

Making Ballot Language Understandable to Voters

Sharon J. Laskowski
National Institute of Standards and Technology
sharon.laskowski@nist.gov

Janice (Ginny) Redish¹
Redish & Associates, Inc.
ginny@redish.net

Abstract

The wording and placement of instructions can help or hinder voters from successfully voting for their choices. No research has been done specifically on the language of instructions to voters, but we can draw best practices from research in several related disciplines. A recent study by the authors shows that typical ballots in the United States violate many of the best practices drawn from research. In this paper, we discuss and offer examples of the gap between best practice in giving instructions and the instructions that many voters see as they try to vote. We discuss the research on which we draw for these best practices and the need to study the applicability of this research in the specific context of voting instructions.

Background: HAVA, NIST, and usability

The 2002 Help America Vote Act (HAVA) assigns the National Institute of Standards and Technology (NIST) a key technical role in assisting with nationwide improvements for voting systems. (See <http://vote.nist.gov>.) In particular, NIST provides research support to the Technical Guidelines Development Committee (TGDC) established by HAVA to develop voluntary voting system guidelines which are then delivered to the Election Assistance Commission. This paper describes some of NIST's work improving the usability and accessibility of voting systems in response to the TGDC's resolutions #08-05 Usability Guidance for Instructions, Ballot Design, and Error Messages and #06-05 Accommodating a Wide Range of Human Abilities. (See <http://vote.nist.gov/Official%20w-o%20signature.pdf> for the full text.)

These resolutions recognize that all voting systems (not just the equipment designated as "accessible") must be designed for a large range of abilities. Voters may

- be inexperienced,
- arrive at the polling place tired and stressed,
- have limited English proficiency or low literacy, or
- have reading, learning, or cognitive disabilities.

A good overview of how readability of information can be enhanced for people with cognitive disabilities through clear, concise language can be found in a publication of the National Center for the Dissemination of Disability Research (NCDDR 2003).

Ballot language is important

Clear instructions are a necessary part of the voting process whether voters are working with paper or electronic ballots.

Voters are exercising an important right as citizens. If they cannot understand how to use their voting materials, they may not be successful in voting for the candidates and positions of their choice.

They may make mistakes that invalidate their ballots. They may vote for candidates or positions that are not the ones they meant to vote for. They may be intimidated by unclear or insufficient instructions and give up without voting. Indeed, they may choose not to try to vote.

Language and design are critical factors in the usability of any document, whether that document is on paper or on a computer screen. This is as true of ballots as of any other document. Further, usability is as important as security and reliability in providing a successful experience to voters.

Little research exists on ballot language

In 2002, R. Michael Alvarez wrote:

Unfortunately, I am aware of no research on voting instructions... I have encountered no academic research on this important aspect of ballot design. This research vacuum needs to be filled, quickly.

The authors of this paper have begun to fill that research vacuum.² This paper is a report of the initial steps in research on voting instructions.

Relevant research can be found in many related disciplines

Although little has been done to study the language of instructions for voting, a large body of relevant research exists on how people read, on the effectiveness of writing in plain language, and on how to present instructions that people follow successfully.

We can draw best practices for writing instructions from many sources in fields such as:

- cognitive psychology
- human-computer interaction
- information design
- linguistics
- reading
- technical writing

For reviews of relevant research before 1980, see (Felker, et al., 1980; Felker, et al., 1981). For a review of work done in the 1980s, see (Carroll, 1990; Redish, 1993). For a more recent review of work in information design and writing, see (Schriver, 1997). Also see resources at www.plainlanguage.gov, www.plainlanguagenetwork.org, and www.usabilityprofessionals.org/usability_resources.

Many instructions to voters violate best practices

A recent study (Redish, 2005) shows that many ballots in the United States include instructions that are more likely to hinder than to help voters.

Methodology

We reviewed

- more than 100 paper ballots
- sample ballots on three Direct Recording Electronic voting machines (DREs)
- the online demonstration of voting on the web site of a fourth DRE

The paper ballots came from all 50 states and the District of Columbia. They encompassed elections from 1998, 2000, and 2004, represented a wide range of voting situations. Some of the paper ballots can be found at <http://vote.nist.gov/ballots.htm>.

In working with the DREs, we also reviewed

- the instructions for voters on how to move through the ballot
- messages to voters that might appear as they are voting (for example, asking the voter to confirm a change in straight party voting from one party to another party)

- system messages that might appear to the voter or to a poll worker when something goes wrong

We reviewed all of these instructions and messages in light of best practices which we drew from the research in the disciplines cited above.

