

Improving the vote-by-mail experience

Making ballot envelopes clear and understandable: The impact of plain language on voter signature forms

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Summary

In the 2020 General Election there was a rapid increase in voting by mail—or by absentee ballot, as it is called in some states—as part of the response to voting during a pandemic.

As part of the process of voting by mail, voters sign a legal statement declaring that they are qualified to vote and have followed the rules for this method of voting. The statements are often hard to understand. The complicated language and confusing layout of these forms often lead voters to mistakenly leave out crucial information like their signature.

We looked at the text of the statements on ballot envelopes in 26 states. We wanted to know how difficult the statements are to read. And what it would take to fix the problem so that more voters understand what they are signing and successfully cast their mail ballot.

Poor design and confusing language cause ballot rejections

Mistakes made when completing the forms on the envelopes and the confusion that voters experience during the vote-by-mail process cause ballots to be rejected. On average 1.7% of vote-by-mail ballots were rejected in 2016 because of ballots arriving late or missing or mismatched signatures. That number is even higher in states with witness requirements or more text on the envelope. At the worst extreme, 6.4% of mail ballots were rejected in Georgia, according to the MIT Election Performance Index.

Besides the obvious problem that rejected ballots deprive a large number of American voters from their ability to cast a ballot, rejected ballots also cause a number of secondary problems. For example, for states that have a process to cure rejected mail-in ballots, curing a high number of incomplete ballots takes time and election administration resources. This problem was amplified during the 2020 elections, when the number of votes cast by mail increased several-fold.

Poorly designed ballot envelopes also raise a question of voting rights: What does it mean for somebody to sign something they don't understand? We believe that these problems in election administration can be resolved by incorporating plain language and good design strategies in designing ballot envelopes.

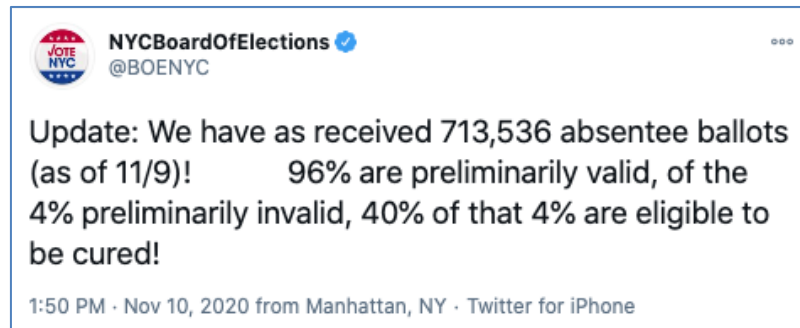
Good design and plain language reduce ballot rejections

When the text on ballot envelopes is written with voters' needs in mind, voters are able to understand and use them better. And when voters can understand

and use ballot envelopes for their intended purpose, we see fewer rejected ballots.

In 2019, we worked closely with the Michigan Bureau of Elections to completely redesign their ballot envelopes as they prepared to implement no-excuse voting by mail for the first time. The design applied the principles that we describe in this paper to improving the envelope’s readability and layout. The result was an envelope that is more readable and usable: in the 2020 primary, the number of rejected ballots dropped to 0.06% from 0.49% in the 2016 general election, despite almost doubling the number of people who voted by mail. We believe that this success can be attributed to the improvements to the envelope.

On November 10, 2020 as ballots were being counted, the New York City Board of Elections tweeted that only 4% of the mail ballots were “preliminarily invalid,” with 40% of those eligible to be cured.



Although 4% is still a large percentage, the redesigned envelope made a significant improvement over the 12.7% rejection rate in New York City in 2016, when only 112,295 people voted by mail.

We believe that redesigned ballot envelopes worked with new policies that made it easier to vote by mail and an energetic voter education campaign helped save hundreds of thousands of votes.

How to reduce ballot rejections

We propose 2 major considerations when designing ballot envelopes:

- Use good design practices that guide the voter rather than confuse them
- Use clear, concise language so that voters can understand and use their ballot envelopes effectively

In addition, we recommend doing usability testing with real voters and using free online resources like Hemingway Editor to support the design and language strategies that we outline in this report.

This report shows how to achieve similar improvements with any state's envelope, like the results in Michigan, shown in Figure 1.

Figure 1. Michigan's envelope before and after the redesign

<p>TO BE COMPLETED ONLY IF VOTER IS ASSISTED IN VOTING BY ANOTHER PERSON</p> <p>I assisted the herein named absent voter who is disabled or otherwise unable to mark his/her absent voter ballot pursuant to his/her directions. The absent voter ballot was inserted into the return envelope without being exhibited to any other person.</p> <p>Signature of Person Assisting Voter _____ Street Address _____ City, Town, or Village _____</p> <p>A PERSON WHO ASSISTS AN ABSENT VOTER AND WHO KNOWINGLY MAKES A FALSE STATEMENT IS GUILTY OF A FELONY.</p> <p>FOR CLERK'S USE ONLY</p> <p>Ballot Envelope Returned: _____ Date _____ Ballot No. _____ Received by _____</p> <p>I certify that I have checked the signature on this envelope with the signature on the voter's registration card and they agree.</p> <p>Election Official: _____</p>	<p>TO BE COMPLETED BY THE ABSENT VOTER</p> <p>I assert that I am a United States citizen and a qualified and registered elector of the City of Detroit. I am voting as an absent voter in conformity with state election law. Unless otherwise indicated, I personally marked the ballot enclosed in this envelope without exhibiting it to any other person.</p> <p>I further assert that this absent voter ballot is being returned to the clerk or an assistant of the clerk, by me personally; by public postal service, express mail service, parcel post service, or other common carrier; by a member of my immediate family; or by a person residing in my household.</p> <p>SIGN HERE: X _____ DATE _____</p> <p>THE ABOVE FORM MUST BE SIGNED OR YOUR VOTE WILL NOT BE COUNTED.</p> <p>AN ABSENT VOTER WHO KNOWINGLY MAKES A FALSE STATEMENT IS GUILTY OF A MISDEMEANOR.</p> <p>PCT. _____ FORM _____ ELECTION AUG 04 2020</p> <p>NAME _____ 208</p> <p>ADDR: VALENTINA VOTER</p> <p>DETR: DETROIT, MI 48221-2748 13</p>	<p>Before the redesign</p> <ul style="list-style-type: none"> • Voter statement and signature on the right side, after administrative sections • Tan envelope make text lower contrast and harder to read
<p>Did you....</p> <p><input type="checkbox"/> Sign in the box below in your own handwriting?</p> <p><input type="checkbox"/> Put your ballot in the envelope?</p> <p><input type="checkbox"/> Return to the local clerk by 8pm on Election Day?</p> <p>I assert that:</p> <ul style="list-style-type: none"> • I am a United States citizen. • I am qualified and registered to vote at the address listed. • I am voting in conformity with state election law. • I marked my ballot and placed it in this envelope without showing it to anyone. • I am returning my ballot to the clerk's office by delivering it myself or a member of my immediate family or household, or sending it by public postal, express mail, or parcel post service, or other common carrier. <p>I understand that knowingly making a false statement is a misdemeanor.</p> <p>Voter, sign here in ink. Power of attorney is not acceptable. The box must be signed or your vote will not be counted.</p> <p>Sign Here X _____</p> <p>If someone assists you or helps you mark your ballot, they must sign and identify themselves. I assisted the voter who is disabled or unable to mark his/her ballot according to his/her directions and without showing it to another person.</p> <p>Assistant, sign here _____ Print name _____ Print full address _____</p> <p>A person who assists an absent voter and knowingly makes a false statement is guilty of a felony.</p>	<p>For Clerk's use only</p> <p>Return date and time: _____ Precinct _____ Signature verified? <input type="checkbox"/> Initial: _____ Rejected? <input type="checkbox"/> Reason: _____</p> <p>Keep your ballot secure.</p> <p>It is a felony for anyone to be in possession of an absent voter ballot except authorized election officials, employees of postal service or other common carriers during the normal course of their job handling mail, or a member of the voter's immediate family or household who the absent voter has asked to return the ballot.</p> <p>Valentina R. Voter P.O. Box 1000 4321 Franklin Avenue Franklin, CA 99990-1234</p>	<p>After the redesign</p> <ul style="list-style-type: none"> • Text edited to remove empty words • Bullets separate each line and add white space • Signature more prominent in the reading sequence

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Voting by mail is changing

Many states are expanding voting by mail

Voting by mail (also called absentee voting) has increased in use since Oregon adopted it as the state-wide voting system in 1998. 5 states now mail ballots to all voters. Other states are increasing access to vote by mail by eliminating barriers like legal requirements for an excuse. However, there are still states with very low use, sometimes less than 5% of voters voting by mail due to illness, disability, or absence from their home on Election Day.

In 2020, The COVID-19 pandemic made voting by mail a much more popular option as a way to vote at home without needing to leave the house. The number of ballots cast by mail rose dramatically: Some states mailed ballots to all voters. In others, voters could choose to receive a ballot by mail with no excuse or by using a health emergency as an excuse. The result was that the number of mail ballots was often many times more than the number in 2016.

Voting by mail requires trust that your ballot will make its way back to the election office and be accepted as valid. Voters may be more or less familiar with the procedures for voting by mail, and more or less comfortable with the language of official forms. The more barriers they encounter, the less likely they are to trust that they will be able to complete the task—in this case, casting a ballot that gets counted.

One challenge of this rapid increase in the number of ballots cast by mail is the large number of ballots rejected for technicalities. According to the 2016 Election Administration and Voting Survey report, almost all of these ballots were rejected for completely avoidable reasons: missing or mismatched signatures, arriving after the deadline, missing witnesses, or other technical problems with the materials.

In 2016, just over 1% of ballots were rejected across all states, with 4 states rejecting over 5.5% of all absentee ballots cast. The most common reasons were that ballots arrived late, or had missing or mismatched signatures. In addition, there are technicalities in how the ballot is packed for return that can cause it to be rejected. This is an election tragedy, the equivalent of 1 out of every 100 registered voters turned away from voting at a polling place.

Redesigning ballot envelopes

The many components of ballot envelopes can sometimes compete with each other. For example, the length of the text can affect the text size. The challenge for a plain language and design process is sorting out these complex interactions to arrive at a clear, simple layout that is highly readable and usable.

We began working on mail ballot envelopes in 2015 in California (see Figure 2). The state was starting implementation of the Voter's Choice Act, an election system in which voters would be automatically mailed a ballot. Advocates and officials wanted to make sure that voters could easily recognize their ballot when it arrived in the mail and could return it successfully to be counted. The envelopes also needed to support election administration procedures and the requirements of the mail handling automation in the US Postal System.

Figure 2. California's ballot return envelope after redesign

I authorize the person below to return my ballot:

Their name _____

Their signature _____

Relationship to voter _____

Did you...

Sign the voter's declaration in your own handwriting?

Put your ballot in the envelope?

Voter's declaration I declare that

- I am a resident of and a voter in the county, and the person whose name appears on this envelope.
- I have not applied, nor will I apply for a vote-by-mail ballot from any other jurisdiction in this election.
- I declare under penalty of perjury that this is true to the best of my knowledge and belief.

You must sign in your own handwriting. Your signature must match the signature on your voter registration card.
Voting twice in an election is a crime.

Voter, sign here in ink. Power of attorney is not acceptable.

Date (MM/DD/YYYY) _____

Print name Pat Q. Voter

Print your voter registration address

1245 Residence Street

Your Town, CA 99999

If you are unable to sign, make your mark and have a witness sign below:

Witness, sign here _____

Franklin County
General Election
November 7, 2018

Pat Q. Voter
3916 Farnam Street
Omaha, NE 68131

We began to expand the design into other states. In the 2019 elections, our designs were used in 5 states and some counties across the country.

