						

Conclusion

This usability testing plan outlines how the effectiveness of a printed health flyer will be evaluated using participant feedback and observation. Results will inform revisions to improve the document's usability, particularly for diverse community members with varying health literacy levels.

Appendix D

Usability testing informed consent

Informed Consent Form for Usability Testing Participants

Study Title: Evaluating Plain Language in Public Health Communication: An Analysis of the Readability and Clarity of Documents from the Phelps County Health Department

Researcher: Roghaye (Nadia) Ahmadi

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Department: Technical Communication

Faculty Supervisor: Ed Malone

Institution: Missouri University of Science and Technology

Supervisor's Email: malonee@mst.edu

Purpose of the Study

The purpose of this study is to evaluate how community members interact with and understand printed public health documents such as flyers, posters, brochures or notices produced by the Phelps County Health Department (PCHD). This research is being conducted as part of a graduate thesis in technical communication and is designed to identify areas where the materials may be improved for clarity, readability, usability, and effectiveness.

What You Will Be Asked to Do

If you choose to participate, you will be given a public health document from PCHD and asked to complete a short set of tasks. These tasks may include finding specific pieces of information (e.g., a phone number or walk-in hours), identifying what the document is asking the reader to do, or explaining part of the content in your own words. After each task, I may ask you a few follow-up questions to better understand your experience.

You may be asked to “think aloud” as you complete the tasks. That means you will be encouraged to share what you are thinking or noticing as you read or look for information. The entire session will take approximately 30 to 45 minutes.

Voluntary Participation

Your participation is completely voluntary. You may choose not to answer any question, skip any task, or stop the session at any time without penalty or explanation.

Confidentiality

Your name and personal identity will be kept strictly confidential. You will not be identified by name in any notes, reports, or publications. I will refer to you only as “Participant 1,” “Participant 2,” etc. The data I collect will be stored securely and used only for the purposes of this study.

Recording

This session may be recorded to help me take accurate notes during your session. If you do not wish to be recorded, you may still participate, and no audio will be taken.

Please check one:

- ☐ I agree to be audio recorded
- ☐ I do not agree to be audio recorded

Risks and Benefits

There are no known risks associated with participating in this study. You will not receive direct personal benefit, but your participation may help improve the design and clarity of public health communication materials used in our community.

Contact Information

If you have any questions about this study, please contact:

- **Researcher:** Roghaye (Nadia) Ahmadi, rahmadi@mst.edu
- **Faculty Supervisor:** Ed Malone, malonee@mst.edu
- **Institutional Review Board (IRB):** Missouri S&T IRB, irb@mst.edu

Consent Statement

By signing below, you confirm that you have read this form, understand what participation involves, and agree to take part in this study.

Participant's Name: _____
Participant's Signature: _____
Date: _____

Appendix E

Survey

PCHD Public Health Document Evaluation Survey

Introduction

Thank you for participating in this survey. This study aims to understand how clear and easy to understand public health documents are, especially those shared by the Phelps County Health Department (PCHD). Your responses will help improve how public health information is communicated in our community. The survey is anonymous and will take approximately 5–10 minutes to complete.

Section 1: Background Information

1. **What is your age group?**
   - ☐ Under 18
   - ☐ 18–29
   - ☐ 30–49
   - ☐ 50–64
   - ☐ 65 or older

2. **What is your highest level of education?**
   - ☐ Less than high school
   - ☐ High school diploma or GED
   - ☐ Some college or associate degree
   - ☐ Bachelor's degree
   - ☐ Graduate or professional degree

3. **Is English your first language?**
   - ☐ Yes
   - ☐ No

4. **How often do you read printed or online health materials?**
   - ☐ Rarely
   - ☐ Occasionally
   - ☐ Often
   - ☐ Very often

Section 2: Document Evaluation

Please indicate how much you agree or disagree with the following statements about the document you reviewed:

Table 17

Survey items for evaluating document clarity and usability

Statement	Strongly Disagree	Disagree	Neutral	Strongly Agree	Disagree
1. The wording in the document was clear and easy to understand.					
2. I could quickly find the most important information.					
3. The instructions or health advice were easy to follow.					
4. The layout and design helped me understand the content better.					
5. The tone of the document felt respectful and appropriate for the public.					
6. I would trust this document as a reliable source of health information					
7. I believe people of different education levels could understand this document easily.					