In Michigan, the design was used statewide except in Detroit. In the 2020 primary, the number of unsigned ballots dropped to 0.06% from 0.49% in the 2016 general election, even as the number of people voting by mail increased to 43% of the total turnout.

When it became obvious that vote-by-mail would play a large part in the 2020 General Election, we began a project to improve the designs. We targeted 23

states, selected for a wide range of current designs and legal requirements. We reviewed the legally required text and envelope configurations and then used our design guidelines to update the layout and add useful checklists. In the end 6 more states (and even more counties and cities) adopted all or part of our design.

We quickly realized that one of the most important factors was the length and complexity of the statement voters sign and the related information they must fill in. Some had forms that seemed simple and straightforward, while others had long, complex forms and instructions.

That insight led us to this research to document the variations in the information on the envelope and how it can be simplified to make voting by mail easier.

With the linguistic analysis in this report, we show that clear, understandable forms and instruction can improve the experience of voting by mail so fewer ballots are rejected.

Making mail-ballot envelopes easier

In this report, we show how incorporating plain language and good design principles lead to fewer rejected ballots and increased likelihood that voters will understand the forms that they must sign.

We looked at envelopes from 26 states

We reviewed the information and forms that voters sign on mail-in ballot envelopes from 26 states to understand how similar or different they were.

We analyzed the text of these 26 envelopes in 2 ways:

- Cataloging the content elements
- Assessing the readability, based on the length of the text, the complexity of the words used, and the sentence structure

We were surprised to find that they varied a lot, in both content and readability.

In terms of content, at one level, they all ask a simple question, but the way they ask this question ranges from a single, simple question to a list of legal requirements. Why, for example, does Florida ask voters to read and understand 10 statements while New York has only 4? The additional information voters enter is also very diverse. Why do 17 states ask voters to print their name, but 4 states do not? Does this mean that the form in those 4 states is less effective?

To assess the readability of the envelopes, we used Hemingway Editor¹—a free online tool that tells you what education level is needed to read a text. Readability scores can be controversial, but we explain how we used them in the section *How we measured envelope text for readability*

We found that the envelope forms varied in difficulty from late primary to post-graduate level and more than half of the ballot envelope forms received a score of post-graduate. It seemed obvious to us that voters in a state whose envelope is easy to read are more likely to complete their ballot than voters in a state whose envelopes are comparatively harder to read.

¹ Hemingway Editor <http://www.hemingwayapp.com/>

Voting by mail and in person are not the same

The central process of voting by mail is similar to voting in person: in both, a voter is identified, receives a ballot, and votes. A mail-ballot envelope is both a container for a ballot and a legal document. The form a voter signs serves the same purpose as signing in at a polling place—a form of identification of an eligible voter. But there are crucial differences in the sequence of the steps in voting, shown in Figure 3.

Figure 3. The order of voting is different for in person and by mail

Step	Voting in person	Voting by mail
1	Voting preparation Goes to a voting location	Voting preparation Requests mail ballot (if required)
2	Checks in Signs a pollbook	Receives ballot Ballot arrives by mail
3	Receives ballot From poll worker	Marks ballot When ready, at home
4	Marks ballot Immediately, at voting location	Checks in Signs form on envelope
5	Casts ballot At voting location	Casts ballot Mails, drops off or delivers voted ballot

Although voting by mail offers convenience, it also offers more opportunities for voters to make mistakes because they vote alone, without the structure of the polling place to guide them through the process.

Evidence from election statistics shows that less experienced voters are more likely to make mistakes that mean their vote is not counted. One of the most common reasons for a ballot to be rejected is that the signature is missing. In other words, the materials sent to the voter do not effectively communicate both that a signature is needed and where to sign. This is a failure of the overall design, the text of the signature form, and the instructions that accompany the ballot.

There are many ways to improve ballot envelope forms

Happily, there are many simple ways to make ballot envelopes more readable and usable. More readable and usable ballots means that fewer ballots will get rejected. Applying current best practices in visual design and writing can

improve the integrity of voting by mail by reducing the number of spoiled or rejected ballots.

Plain language can make a difference by:

- Making the statements that voters sign easier to understand
- Reducing the sheer amount of text so there is more space
- Showing that this can be done within current policies

The results can be both immediate and practical, or longer term.

Strategies for immediate change

In most states, election officials can use several strategies without a change in the election code.

Use layout for clarity

- Add bullets to separate clauses in the voter statement
- Use a conventional form field layout instead of interspersing blanks in a paragraph
- Highlight the signature area

Make the text easier to read

- Take advantage of any flexibility in the law to minimize the number of complex words and overall length of the text
- Write instructions following plain language best practices
- Include checklists for packing the envelope accurately

Strategies for longer-term impact

Longer term, there are opportunities for both election officials and legislatures to make more permanent changes:

Create best-practice templates

- Demonstrate envelope and voter statement text and layout that meets state law while improving the readability and legibility of the envelopes
- Encourage consistency among local jurisdictions to make it easier to conduct statewide voter education campaigns

Update state policies and regulation

- Allow for text and layout to be edited for clarity and plain language as long as it substantially meets the goals of the current policy

- Update the election code to simplify the language of the statements for plain language, readability, and legibility
- Rethink policies and requirements to be sure they meet goals for election integrity while still making it easier for voters to have their ballots counted.

Get wide input on any changes from all stakeholders

- Include election officials, community advocates, and election experts in creating updated materials
- Test the templates and sample designs for usability with a wide range of voters, including new and infrequent voters, low English proficiency, and voters with disabilities.

To bring you these strategies, we studied the current landscape of vote by mail envelopes as well as best practices from the fields of linguistics and design.

What better forms look like

Using strategies for immediate improvement without changing the underlying policy requirements, we show what more readable and usable forms look like using forms from 3 states. For a complete step-by-step guide on how to improve your state’s form, see the *Demonstrations* section.

Post graduate to early primary (Virginia)

Before	After
I opened the envelope marked “ballot within” and marked the ballot(s) in the presence of the witness, without assistance or knowledge on the part of anyone as to the manner in which I marked it.	I opened my envelope and marked my ballot in the presence of the witness. I marked my ballot in secret without help.
Word count: 36 Readability: Post-grad	Word count: 22 Readability: 3

Middle school to early primary (Nebraska)

Before	After
<p>I, the undersigned voter, declare that the enclosed ballot or ballots contained no voting marks of any kind when I received them, and I caused the ballot or ballots to be marked, enclosed in the identification envelope, and sealed in such envelope.</p> <p>To the best of my knowledge and belief, I declare under penalty of election falsification that:</p> <ul style="list-style-type: none"> • I [name] am a registered voter in [name] County; • I reside in the State of Nebraska at: [address] • I have voted the enclosed ballot and am returning it in compliance with Nebraska law; and • I have not voted and will not vote in this election except by this ballot. <p>I also understand that failure to sign below will invalidate my ballot.</p> <p>Signature Print your voter registration address</p>	<p>I declare that</p> <ul style="list-style-type: none"> • the enclosed ballot or ballots were blank when I received them • I marked and packed my ballot or ballots myself • I am qualified to vote in Nebraska at the address below • I will follow all of Nebraska’s election laws <p>I understand that I must sign below for my ballot to count.</p> <p>Signature Print name Print your voter registration address</p>
<p>Word count: 116 Readability: 8</p>	<p>Word count: 55 Readability: 3</p>

Post graduate to early primary (Georgia)

Before	After
<p>I, the undersigned, do swear (or affirm) that I am a citizen of the United States and of the State of Georgia; that I possess the qualifications of an elector required by the laws of the State of Georgia; that I am entitled to vote in the precinct containing my residence in the primary or election in which this ballot is to be cast; that I am eligible to vote by absentee ballot; that I have not marked or mailed any other absentee ballot, nor will I mark or mail another absentee ballot for voting in such primary or election; nor shall I vote therein in person; and that I have read and understand the instructions accompanying this ballot; and that I have carefully complied with such instructions in completing this ballot. I understand that the offer or acceptance of money or any other object of value to vote for any particular candidate, list of candidates, issue, or list of issues included in this election constitutes an act of voter fraud and is a felony under Georgia law.</p>	<p>I swear (or affirm)</p> <ul style="list-style-type: none"> • that I am qualified to vote in Georgia; • that I will follow all of Georgia’s election laws; • that I have read and understand the instructions; • and that I have followed the instructions in completing this ballot. <p>Voter fraud is a crime in Georgia</p>
<p>Word count: 178 Readability: Post-graduate</p>	<p>Word count: 48 Readability: 3</p>

What we learned in the content analysis

One of the primary questions that guided the content analysis was to identify the purpose of the voters' statement. We looked at each clause and related information voters must provide and categorized it according to its purpose.

“Every piece of information you ask for puts a burden on your user and creates a burden on your organization to do something with it. You want to be sure that the effort is justified.”

- Caroline Jarrett, Forms That Work

For our analysis, we divided the content into 2 groups of text elements:

- **Primary content** – elements that appear on all envelopes
 - Information identifying the voter
 - Legal acknowledgements
- **Secondary content** – elements that appear on some envelopes
 - Penalties
 - Forms for additional signatures
 - Additional languages
 - Other text on the envelope

Primary content

Information identifying the voter

The elements in this category usually prompt the voter to provide information like their printed name, signature, and address. These are usually elements that can match voters to their records in the voter registration database.

We were surprised to see how few common elements to identify voters there were. As Figure 4 shows:

- The number of elements in the personal information category ranged from 2 (Delaware) to 7 (Louisiana).
- A signature is the only element required in all 26 states.
- There are few common elements to identify the voter, most notably printed name, address, and the date.

- There are many rare elements, used in only a small number of states, including contact information (phone or email), date of birth, or name correction.

Figure 4. Voter identification elements

State	Voter's Signature	Printed Name	Date Signed	Printed Address	County / Parish	Other	Other (detail)
California	■	■	■	■			
Colorado	■	■	■				
Florida	■	■	■		■	■	Contact information
Georgia	■	■	■				
Illinois	■	■		■			
Kentucky	■	■		■			
Louisiana	■	■	■	■	■	■	Mother's maiden name
Maryland	■	■	■				
Massachusetts	■	■		■			
Missouri	■	■		■	■		
Nebraska	■	■		■			
Nevada	■	■	■				
New Jersey	■	■		■			
New Mexico	■	■		■	■	■	Date of birth
Ohio	■	■	■	■		■	Date of birth
Pennsylvania	■	■	■	■			
Tennessee	■	■	■	■			
Virginia	■	■	■	■			
Arizona	■				■	■	Contact information
Delaware	■		■				
Michigan	■		■				
New York	■		■				
North Carolina	■					■	Name correction
Oklahoma	■		■				
Texas	■						
Wisconsin	■		■				
Total	26	18	16	13	6	6	

Some of this information seems obvious and needed to accurately identify the voter and record their ballot in the voter registration database. But it's less clear to a voter why they need to enter their county name or why their date of birth or mother's maiden name are needed. That's not to say that this information is useless. In the end, it's up to policy directors to decide whether asking voters for

this information is worth the extra burden that it places on voters and elections administrators.

For personal information, label-field pairs are better than clozes

The forms ask for personal information in either of 2 ways, shown in Figures 5 and 6:

Label-field pairs. Conventional form fields are a pairing of a form label with a space to enter the information, usually arranged with the labels above or to the left of the entry space.

Figure 5. Label-field form example

<p>Voter, sign here in ink. Power of attorney is not acceptable.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;">X</div> <p>Print your name</p> <hr/> <p>Print your voter registration address</p> <hr/> <hr/>	<p>Fields have a label above the line and a space to enter the information.</p>
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Clozes. Cloze sentences (similar to mad-libs) ask voters to fill in blanks in the middle of a sentence. Extra labels may appear below the line.

Figure 6. Cloze form example

<p>I, _____ <small>(Last) (First) (Middle)</small></p> <p>do solemnly swear that I am a resident of _____, Louisiana <small>(Parish of Registration)</small></p> <p>_____ <small>(Residential Street Address)</small></p> <p>_____ _____ <small>(City or Town) (Ward and Precinct)</small></p>	<p>Fields are labeled, but the labels appear in the middle of sentences.</p>
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The main problem with using a cloze is that it demands that voters multitask. That is, they have to read, understand, and write at the same time, rather than reading and understanding the form, then entering a small amount of information.

The format of a cloze-style form also makes it hard to add a label, so the labels are either added in parentheses or tucked under the line in small text. These labels are needed because the information requested is not always obvious from the context of the sentence. When they are placed below the line, they

may appear in a random location in the reading order, for example after the sentence has continued to the next clause.

Visually, cloze spaces can be easy to miss:

- They are surrounded by text. This breaks good design practice for making the entry field area visually prominent.
- The adjustment needed to the line spacing of the text to provide enough room for the voter to write the information also makes it more difficult to read the entire sentence.
- The entry spaces are interspersed in a paragraph of text, making them hard to see.

All of this can mean that the voter does not successfully complete the section and their ballot gets rejected.

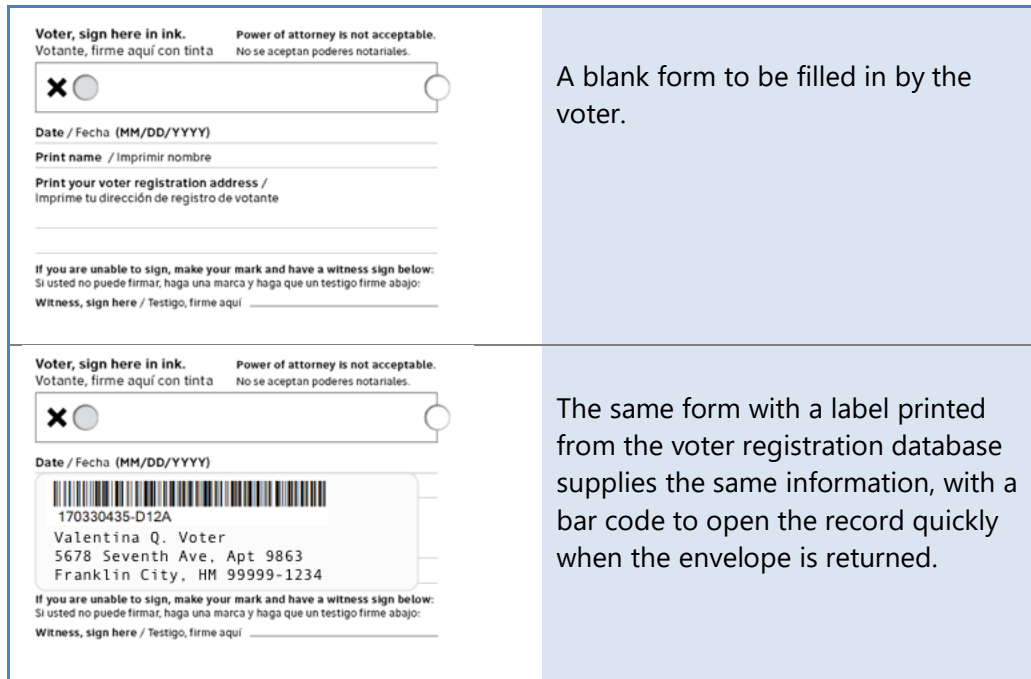
On the other hand, because dedicated lines or label-field pairs appear in a separate space from reading sections, they make it easier to treat each task as distinct. Readers can first read and understand and once they're done, they can move onto filling in their information. Reading, understanding, and filling in information should be seen as a logical and linear flow from one activity to another.

Label-field pairs are easier to see and read:

- Reading sections and form fields appear in distinct spaces.
- Line spacing can remain consistent.
- It's easier to create white space when each section is associated with just one task (reading or writing).

Another argument for using a conventional form is that some of the voter information – such as their name and address – can be supplied by the election office by adding it on a label. The traditional form layout makes it easier to use for either manual entry by the voter or to be prefilled by the elections office, shown in Figure 7.

Figure 7. Blank and pre-filled forms



A blank form to be filled in by the voter.

The same form with a label printed from the voter registration database supplies the same information, with a bar code to open the record quickly when the envelope is returned.

Legal acknowledgements

In the voter statements, each of the 26 states that we looked at asks voters to agree to a slightly different set of requirements. As Figure 8 shows, the number of elements in the voter statements ranges from 7 to 17 elements. In short, no 2 forms are same.

As with voter identity, states take a wide range of approaches to the amount of detail included in the statement. More surprising, we found a lot of redundancy within a state's legal acknowledgements, such as the same requirement or assertion phrased in 2 different ways.

Figure 8. Categories of legal acknowledgements

Categories	Examples
<p>Asserting eligibility to vote</p> <p>These elements ask voters to declare their eligibility to vote, in both broad and specific statements</p>	<ul style="list-style-type: none"> • I am registered to vote • I am qualified to vote • I meet residency requirements • I am a U.S. citizen • I am old enough to vote • I do not have a felony conviction

Categories	Examples
<p>Agreeing to rules for mail voting These elements either ask voters to acknowledge or assert compliance with rules for voting by mail</p>	<ul style="list-style-type: none"> • I meet the (state) requirements for an absentee ballot • I will not vote twice • I have signed my own name • I have a witness signature
<p>Acknowledging illegal election activities These elements list election laws relating to voting by mail. They may be part of the voter statement, or placed near it for acknowledgement.</p>	<p>It is illegal to:</p> <ul style="list-style-type: none"> • Tamper with ballots • Forge a signature • Prevent someone from voting • Make false statements

Asserting eligibility: “I am qualified”

These statements repeat all or part of the requirements for voting in the state – a repetition of the declaration the voter signed when registering to vote. As Figure 9 shows, these statements range from a simple declaration to a long list of individual requirements.

Figure 9. Examples of eligibility elements

Type	Examples
A single blanket statement that they are qualified to vote	<ul style="list-style-type: none"> • “I am an eligible elector” [CO] • “I am a qualified elector of the state” [OH]
A blanket statement with a few specific requirements	<ul style="list-style-type: none"> • “I have (or will have) resided at the address below for at least 30 days before Election Day.” • “I have lived there for years and months.” • “I am legally entitled to vote in this election.” [IL]
A complete list of requirements for voter registration	<ul style="list-style-type: none"> • “...am registered to vote in this county” • “...will have lived at [their] address listed here at least 30 days before the election” • “...are a US citizen” • “...are 18 or will be by this election” • “...have not been convicted of a felony [with exceptions]” [NC]

Type	Examples
a hybrid approach with both identification and eligibility in a cloze format	<ul style="list-style-type: none"> • “I <i>name</i> am a registered voter in <i>name</i> County. I reside in the State of Nebraska at: <i>address</i>” [NE]

Agreeing to mail-voting rules: “I will follow the rules”

Figure 10 shows the variety of ways that states ask voters to agree to mail-voting rules. These statements focus on specific rules for voting by mail, including some that remind voters not to vote more than once, or other detailed state requirements.

Figure 10. Examples of rules for voting by mail

Rules for voting by mail	Examples
Eligibility to vote by mail	<ul style="list-style-type: none"> • “...I will not cast a ballot in any other city or town or voting location” [MA] • “I have not applied, nor will I apply for a vote-by-mail ballot from any other jurisdiction in this election” [CA] • “...I expect to be prevented from going to the polls on election day due to (check one reason below)...” [MO]
Rules for voting by mail	<ul style="list-style-type: none"> • “...my ballot is enclosed in accord with the provisions of the “Uniform Election Code of 1992.” [CO] • “...failure to sign this certificate will invalidate my ballot” [FL]

Acknowledging responsibility: “I won’t commit fraud”

Sometimes voters are asked to make blanket acknowledgements that they won’t commit election fraud. In other cases, sections of state law covering voter fraud are simply printed on the envelope near the voter statement. Figure 11 shows this range.

Figure 11. Examples of general voting rules

Rules for voting	Examples
General rules for voting	<ul style="list-style-type: none">• "I am voting in conformity with state election law." [MI]• "I marked the enclosed ballot in secret" [MO]
Rules against election fraud	<ul style="list-style-type: none">• "I will not receive or offer compensation or reward for giving or withholding any vote." [NM]• "Voting twice in an election is a crime." [CA]• "nor that I am acting under duress or threat of duress or harm." [DE]

Secondary content

Penalties

In our 26-state sample, 9 states included some type of notice that certain behaviors are illegal and carry a penalty. The need for plain language in these sections seems particularly important considering that they are often filled with legal language, references to relevant statutes, and complicated descriptions of the penalty itself. As shown in Figure 12, the most complicated of these usually include all 3 of these features while some are much simpler.

Figure 12. Comparing complicated and simple legal warnings

Complicated	Simple
Any person who signs this form knowing that any of the information in the form is false shall be guilty of election falsification, a class IV felony under section 32-1502 of the statutes of Nebraska. The penalty for election falsification is imprisonment for up to two years and twelve months post-release supervision or a fine not to exceed ten thousand dollars, or both. [NE]	I understand that knowingly making a false statement is a misdemeanor. [MI]

Forms for additional signatures

In addition to the voter signature, 2 other people may have to sign the envelope and add their information: witnesses and assistants.

- **Witnesses** fill the role of a poll worker, confirming the identity of the voter and observing them mark their ballot from a distance.
- **Assistants** help voters who cannot mark, pack, or return their ballot independently.
- **Ballot return assistants.** Some states also require information from anyone who returns the ballot for the voter by delivering it to the election office or post office.

These witness and signature requirements do more than add additional text — they also add form fields and signature areas to the envelope that compete for space and attention. For example, Texas' assistant and witness requirements make the envelope cluttered and hard to read (shown in Figure 13).

In our sample of 26 states, 15 require someone assisting the voter to sign on the envelope. Only 4 asked for only a signature and address. Most of the states include a separate assistant statement and require a signature along with other identifying information.

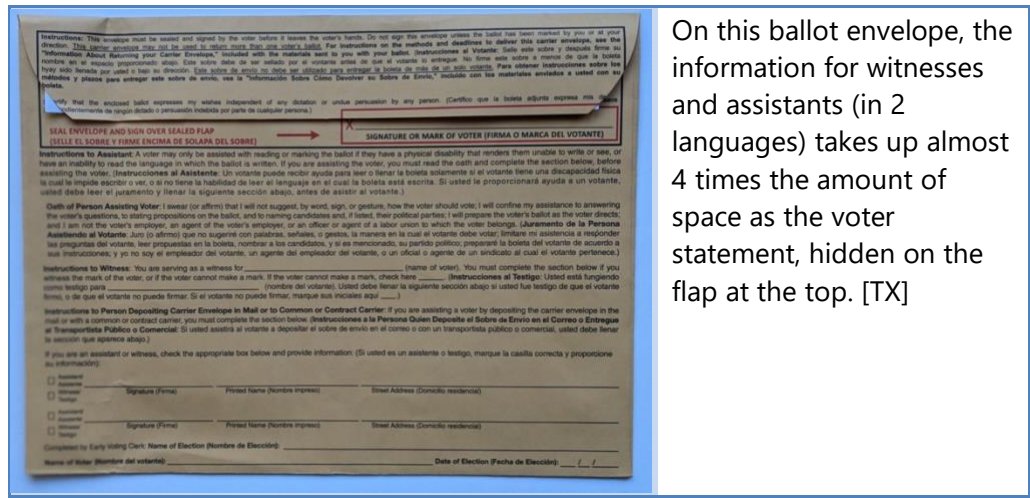
Adding witness and assistant forms make envelopes harder to read because they make the text longer and the layout more crowded.