Section 3: Open-Ended Questions

Please answer the following questions in your own words:

1. What part of the document was the most helpful or easy to understand? Why?
2. Was there anything in the document that confused you or was hard to understand? If yes, please explain.
3. Do you have any suggestions for improving the wording, layout, or design of the document?
4. Is there anything else you would like to share about this document?

End of Survey

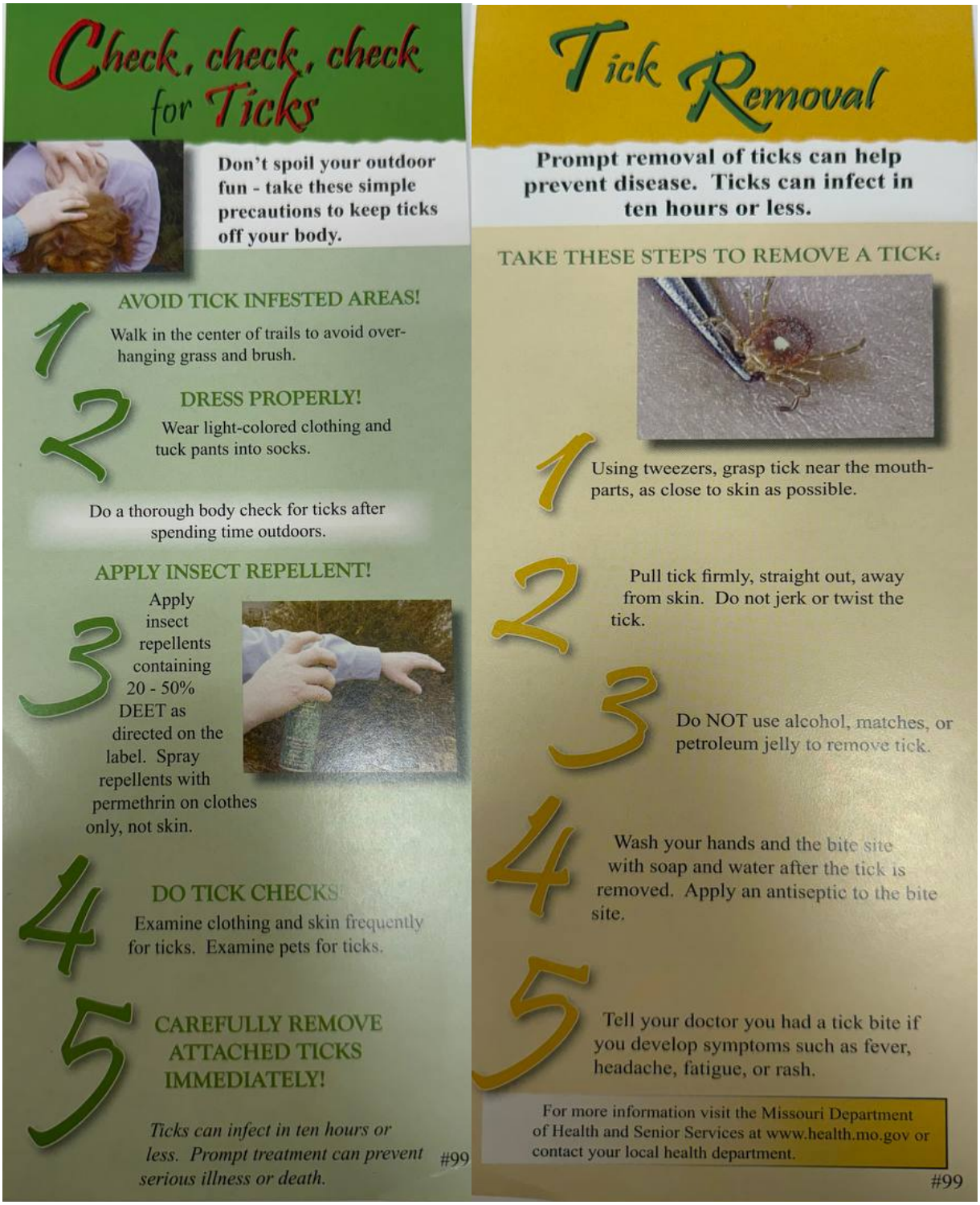
Thank you for your feedback! Your input will help make public health information more accessible and easier to understand for everyone in our community.