We did not analyze the text of these oaths because they generally followed the same text structure as the voter statements. However, the need for plain language is just as important. They vary from a simple statement to a lengthy description of the responsibilities and legal requirements.

Although witness signatures are required, the need to complete information for assistants (including people who return the ballot for the voter) depends on the circumstances of each voter.

In both cases, however, text or design elements and the additional signatures can take attention from the required voter signature.

Figure 13. Secondary text distracts from the signature



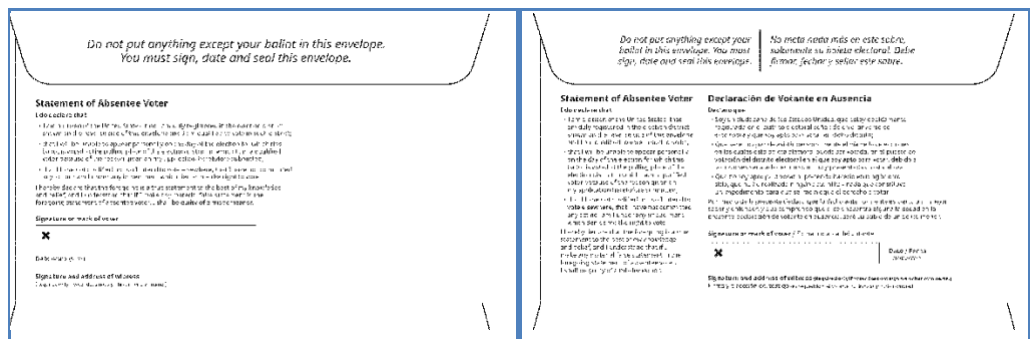
On this ballot envelope, the information for witnesses and assistants (in 2 languages) takes up almost 4 times the amount of space as the voter statement, hidden on the flap at the top. [TX]

Additional languages

Another consideration for many jurisdictions is the need to provide election materials in additional languages. This requirement comes from the Voting Rights Act and the determinations (made every 5 years) of the languages that counties with enough speakers of a language other than English must support. Languages can also be adopted by state or local law. Ballot envelopes are most commonly bilingual, but some jurisdictions provide 3 or more languages.

When the voter statement is concise, there is more room for both languages to be presented with text large enough to read and layout that supports effective reading. See Figure 14 for an example.

Figure 14. Two languages take up more space



Other text on the envelope

The voter's statement and witness or assistant forms are not the only text on the envelope. There may also be instructions on the envelope for how to pack up the ballot for return, or general instructions for how to vote.

All of these instructions and additional forms or visual elements are aimed at helping voters understand the process of voting by mail, but they also add to the complexity of the envelope with more text or forms that have to be squeezed onto the limited space available. One result is that the text size has to be reduced – sometimes as little as 8 points (less than 1/8th of an inch).

Most states include some information about how to vote by mail in the ballot package. Longer instructions are often on a separate insert included in the ballot package, but many ballot envelopes include text and visual instructions on the envelope itself.

At one extreme, envelopes in Texas (shown in Figure 13) include instructions for voters and assistants in English and Spanish that fill one side of the 9-inch by 12-inch ballot envelope, with a shorter checklist of the steps for voting by mail on the other side.

More often, short instructions for completing the voter statement or packing the ballot for return are placed on the envelope to guide voters through the process. These include:

- Reminders to seal the envelope
- Visual elements highlighting the signature area
- Reminders to “sign in your own handwriting” or that the signature will be checked against the one in the voter registration record.
- Information about how and when to return the ballot
- Checklists for packing the envelopes for return.

Other instructions are based on unique configurations of the envelopes and strictly interpreted requirements that can disqualify the ballot if not followed.

- In states with a separate ballot secrecy envelope, warnings *not* to put anything but the ballot in the envelope
- In states that place the voter's statement on a detachable flap, warnings *not* to detach the flap.

A checklist for content

In doing this analysis, we learned about the range in the content on ballot envelopes from 26 states. This helped us appreciate that states have unique requirements for many legitimate reasons. We believe that the insights from this analysis can help you create simpler and less confusing ballot envelopes that allow voters to accurately fulfill those requirements.

Figure 15 is a checklist to guide you through the process of asking which elements are necessary to run efficient elections and which elements place needless burdens on voters and elections administrators.

Figure 15. The do's and don'ts of designing content on ballot envelopes

Do	Don't
Use fields for information identifying voters that are separate from reading sections	Use fill-in-the-blank (clozes) throughout reading sections for information identifying voters
Require voters to acknowledge fewer than 10 elements	Require voters to acknowledge more than 10 elements
Use blanket or general acknowledgements where possible	Use exhaustive lists of individual acknowledgements
Allow flexibility in the election code so that jurisdictions can design envelopes that meet their unique needs	Prescribe exact language and design components
Use reminders and instructions efficiently to maximize white space	Squeeze lots of text onto the envelope

What we learned in the readability analysis

The central question of the readability analysis was whether the voter statement—including all the text of the legal statement—is easy enough for voters to read that they are likely to understand the statement they sign.

Readability scores are one of the tools for assessing the complexity of a text. There are many reasons to be skeptical about them as an exact measure of how likely a voter is to understand the meaning of the text. As Ginny Redish and Caroline Jarrett have pointed out in their helpful explanation of how these formulas work, these algorithms only look at the mechanical structure of the text such as the number of syllables in a word and the number of words in a sentence.

Grade level is a meaningless concept when writing for adults. What we really care about—and what modern literacy assessments look for—is functional literacy: Can adults understand what they are reading?

- Caroline Jarrett and Ginny Redish. *Readability Formulas*²

The reality is that whether somebody understands a text depends on much more than its readability score. A short text with a poor readability score might communicate an idea more effectively than a longer text with a better score. The longer text might seem daunting to low literacy voters. Maybe the longer text can only fit on a fixed space like an envelope by drastically reducing the text size. These factors would not be captured by a readability score.

Another problem is that it's possible to "game the system" to improve the readability score by blindly slashing through a text while ignoring its communication goal. This may produce a better score, but it usually does little to help readers understand and use the information more easily.

All this said, we still find readability scores useful for a number of reasons. In our research, we found that there is at least a general correlation between the readability score a text receives and how understandable it is. Even this simplistic score can be used to compare the complexity of different texts,

² *Readability Formulas: 7 Reasons to Avoid Them and What to Do Instead* - Caroline Jarrett and Ginny Redish, UXMatters, 2019
www.uxmatters.com/mt/archives/2019/07/readability-formulas-7-reasons-to-avoid-them-and-what-to-do-instead.php

especially when other factors like clause count and word count are taken into consideration.

Readability tools like Hemingway Editor can also help writers identify words or phrases that make the text harder to read, so they can say exactly what's necessary while leaving out confusing and extraneous information. Finally, the results speak for themselves. In our analysis and demonstrations in the section on making mail-ballots easier, we show how readability scores can serve as one tool to help you make your ballot envelope shorter, simpler, and clearer.

Of course, the best way to find out how readable the information and oaths on a ballot envelope are is usability testing—observing voters while they complete the work of filling out the forms and packing the ballot to return.

Usability testing is a way to learn how easy or difficult it is for people to use something by observing them actually using it.

Basic resources to help you get started with usability testing are in Appendix B.

How we measured envelope text for readability

We used Hemingway Editor to calculate readability scores

Hemingway Editor calculates readability using the Automated Readability Index—a formula that considers 2 ratios: characters per words and words per sentences.

While there are many tools for assessing readability, we chose Hemingway Editor for 2 reasons. First, it is free and easy to use at hemingwayapp.com. Second, it flags issues in the text that explain why the text received the score that it did. These flags correspond to canonical plain language “rules” like using simple words instead of complex ones, using active voice instead of passive voice, and using simple sentences instead of complex ones. See Appendix B for resources on using plain language effectively.

So while it is useful that Hemingway Editor returns a readability score, its most useful feature is that it flags problems in the text that contribute to poor readability.

We normalized the texts to make them more comparable

Our goal in the readability analysis was to understand the range in readability in the voter statements.

To make sure we were comparing the texts fairly, despite differences in the formats, we followed these guidelines:

- **The analysis only includes the voter statement itself.** We left out the related text on the envelope, including witness or assistant information, voter instructions, or checklists.
- **We did not include form labels.** Some of the text in these statements is designed to cue the voter to enter information. On some envelopes, this part of the statement is formatted like a form. In others, it is presented as a cloze—a fill-in-the-blank space in the middle of a prose sentence.
- **We only considered complete sentences.** We removed any sentence fragments, headings, or single words like “date.”
- **We identified clauses consistently.** When counting clauses, we considered a clause to be any part of a complete sentence that contains a main verb, often set off by a semi-colon.

We collapsed readability scores into ranges

To further shift focus away from the hard numbers that readability scores produce, we converted readability scores to ranges that mirror the US public school system. Figure 16 shows how we matched our labels to each Hemingway score range.

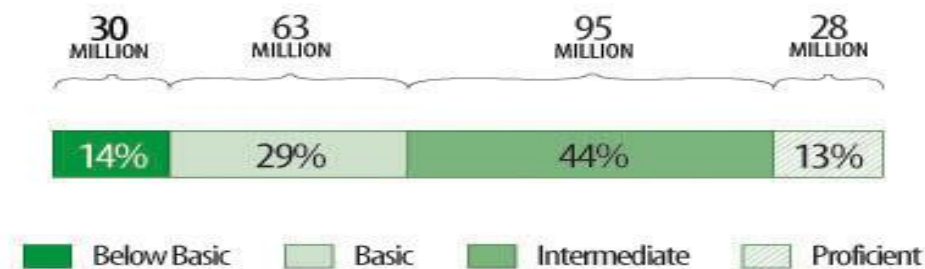
Figure 16. Readability scores collapsed into ranges

Our label	Hemingway score range
Early primary	1-4
Late primary	5-6
Middle school	7-8
High school	9-12
College	13-16
Post-graduate	17+

Many adults in the U.S. have trouble reading

The National Assessment of Adult Literacy (NAAL) has found that 43% of adult Americans read at the “basic” or “below basic” level (Figure 17). This means that nearly half of adult Americans can’t perform beyond “everyday literacy activities”. Kathryn Summers³, one of the leading experts on low literacy in adults, has interpreted this figure to mean that about half of adult Americans read at an 8th grade level or lower. Following this, we identify the middle school range as the target for good readability.

Figure 17. Adult literacy in the U.S.



Writing elections information that the millions of adults with low literacy can read is critical to effective participation. When we think about this in the context of a national election turnout, it could explain why voters with lower education and lower socio-economic status vote at lower rates.

Improving readability also benefits voters of high literacy. A number of studies have shown that even experts on a topic prefer texts that follow plain language and good design principles. This is because high literacy readers tend to scan, and texts that are easier to read are easier to scan.