Appendix F

Photo of tick prevention flyer

Figure 1

Tick prevention and removal flyer



Appendix G

CV

Roghaye (Nadia) Ahmadi

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Education

Missouri University of Science and Technology, USA (**GPA**: 4.0 / 4.0) Aug 2024 – May 2026
M.S. Student in Professional, Technical, Business, and Scientific Writing (Technical Communication)

Azad University of Science and Research Sep 2014 - Sep 2016
M.A. Teaching English as a Foreign Language (**GPA**: 3.52 / 4.0)

Payame Noor University Sep 2009 - Jan 2014
B.A. English Language Translation (**GPA**: 3.16 / 4.0)

Experience

Graduate Teaching Assistant, **Technical Communication Department, Missouri University of Science and Technology, US** Aug 2024 - Present

- Teaching students how to design professional documents using standard features
- Creating and reviewing course materials, including syllabi, assignments, and rubrics
- Mentoring undergraduate students in using secondary research to support technical writing

Technical Student Assistant, **Writing and Communication Center, Missouri University of Science and Technology, US** Feb 2025 – Present

- Providing technical and administrative support for the Graduate Technical Editing process
- Assisting graduate students in preparing their dissertation, thesis, and manuscript submissions
- Providing editing assistance by reviewing grammar, sentence structure, clarity in technical documents
- Supporting training sessions focused on academic writing and effective feedback strategies
- Ensuring adherence to academic integrity and documentation standards in technical writing

Student Teaching Assistant, Department of Civil, Architectural, and Environmental Engineering, Missouri University of Science and Technology, USA Feb 2025 – Present

- Reviewing and evaluating students' research-based technical writing for clarity, structure, and adherence to standards
- Assessing the quality of research integration, argument development, and citation accuracy in student papers
- Collaborating with faculty to align grading criteria with course objectives and research expectations

Graduate Research Assistant Sep 2014 - Sep 2016

- Investigated plagiarism and academic dishonesty in writing
- Published an article: Investigating Some Main Causes and Reasons of Writing Plagiarism in an EFL Context

English Language Instructor

- Taught English as a foreign language Sep 2010- Aug 2023
- Instructed Writing to high school students May 2020- Sep 2020

Skills

- Technical Writing & Editing Tools: Microsoft Office (Word, Excel, PowerPoint, SharePoint, Teams, Outlook), Canva and Adobe InDesign
- Translation: Proficient in translating between English, Persian, and Kurdish
- Communication and Interpersonal Skills: Strong interpersonal skills gained through teaching and advising
- Curriculum Development: Experienced in designing curricula and training materials for courses and workshops

Volunteer Work

Multilingual Communicator-Tarjimly: Providing on-demand translation and interpretation services Oct 2024-Present

Publications

Zarfsaz, E., & Ahmadi, R. (2017). Investigating Some Main Causes and Reasons of Writing Plagiarism in an EFL Context. *International Journal of Applied Linguistics and English Literature, 6*(5), 214-223. doi:https://doi.org/10.7575/aiac.ijalel.v.6n.5p.214

Certificates

1. Professional Communication CT, Missouri University of Science and Technology
2. Writing in the Sciences: Stanford University, Coursera Credential ID: WCUQQWU3QTFE
3. Graduate Teaching Assistant Workshop- Missouri University of Science and Technology
4. Electronic Data Protection-Skillsoft
5. Eliminating Discrimination and Harassment- Skillsoft
6. Our Community, Our Commitment for Student Employees- Skillsoft
7. Using references in Word 365- Skillsoft: Word Microsoft 365 (2021)
8. Technical Writing Essentials- Allison Empower Yourself