Findings from our readability analysis

Readability scores range from primary school to post-grad

Despite any qualms about the usefulness of readability scores, it’s helpful to see that before any plain language interventions, we see a huge range in the readability of voter statements (see Figures 18 and 19)

³ Summers, K., & Summers, M. (2006). Reading and navigational strategies of Web users with lower literacy skills.

Both the mean and median readability score is post-graduate. 22 of the forms were rated at a high school reading level or higher. If we consider middle school to be the approximate threshold for what is likely to be readable for most adults, 22 (out of 26) states in our sample are currently using a ballot envelope that would be difficult for the average American voter to understand and use.

Figure 18. States by readability of their current voter statements

Median – Post-grad

Early primary (0)	Late primary (1)	Middle (3)	HS (4)	College (4)	Post-grad (14)
	NM	NE	MD	FL	AZ, MO
		NJ	IL	LA	CO, NV
		CA	NC	MI	DE, NY
			WI	TX	GA, OK
					KY, PA
					MA, TN
					OH, VA

We wondered why only 2 states from our analysis use bullets to organize information on the form. Bullets are an effective tool in “chunking” information, which makes each chunk easier to process and understand. Even with strict statutory language, bullets can be an effective strategy in improving readability while keeping the text consistent with the law.

We tried the simplest intervention: using bullets where possible without changing any of the language.

Figure 19. States by readability of voter statements with bullets

Median – Primary

Early primary (5)	Late primary (10)	Middle (6)	HS (4)	College (1)	Post-grad (0)
-------------------	-------------------	------------	--------	-------------	---------------

CO	NC	AZ	DE	LA	TX
MA	NM	CA	FL	KY	
MD	NV	MI	GA	MO	
OK	TN	NE	IL	OH	
PA	WI	NJ	VA		
			NY		

It turns out that just by adding bullets to forms, the readability can substantially improve.

Bullets can make a big difference

As we describe above, a simple and effective way to improve readability of a text is to break it up with bullets. In some cases, it's possible to drastically improve the readability of a ballot envelope form just by using bullets to split up complicated multi-clause sentences.

Break up long sentences

Oklahoma's form's readability improved from college to early primary simply by breaking up the long sentence into bullets.

Before	After
I, swear or affirm that I am qualified to vote in the election or elections in County, Oklahoma, to be held on, for which ballots are enclosed; I have marked the ballots myself; and I have not shown these marked ballots to any other person.	I swear or affirm that <ul style="list-style-type: none"> • I am qualified to vote in the election or elections in County, Oklahoma, to held on date, for which ballots are enclosed; • I have marked the ballots myself; and • I have not shown these marked ballots to any other person.
Readability: Post-graduate	Readability: Early primary

Break up complex bullets into single clauses

There are some cases in which the ballot envelope form already uses bullets, but still has poor readability. For example, New York updated its ballot statement for the 2020 General Election. Despite the fact that it uses bullets, it is rated at college level.

The problem is that the bullets in New York's form aren't serving their purpose. Bullets are meant to present each idea as a single point. Instead, New York's bullets contain as many as 5 clauses. By modifying the form so that each bullet contains as few clauses as grammatically possible, we can see that it's possible to significantly improve the readability of New York's form.

Before	After
<p>I do declare that</p> <ul style="list-style-type: none">• I am a citizen of the United States, that I am duly registered in the election district shown on the reverse side of this envelope and I am qualified to vote in such district;• that I will be unable to appear personally on the day of the election for which this ballot is voted at the polling place of the election district in which I am a qualified voter because of the reason given on my application heretofore submitted;• that I have not qualified nor do I intend to vote elsewhere, that I have not committed any act nor am I under any impediment which denies me the right to vote.	<p>I do declare that</p> <ul style="list-style-type: none">• I am a citizen of the United States,• that I am duly registered in the election district shown on the reverse side of this envelope and• I am qualified to vote in such district;• that I will be unable to appear personally on the day of the election for which this ballot is voted at the polling place of the election district in which I am a qualified voter because of the reason given on my application heretofore submitted;• that I have not qualified nor do I intend to vote elsewhere,• that I have not committed any act nor am I under any impediment which denies me the right to vote. <p>I hereby declare that</p>

Before	After
<p>I hereby declare that the foregoing is a true statement to the best of my knowledge and belief, and I understand that if I make any material false statement in the foregoing statement of absentee voter, I shall be guilty of a misdemeanor.</p>	<ul style="list-style-type: none"> • the foregoing is a true statement to the best of my knowledge and belief, and • I understand that if I make any material false statement in the foregoing statement of absentee voter, I shall be guilty of a misdemeanor.
<p>Readability: College</p>	<p>Readability: Middle school</p>

Sometimes bullets don't make a big difference

In some cases, adding bullets can only do so much to improve the readability of a ballot form. Louisiana's form also uses bullets with complex clauses. But in this case, when we introduce more bullets to simplify Louisiana's form, the result is a form that falls short of the target of middle school. In this case, using bullets is a good first step in improving the readability of the form—but only a first step.

Before	After
<ul style="list-style-type: none"> • I applied for and marked the enclosed ballot(s) myself, or they were marked for me according to my instructions and in my presence. (If registered for assistance and received assistance in voting, person assisting must sign the Assistance Acknowledgement below.) • I am entitled to vote at the above-listed precinct and hereby authorize the parish board of election supervisors to open this envelope and count my ballot. 	<ul style="list-style-type: none"> • I applied for and marked the enclosed ballot(s) myself, or they were marked for me according to my instructions and in my presence. (If registered for assistance and received assistance in voting, person assisting must sign the Assistance Acknowledgement below.) • I am entitled to vote at the above-listed precinct and hereby authorize the parish board of election supervisors to open this envelope and count my ballot. <p>I CERTIFY that</p>

Before	After
<ul style="list-style-type: none"> I CERTIFY that the statements made herein by me are true and correct and I am aware that the penalties for knowingly making a false statement herein are a fine of not more than \$2,000 or imprisonment with or without hard labor, for not more than two years, or both. 	<ul style="list-style-type: none"> the statements made herein by me are true and correct and I am aware that the penalties for knowingly making a false statement herein are a fine of not more than \$2,000 or imprisonment with or without hard labor, for not more than two years, or both.
Readability: College	Readability: High school

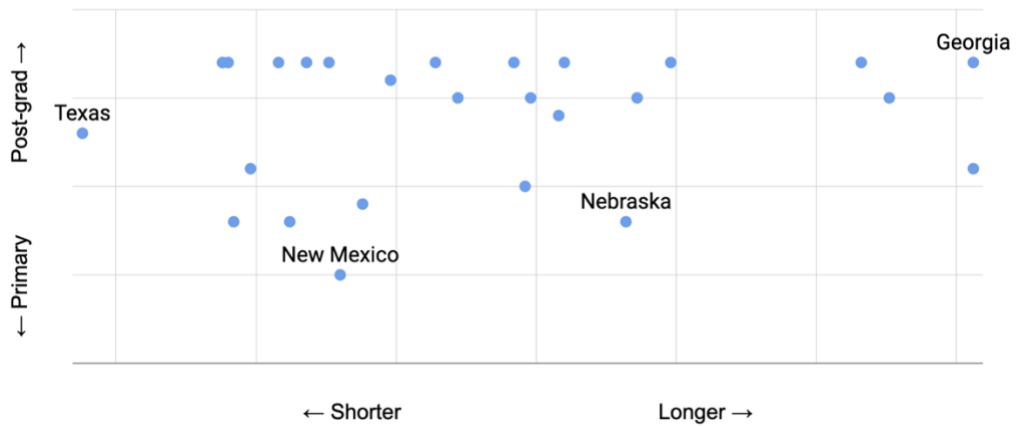
Shorter is usually better

There are many reasons to prefer shorter forms over longer ones. From a design perspective, shorter texts can fit more neatly onto a small envelope, especially when they compete for space with other required form elements.

From a readability perspective, short texts are generally easier to understand than longer ones. Reader fatigue tends to set in while reader focus tends to diminish as texts get longer.

However, in Figure 20, where each dot represents the relationship between the readability score and word count of each form—there is no correlation between readability and form length, with both long and short text having poor readability. This is most likely because of an obvious ceiling effect. Any association that might exist between readability and form length is not captured because most of the forms lie at the upper limit of the scale.

Figure 20. Number of words compared to readability



This graph shows that although shorter is usually better, there are good and bad ways of doing it. So while some of the data support the idea that shorter texts are more readable than longer ones (for example New Mexico vs. Georgia), there are some cases in which the opposite is true. Texas, by far the shortest form from our sample, was rated at the college reading level. In contrast, Nebraska, whose form is longer than the average form from our sample, was rated at the middle school reading level. Figure 21 summarizes these observations.

Figure 21. Readability vs. word count in 4 sample states

	State	Readability	Word count
Easy to read	New Mexico	Primary school	65
	Nebraska	Middle school	116
Hard to read	Texas	High school	19
	Georgia	Post-graduate	178

What happens if we address the ceiling effect? When we add bullets, the readability is less clustered at the top of the range, making it easier to see the relationship between the number of words and the readability of the text.

Figure 22 shows that after adding bullets, there is indeed a positive association between form length and readability; as forms get longer, they tend to become harder to read.

Figure 22. Comparing words to readability in samples with bullets



A checklist for readability

In the readability analysis, we learned about the large range in readability of the ballot envelopes and the heavy skew towards hard-to-read ballots from our sample. We also confirmed that a number of popular plain language strategies like using bullets and short, simple language are highly effective at improving the readability of ballot envelopes.

Figure 23 is a checklist to help you approach the task of using clear, concise language on your state's ballot envelope while maintaining its communicative and legal purposes.

Figure 23. The do's and don'ts of readable language on ballot envelopes

Do	Don't
Consider that the average American adult reads at a middle school level	Write for highly educated and experienced voters
Use tools like Hemingway Editor to gauge how readable your ballot envelope is	Rely on your intuition in deciding what might or might not be readable to voters
Use bullets wherever possible	Use long blocks of uninterrupted text
Make text shorter wherever possible	Squeeze lots of text onto the envelope
Do usability testing to really find out how readable your ballot envelope is	Rely solely on readability scores

Demonstrations

Making ballot envelope forms clear and accessible is a process in which each step brings you closer to the goal of readable and usable ballot envelopes. We show how to break down the whole process into a few simple steps. To help guide you through each step, we recommend using Hemingway Editor—a free online tool that tells you how easy or difficult your text is in real time. The demonstrations in this section are backed by our content analysis and our readability analysis.

These are just guidelines. You may be able to skip some steps. Or you might have to break a step into a few sub-steps. The point is that simplifying a form is easiest and most effective when you tackle one issue at a time.

Although we collapse readability scores into ranges in the section on *What we learned in the readability analysis*, we chose to show the actual scores in this section. We did this in order to show that Hemingway Editor's scoring system responds to changes in the text, sometimes disproportionately to changes in actual readability.

It is important to emphasize that readability scores are merely one measure of how readable a text is. The goal is a more readable text—not a lower readability score or word count. At the end of each step in the revision, review your work and compare it to the previous text and ask yourself: Is this more readable? Does this new revision accomplish all the same legal goals? These questions can often be resolved by doing usability testing. See *Appendix B* for more on usability testing.

The 3 demonstrations in this section illustrate that this process works for ballot envelope form text of all types, whether the text is long or short, or whether the text begins with a good or bad readability score.

Step 1: Simplify your sentences – Organize the text into meaningful chunks

- Use each sentence for one idea
- Turn sentences into bullets (even if short)

Step 2: Choose simpler words carefully – Use words that people are most likely to understand

- Use Hemingway Editor and Google Ngram Viewer to choose the simplest words

- Use words consistently

Step 3: Further simplification – Follow other plain language and design guidelines (There is a list of resources in Appendix A.)

- Cut out empty words and phrases
- Use active voice
- Use positive language
- Change clozes to label-field pairs

Step 4: Use blanket statements – Use single statements instead of a detailed list

- Ask whether it's necessary to include every acknowledgement or eligibility requirement
- Collapse categories

Post graduate to early primary (Virginia)

Original text	Final revision
I opened the envelope marked “ballot within” and marked the ballot(s) in the presence of the witness, without assistance or knowledge on the part of anyone as to the manner in which I marked it.	I opened my envelope and marked my ballot in the presence of the witness. I marked my ballot in secret without help.
Word count: 36 Readability: Post-grad	Word count: 22 Readability: 3

Transformations

<p>Revision 1: Simplify your sentences</p> <p>Word count: 37 Readability: 7</p> <ul style="list-style-type: none"> Use bullets to break up complex sentences 	<ul style="list-style-type: none"> I opened the envelope marked “ballot within” I marked the ballot(s) in the presence of the witness, without assistance or knowledge on the part of anyone as to the manner in which I marked it.
<p>Revision 2: Choose your words carefully</p> <p>Word count: 30 Readability: 3</p> <ul style="list-style-type: none"> Say <i>help</i> instead of <i>assistance</i> Remove phrases like on the part of and as to the manner in which 	<ul style="list-style-type: none"> I opened the envelope marked “ballot within” I marked the ballot(s) in the presence of the witness, without anyone’s help or knowledge about how I marked it.
<p>Revision 3: Further simplification</p> <p>Word count: 22 Readability: 1</p>	<ul style="list-style-type: none"> I opened my envelope I marked my ballot in the presence of the witness I marked my ballot in secret without help

Middle school to early primary (Nebraska)

Original text	Final revision
<p>I, the undersigned voter, declare that the enclosed ballot or ballots contained no voting marks of any kind when I received them, and I caused the ballot or ballots to be marked, enclosed in the identification envelope, and sealed in such envelope.</p> <p>To the best of my knowledge and belief, I declare under penalty of election falsification that:</p> <ul style="list-style-type: none"> • I [name] am a registered voter in [name] County; • I reside in the State of Nebraska at: [address] • I have voted the enclosed ballot and am returning it in compliance with Nebraska law; and • I have not voted and will not vote in this election except by this ballot. <p>I also understand that failure to sign below will invalidate my ballot.</p> <p>Signature Print your voter registration address</p>	<p>I declare that</p> <ul style="list-style-type: none"> • the enclosed ballot or ballots were blank when I received them • I marked and packed my ballot or ballots myself • I am qualified to vote in Nebraska at the address below • I will follow all of Nebraska’s election laws <p>I understand that I must sign below for my ballot to count.</p> <p>Signature Print name Print your voter registration address</p>
<p>Word count: 116 Readability: 8</p>	<p>Word count: 55 Readability: 2</p>

Transformations

<p>Revision 1: Simplify your sentences Word count: 116 Readability: 6</p>	<p>I, the undersigned voter, declare that</p> <ul style="list-style-type: none"> • the enclosed ballot or ballots contained no voting marks of any kind when I received them,
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<ul style="list-style-type: none"> Use bullets to break up the first section 	<ul style="list-style-type: none"> and I caused the ballot or ballots to be marked, enclosed in the identification envelope, and sealed in such envelope. <p>To the best of my knowledge and belief, I declare under penalty of election falsification that:</p> <ul style="list-style-type: none"> I [name] am a registered voter in [name] County; I reside in the State of Nebraska at: [address] I have voted the enclosed ballot and am returning it in compliance with Nebraska law; and I have not voted and will not vote in this election except by this ballot. <p>I also understand that failure to sign below will invalidate my ballot.</p> <p>Signature Print your voter registration address</p>
<p>Revision 2: Choose your words carefully Word count: 116 Readability: 6</p> <ul style="list-style-type: none"> Say <i>live</i> instead of <i>reside</i> 	<p>I, the undersigned voter, declare that</p> <ul style="list-style-type: none"> the enclosed ballot or ballots contained no voting marks of any kind when I received them, and I caused the ballot or ballots to be marked, enclosed in the identification envelope, and sealed in such envelope. <p>To the best of my knowledge and belief, I declare under penalty of election falsification that:</p> <ul style="list-style-type: none"> I [name] am a registered voter in [name] County; I live in the State of Nebraska at: [address] I have voted the enclosed ballot and am returning it in compliance with Nebraska law; and I have not voted and will not vote in this election except by this ballot. <p>I also understand that failure to sign below will invalidate my ballot.</p> <p>Signature Print your voter registration address</p>
<p>Revision 3: Further simplification Word count: 101 Readability: 3</p> <ul style="list-style-type: none"> Cut out empty words and phrases Use positive language 	<p>I declare that</p> <ul style="list-style-type: none"> the enclosed ballot or ballots were blank when I received them, and I marked and packed my ballot or ballots myself. <p>To the best of my knowledge and belief, I declare under penalty of election falsification that:</p> <ul style="list-style-type: none"> I am a registered voter in the county below; I live in the State of Nebraska at the address below I have voted the enclosed ballot and am returning it in compliance with Nebraska law; and I will vote in this election only by this ballot.

<ul style="list-style-type: none"> Change clozes to label-field pairs 	<p>I also understand that I must sign below for my ballot to count. Any person</p> <p>Signature Print name County Print your voter registration address</p>
<p>Revision 4: Use blanket statements Word count: 55 Readability: 2</p> <ul style="list-style-type: none"> Collapse voting qualifications and legal acknowledgements 	<p>I declare that</p> <ul style="list-style-type: none"> the enclosed ballot or ballots were blank when I received them I marked and packed my ballot or ballots myself I am qualified to vote in Nebraska at the address below I will follow all of Nebraska's election laws <p>I understand that I must sign below for my ballot to count.</p> <p>Signature Print name Print your voter registration address</p>

Post graduate to early primary (Georgia)

Original text	Final revision
<p>I, the undersigned, do swear (or affirm) that I am a citizen of the United States and of the State of Georgia; that I possess the qualifications of an elector required by the laws of the State of Georgia; that I am entitled to vote in the precinct containing my residence in the primary or election in which this ballot is to be cast; that I am eligible to vote by absentee ballot; that I have not marked or mailed any other absentee ballot, nor will I mark or mail another absentee ballot for voting in such primary or election; nor shall I vote therein in person; and that I have read and understand the instructions accompanying this ballot; and that I have carefully complied with such instructions in completing this ballot. I understand that the offer or acceptance of money or any other object of value to vote for any particular candidate, list of candidates, issue, or list of issues included in this election constitutes an act of voter fraud and is a felony under Georgia law.</p>	<p>I swear (or affirm)</p> <ul style="list-style-type: none"> • that I am qualified to vote in Georgia; • that I will follow all of Georgia’s election laws; • that I have read and understand the instructions; • and that I have followed the instructions in completing this ballot. <p>Voter fraud is a crime in Georgia</p>
<p>Word count: 178 Readability: Post-graduate</p>	<p>Word count: 48 Readability: 3</p>

Transformations

Step	Text
<p>Revision 1: Simplify your sentences Word count: 178 Readability: 8</p>	<p>I, the undersigned, do swear (or affirm) that</p> <ul style="list-style-type: none"> • I am a citizen of the United States and of the State of Georgia; • that I possess the qualifications of an elector required by the laws of the State of Georgia; • that I am entitled to vote in the precinct containing my residence in the primary or election in which this ballot is to be cast;

<ul style="list-style-type: none"> • Use bullets to break up the text • Bullets increase white space, making each chunk easier to read and understand 	<ul style="list-style-type: none"> • that I am eligible to vote by absentee ballot; • that I have not marked or mailed any other absentee ballot, nor will I mark or mail another absentee ballot for voting in such primary or election; • nor shall I vote therein in person; • and that I have read and understand the instructions accompanying this ballot; • and that I have carefully complied with such instructions in completing this ballot. • I understand that the offer or acceptance of money or any other object of value to vote for any particular candidate, list of candidates, issue, or list of issues included in this election constitutes an act of voter fraud and is a felony under Georgia law.
<p>Revision 2: Choose your words carefully Word count: 176 Readability 7</p> <ul style="list-style-type: none"> • Replace complex words like <i>residence</i> with <i>address</i>. • Qualified, eligible, and entitled all mean the same thing 	<p>I, the undersigned, do swear (or affirm) that</p> <ul style="list-style-type: none"> • I am a citizen of the United States and of the State of Georgia; • that I am a qualified elector required by the laws of the State of Georgia; • that I am qualified to vote in the precinct containing my address in the primary or election in which this ballot is to be cast; • that I am qualified to vote by absentee ballot; • that I have not marked or mailed any other absentee ballot, nor will I mark or mail another absentee ballot for voting in such primary or election; • nor will I vote therein in person; • and that I have read and understand the instructions accompanying this ballot; • and that I have carefully complied with such instructions in completing this ballot. • I understand that the offer or acceptance of money or any other object of value to vote for any particular candidate, list of candidates, issue, or list of issues included in this election is an act of voter fraud and is a felony under Georgia law.
<p>Revision 3: Further simplification Word count: 136 Readability: 6</p>	<p>I swear (or affirm) that</p> <ul style="list-style-type: none"> • I am a citizen of the United States and of the State of Georgia; • that I am qualified to vote according to the laws of the State of Georgia; • that I am qualified to vote in my precinct in this primary or election; • that I am qualified to vote by absentee ballot;

<ul style="list-style-type: none"> • Cut out unnecessary words • Use positive language 	<ul style="list-style-type: none"> • that I will vote only in my jurisdiction in this primary or election; • and that I have read and understand the instructions accompanying this ballot; • and that I have followed the instructions in completing this ballot. • I understand that offering or accepting money or any other object of value to vote for any particular candidate, list of candidates, issue, or list of issues in this election is an act of voter fraud and is a felony under Georgia law.
<p>Revision 4: Use blanket statements Word count: 48 Readability: 3</p> <ul style="list-style-type: none"> • Collapse voting qualifications 	<p>I swear (or affirm)</p> <ul style="list-style-type: none"> • that I am qualified to vote in Georgia; • that I will follow all of Georgia’s election laws; • that I have read and understand the instructions; • and that I have followed the instructions in completing this ballot. <p>Voter fraud is a crime in Georgia</p>

An alternative simplification

In 2020, Gwinnett County, Georgia was required to make all the text on their vote by mail envelopes appear in Spanish in addition to English. This change effectively reduced the available space on a ballot envelope by half. In order to meet this challenge, Gwinnett had to make changes to the language of the original form so that it would fit alongside the Spanish.

Georgia original	Gwinnett
<p>I, the undersigned, do swear (or affirm) that I am a citizen of the United States and of the State of Georgia; that I possess the qualifications of an elector required by the laws of the State of Georgia; that I am entitled to vote in the precinct containing my residence in the primary or election in which this ballot is to be cast; that I am eligible to vote by absentee ballot; that I have not marked or mailed any other absentee ballot, nor will I mark or mail another absentee ballot for voting in such primary or election; nor shall I vote therein in person; and that I have read and understand the instructions accompanying this ballot; and that I have carefully complied with such instructions in completing this ballot. I understand that the offer or acceptance of money or any other object of value to vote for any particular candidate, list of candidates, issue, or list of issues included in this election constitutes an act of voter fraud and is a felony under Georgia law.</p>	<p>I, the undersigned, do swear (or affirm) that</p> <ul style="list-style-type: none"> • I am a citizen of the United States and of the State of Georgia. • I possess the qualifications of an elector; • I am entitled to vote in the precinct containing my residence in the primary or election. • I have not marked or mailed any other absentee ballot, nor shall I vote in person. <p>I understand the instructions and that the offer or acceptance of money or any other object of value to vote for any particular candidate, list of candidates, issue, or list of issues included in this election constitutes an act of voter fraud and is a felony under Georgia law.</p>
<p>Word count: 178 Readability: Post-graduate</p>	<p>Word count: 110 Readability: 7</p>

Gwinnett County used a number of the strategies that we discuss in the following sections to accomplish their goal:

- Use bullets to break up complex sentences
- Cut out empty words and phrases

- Reduce qualifications and legal acknowledgements to single or blanket statements

The result is striking.

Gwinnett's version is a substantial improvement in both length and readability over the original form. Not only did they solve the original problem of limited space, but they also made their form much easier to read and comprehend for both English and Spanish speakers.

Appendices

The first two appendixes have additional reading and resources for writing in plain language. The third describes in detail how to use a tool to discover which words are most widely used.

- Appendix A – Selected reading about plain language
- Appendix B – Resources for plain language and usability
- Appendix C – Using the Google Ngram Viewer

Appendix A – Selected reading about plain language

Articles

Writing Clear Instructions and Messages for Voters and Poll Workers.

Janice C. Redish and Sharon J. Laskowski, NIST IR 7596, May 2009

<https://www.nist.gov/publications/guidelines-writing-clear-instructions-and-messages-voters-and-poll-workers>

Readability Formulas: 7 Reasons to Avoid Them and What to Do Instead

Caroline Jarrett and Janice “Ginny” Redish, 2019

www.uxmatters.com/mt/archives/2019/07/readability-formulas-7-reasons-to-avoid-them-and-what-to-do-instead.php

More Alike Than We Think

Whitney Quesenbery, 2006

www.uxmatters.com/mt/archives/2019/07/readability-formulas-7-reasons-to-avoid-them-and-what-to-do-instead.php

Books

Forms that Work: Designing Web Forms for Usability

Caroline Jarrett, Gerry Gaffney, 2008

Letting Go of the Words: Writing Web Content that Works (2nd Edition)

Janice C. Redish, Morgan Kauffman, 2012

Lifting the Fog of Legalese: Essays on Plain Language

Joseph Kimble, Carolina Academic Press, 2005

Plain English for Lawyers (6th Edition)

Richard C. Wydick and Amy E. Sloan, Carolina Academic Press, 2019

Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability (3rd Edition)

Steve Krug, New Riders, 2013

Research

Carpenter, P. A., & Just, M. A. (1975). Sentence comprehension: A psycholinguistic processing model of verification. *Psychological Review*, 82(1), 45–73. <https://doi.org/10.1037/h0076248>

Positive statements that describe a picture are more quickly verified as being a match than negative statements that describe the same picture

Coleman, E. B., & Blumenfeld, J. P. (1963). Cloze scores of nominalizations and their grammatical transformations using active verbs. *Psychological Reports*, 13(3), 651–654. <https://doi.org/10.2466/pr0.1963.13.3.651>

Cloze tests that contain active verbs are easier to complete than cloze tests that contain nominalizations.

Coleman, E. B. (1964). The comprehensibility of several grammatical transformations. *Journal of Applied Psychology*, 48(3), 186–190. <https://doi.org/10.1037/h0040440>

Sentences written with active verbs and other simple verbs are more easily recalled than sentences written with passive verbs, other complex verbs, and nominalizations.

Coleman, E. B. (1965). Learning of prose written in four grammatical transformations. *Journal of Applied Psychology*, 49(5), 332–341. <https://doi.org/10.1037/h0022472>

Active sentences are more easily recalled than passive sentences.

Elhadad N. (2006). Comprehending technical texts: predicting and defining unfamiliar terms. *AMIA ... Annual Symposium proceedings. AMIA Symposium, 2006*, 239–243.

“Frequency of word usage in a large corpus is a good predictor of its familiarity. High frequency words are usually found to elicit a higher recognition than low frequency words.”

Gough, P. B. (1965). Grammatical transformations and speed of understanding. *Journal of Verbal Learning & Verbal Behavior*, 4(2), 107–111. [https://doi.org/10.1016/S0022-5371\(65\)80093-7](https://doi.org/10.1016/S0022-5371(65)80093-7)

Positive statements that describe a picture are more quickly verified as being a match than negative statements that describe the same picture.

Just, M. A., & Clark, H. H. (1973). Drawing inferences from the presuppositions and implications of affirmative and negative sentences. *Journal of Verbal Learning & Verbal Behavior*, 12(1), 21–31. [https://doi.org/10.1016/S0022-5371\(73\)80057-X](https://doi.org/10.1016/S0022-5371(73)80057-X)

Questions about statements that contain positive verbs (e.g., *remember*) and positive adjectives (e.g., *thoughtful*) can more quickly be answered than questions about statements that contain negative verbs (e.g., *forget*) and negative adjectives (e.g., *thoughtless*).

Olson, D. R., & Filby, N. (1972). On the comprehension of active and passive sentences. *Cognitive Psychology*, 3(3), 361–38. [https://doi.org/10.1016/0010-0285\(72\)90013-8](https://doi.org/10.1016/0010-0285(72)90013-8)

Active statements that describe a picture are more quickly verified as being a match than passive statements that describe the same picture.

Randall, J. (2019). How Just Is Justice? Ask a Psycholinguist. In K. Carlson, C. Clifton, & J. D. Fodor (Eds.), *Grammatical Approaches to Language Processing* (Vol. 48, pp. 275–308). Springer International Publishing. https://doi.org/10.1007/978-3-030-01563-3_15

Jury instructions written with simple words and active voice are more easily understood than jury instructions written with complex words and passive voice.

Spyridakis, J.H., & Isakson, C.S. (1998). Nominalizations vs. Denominalizations-Do They Influence What Readers Recall.pdf. *Journal of Technical Writing and Communication*, 28(2), 163–188.

Passages that contain no nominalizations are easier to understand than passages that contain many nominalizations. This was only true when the meaning of the nominalization was integral to understanding the entire passage.

Wason, P. C., & Jones, S. (1963). Negatives: Denotation and connotation. *British Journal of Psychology*, 54(4), 299–307.

Statements that contain positive statements are easier to understand than statements that contain negative statements (i.e., statements that use *not*).

Other research

Kirsch, I. S., United States., Educational Testing Service., & National Center for Education Statistics. (1993). *Adult literacy in America: A first look at the results of the National Adult Literacy Survey*. Washington, D.C: Office of Educational Research and Improvement, U.S. Dept. of Education.

Kutner, M., Greenberg, E., Jin, Y., & Paulsen, C. (2006). *The Health Literacy of America's Adults: Results From the 2003 National Assessment of Adult Literacy* (Rep.). Retrieved <https://nces.ed.gov/pubs2006/2006483.pdf>

Summers, K., & Langford, J. (2015). The Impact of Literacy on Usable and Accessible Electronic Voting. In M. Antona & C. Stephanidis (Eds.), *Universal Access in Human-Computer Interaction. Access to the Human Environment and Culture* (Vol. 9178, pp. 248–257). Springer International Publishing. https://doi.org/10.1007/978-3-319-20687-5_24

Summers, K., & Summers, M. (2006). Reading and navigational strategies of Web users with lower literacy skills. *Proceedings of the American Society for Information Science and Technology*, 42(1). doi:10.1002/meet.1450420179

The Election Administration and Voting Survey, 2016 Comprehensive Report (p. 226). (2016). Election Assistance Commission. https://www.eac.gov/sites/default/files/eac_assets/1/6/2016_EAVS_Comprehensive_Report.pdf

Appendix B – Resources for plain language and usability

Guidelines

Field Guides to Ensuring Voter Intent

Design and plain language guidelines for election materials in 10 pocket-sized volumes.

<https://civicdesign.org/fieldguides/>

Plain Language.gov

The Plain Language Action and Information Network (PLAIN) and the General Services Administration

<https://plainlanguage.gov/>

National Assessment of Adult Literacy

National Center for Education Statistics, US Department of Education

<https://nces.ed.gov/naal/>

Guidelines for Document Designers

American Institutes for Research, National Institute of Education

https://redish.net/wp-content/uploads/Guidelines_for_Document_Designers_2014.pdf

Usability resources

Plain language guidelines and usability testing

We rely on guidelines for plain language from a variety of sources, including the National Assessment of Adult Literacy for information about the difference between the vocabulary and reading skills of adults and children.

As we found in our research on voter guides in California⁴ and other work, bridging civic literacy gaps requires more than just plain language. There are many terms of art in elections that are based on simple words, but are not well-understood. They include words like *party*, *primary election*, *polls*, *endorsement*, and *even early voting*. Participants in our research needed additional hints to be able to interpret and make use of the information.

⁴ *How voters get information: Best practices for official voter information guides*, created with the League of Women Voters of California Education Fund.
<https://civicdesign.org/projects/how-voters-get-information/>

The key to making ballot statements truly readable is user research and usability testing. By watching voters read sample materials and asking them to explain the meaning of what they read, it is easy to find out what words and phrases might be misunderstood.

Usability Testing Kit

<https://electiontools.org/tool/usability-testing-kit/>

ElectionTools.org, Center for Tech and Civic Life and Center for Civic Design

Field Guide Vol 3 Testing ballots for usability

<https://civicdesign.org/fieldguides/testing-ballots-for-usability/>

Tools for writing plainly

Hemingway Editor

hemingwayapp.com, 38 Long, LLC

Google Ngram Viewer

books.google.com/ngrams, Google

Appendix C – Using the Google Ngram Viewer

The methods that we describe in this report will get you most of the way to making ballot envelope forms shorter, simpler, and clearer. In this section you can find some extra readings and resources that can help you solidify your understanding of what makes a good ballot envelope form

Corpus tools to compare simple and complex words

Every plain language guide prescribes simple words over complex ones. But these guides rarely describe how to gauge a word's difficulty, especially when comparing it to other similar words. Is *help* simpler than *assist*? How do we know for sure that *statement* is simpler than *affidavit*? It's usually up to the writer to use their intuition in making that choice.

Luckily, linguists have developed reliable methods for identifying difficult or complex words. These methods are largely based on the important discovery that one of the strongest indicators of a word's complexity is its relative frequency. That is to say that **we are more likely to understand words that we regularly encounter than words that are rare.**

The most reliable way to assess the frequency of words or phrases in common use are by using large collections of natural language called corpora (singular: corpus). A corpus is compiled with the goal of reflecting how people use language in real life. It is a sample of the language of a community. A speech community can be as small as a village or as large as the entire English speaking world. The basic idea is that if *help* is more frequent than *assist* in a large corpus, then we can reasonably conclude that in general, *help* is more frequent than *assist*. Thus *help* is simpler than *assist*.

This method works similarly to how the US Census Bureau makes conclusions about large populations. Rather than collecting data from every single person in a population, census workers use sampling methods to selectively collect data in a way that is representative of the whole population. They then extrapolate the conclusions made in the sample on the entire population.

Google Ngram Viewer overview

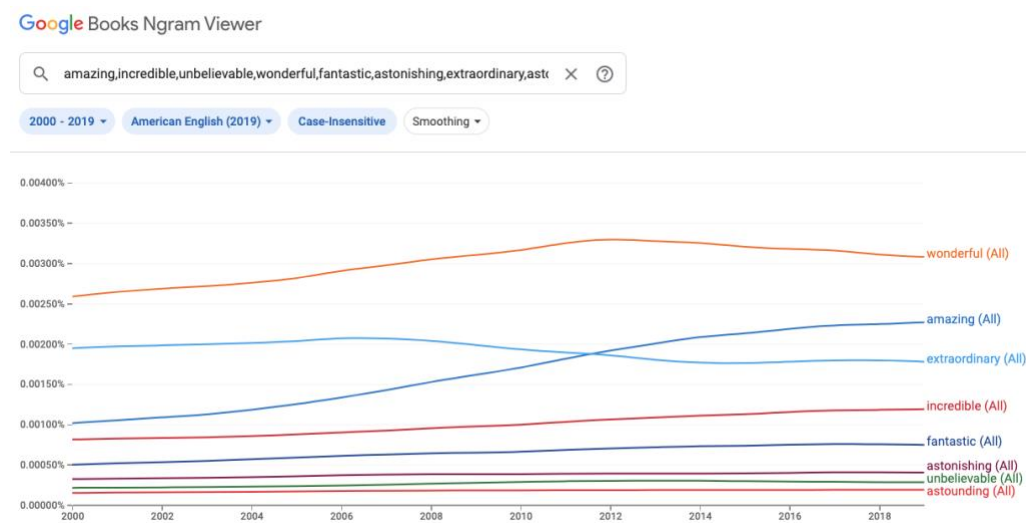
While there are many corpora available, we recommend Google Books because it is large, free, powerful, and easy to use. It contains around 40 million books written between 1500 and 2019. Anybody can freely access Google Books with

Google Ngram Viewer⁵—a web interface that allows users to chart and compare word frequencies as they appear in Google Books.

Searching is easy

To compare 2 or more words, type them in the search bar, separated by commas (with no spaces). There is no limit to the number of words you can compare in a single search. This is useful because sometimes you might want to decide which word among many is the simplest word to use. We can see from Figure 24 that *wonderful* has consistently been the most frequent word of all its synonyms over the last 2 decades.

Figure 24. Google Ngram - Frequency of *wonderful* and its synonyms



The search is powerful

You can narrow or broaden your search as necessary. Although the texts in the corpus go back to 1500, it's possible to restrict the search to any period using the first dropdown menu below the search bar.

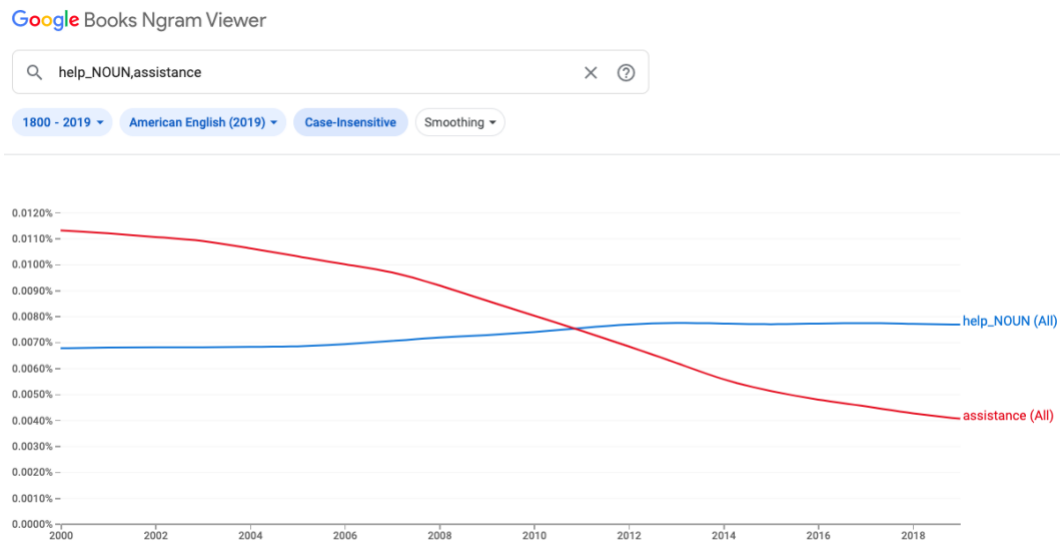
It's also possible to only look through a sub-section of the corpus based on the origin of the books. For example, you can decide to include results from books written in American English, British English, or English in general using the second dropdown menu below the search bar.

⁵ Google Books Ngram Viewer: What does the ngram do?
<https://books.google.com/ngrams/info>

In some cases, you might need to specify the part of speech. Let's say you want to compare the frequencies of *help* and *assistance*. Because *help* can be used as a verb or a noun (e.g., *I help my sister* vs. *My grandma doesn't need help*), while *assistance* can only be used as a noun, it's important to account for these differences. It's possible to do this directly in the search bar by following this format: word_PARTOFSPEECH

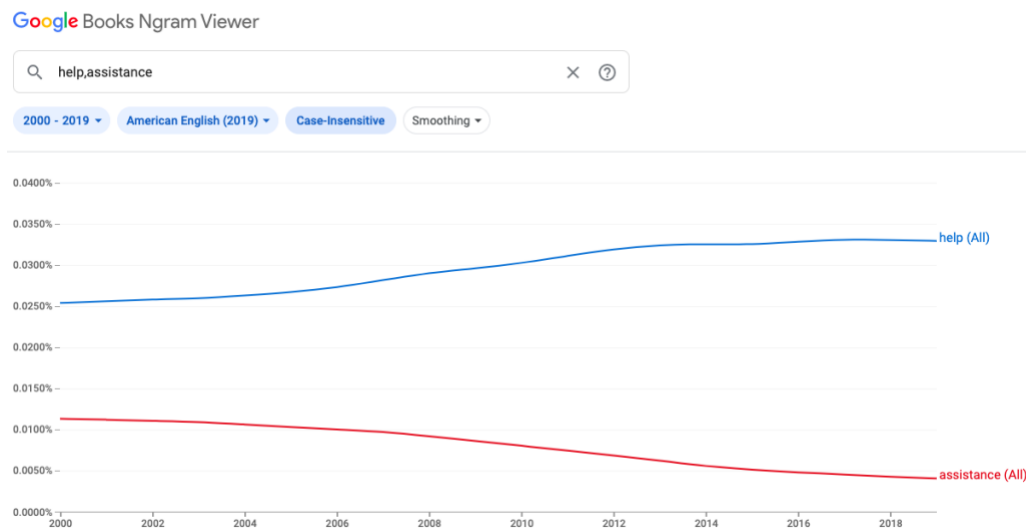
So if we want to compare the noun *help* to *assistance*, it would look like Figure 25.

Figure 25. Google Ngram - Frequency of *help* as a noun and *assistance*



This chart tells an interesting story about *help* as a noun vs. *assistance*. While *assistance* was more frequent than *help* 20 years ago, it seems that in the last 9 years, *assistance* has declined in use, making *help* the more frequent word today. This highlights the reality that language is constantly in flux. What would've been the preferred term a decade ago is slowly becoming a relic of the past as a new preferred term emerges. We would not have been able to make this observation if we would've compared *help* (as a noun and a verb) and *assistance*, shown in Figure 26.

Figure 26. Google Ngram - Frequency of *help* and *assistance*

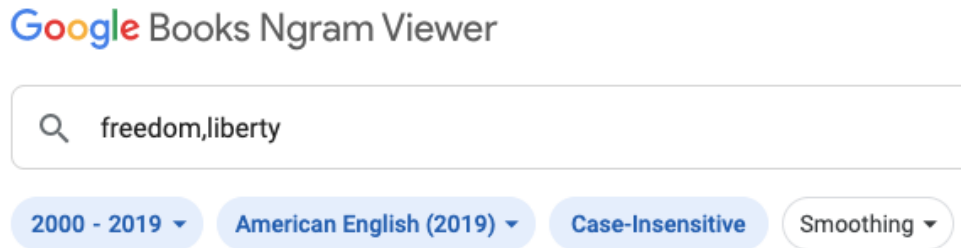


Google Ngram– a quick guide

1. Go to books.google.com/ngrams
2. In the search bar at the top, type the words or phrases that you want to compare, separated by commas (no spaces).
3. In the menus below the search bar, choose the range in years, the corpus you want to use, and select whether you want the search to take letter case into account.
 - **Choose years** – Keep it recent (10-20 years). While it's interesting to see how words have changed in use over long periods of time, it's most relevant to understand how they have changed in the last few decades.
 - **Choose corpus** – Keep it local (American English). Most Americans speak some version of American English. If we want to understand what words are simple or difficult for Americans to understand, then it's important to look in a sub-corpus that only contains relevant data.
 - **Case** – Keep it broad (insensitive). Whether a word is capitalized depends on a lot of factors, but none of these factors are important for assessing how complex a word is. We want the search to find words whether they're capitalized or not.

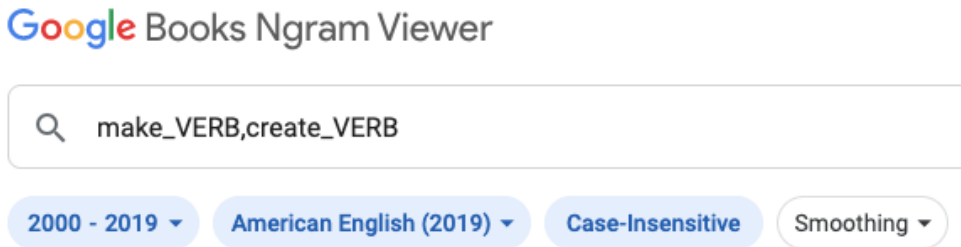
Once you have decided all your search settings, it should look something like Figure 27.

Figure 27. Google Ngram - Search settings



4. If you want to specify part of speech, include those tags in the search, shown in Figure 28.

Figure 28. Google Ngram - Including part of speech tags in Google Ngram searches



5. Hit enter to see the charted frequencies. Because we're comparing frequencies, the numbers on the y-axis are largely unimportant. What's more important to consider are the relative shapes of the 2 (or more) lines that represent word frequencies over time. There are 2 factors to consider when comparing frequencies:
 - **Current statistics** – Which word is most frequent today? See where the lines end at the right side of the chart
 - **Statistics over time** – Have things changed in the past few decades? If the lines intersect anywhere on the chart, that means that what was the more frequent word in the past is now less frequent than other options.

When these tools can lead you astray

Corpus frequency is not always the best reflection of what words people are most likely to understand. Sometimes the relatively less frequent word is the word that people are more likely to use, depending on the context.

For example, even though *incarcerated* is far less frequent than the phrase *in prison*, those who are part of the prison community are almost certainly going

to understand and maybe even prefer *incarcerated*. Sometimes it's better to ask "what would people say in this situation?"

Often, these problems only reveal themselves during usability testing. In 2014, Center for Civic Design was involved in a research project that examined what accessible ballots look like for voters with low literacy or with mild cognitive disabilities. In one study, we noticed that participants had trouble understanding the word *choices*. Throughout the ballot, *choices* was used to refer to both available options (e.g., *You have two choices left*) and to the voter's past selections (e.g., *Review your choices*). This ambiguity led some voters to think that *review your choices* meant that they had to make more choices.

To resolve this problem, we changed *review your choices* to say *review your votes* and the problem largely disappeared. If we use Google Ngram Viewer to compare the frequencies of *choices* and *votes*, it's clear that *choices* is the more frequent word, shown in Figure 29. In this context, the less common word *votes* turned out to be the clearer word.

Figure 29. Google Ngram - Frequency of *choices* and *votes*