Results

Most, if not all, ballots, both on paper and on screen, violate at least some of the best practices. In this paper, we have room to show only a few examples from our study. See (Redish, 2005) for the complete description of our analysis of the gap between best practices and typical ballot instructions. See (Redish, 2006) for preliminary work towards what might be guidance for vendors of voting equipment and/or for election officials.

Note that the examples of poor practice in this paper come from actual DRE or paper ballots used in United States elections. We do not identify the specific election or equipment because our purpose is not to single out any particular election official or any particular equipment vendor for poor practice. Our purpose is to use these examples to help all election officials and vendors improve the instructions they give to voters.

Best Practice 1.

Tell people about consequences *before* they are likely to act.

Research on instructions shows that many people act as soon as they see something that seems relevant. They do not read further to see if there are conditions, constraints, or consequences for those actions (Carroll, 1990; Redish, 1988, 1993).

Consider Example 1A. It is the screen that voters on one DRE see when they select VOTE but have undervoted in at least one contest.

The research on how people act predicts that many voters will press Confirm when they get to the second message without reading either the note or the instructions on how to return to previous pages of the ballot.

Best Practice 1 could easily be put into the voting guidelines the TGDC and NIST are developing. It would be simple to test and confirm that a DRE meets this guideline.³

X Example 1A (poor practice)

Ballot not complete!

You have not made a choice in some contests.

Press "Confirm" or the Vote button to finish casting your ballot.

Note: Once you press "Confirm" you cannot return to the ballot to make changes.

Press "Return to ballot" to make changes or selections.

Example 1B shows what the same screen would look like if it followed best practices on how people act.

✓ Example 1B (good practice)

Ballot not complete!

You have not made a choice in some contests.

Note: Once you press "Confirm" you cannot return to the ballot to make changes.

To make changes or selections, press "Return to ballot."

If you are ready to cast your ballot, press "Confirm" or the Vote button.

Best Practice 2.

Put the context before the action in each instruction

Other research shows how important a similar principle is even on the sentence level. Dixon (1987) investigated what people did with instructions that had two parts: contextual information and an instruction to act.

Here is one of many examples from Dixon's study:

Order: context first, then action:

This will be a picture of a wine glass. Draw a triangle on top of an upside-down T.

Order: action first, then context:

Draw a triangle on top of an upside-down T. This will be a picture of a wine glass.

Dixon was most interested in what people did with the action first order. Two hypotheses are possible:

- Readers put the action into a mental buffer and wait for the context before acting.

- Readers guess at the context and act without waiting for the context.

Results showed that people guessed and did not wait. Note how similar this result is to the work of Carroll on how users jump to act.

From the order context first, then action, most readers drew a wine glass as in Figure 1a. From the order action first, then context, many readers drew a Christmas tree as in Figure 1b.

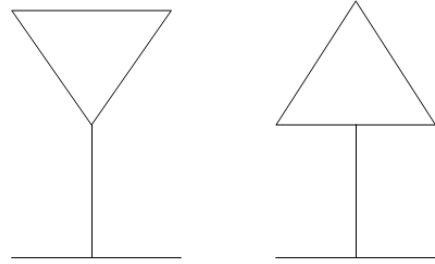


Figure 1a

Figure 1b

Figure 1. Figure 1a is what most people draw when the information is given with the context first, "This will be a wine glass." Figure 1b is what many people draw when the information is given with the action first, "Draw a triangle on top of an upside down T."

Studies of how people behave in conversations (Clark and Haviland, 1975) and of problems readers have in understanding technical, scientific, and academic writing (Gopen and Swan, 1990) similarly stress the importance of putting context first.

Many ballot instructions, however, put the action before the context, in violation of the best practice we draw from this research.

Compare Example 2A with Example 2B. Compare Example 2C with Example 2D.

In each example, we have indicated which part is the action and which part is the context by putting boxes saying "Action" or "Context" over the first word of the relevant part of the sentence.

X Example 2A (poor practice)

Action

Complete the oval to the left of the candidate's

Context

name to vote for the candidate of your choice.

✓ **Example 2B (good practice)**

Context

Action

To vote for the candidate of your choice, complete the oval to the left of the candidate's name.

✗ **Example 2C (poor practice)**

Action

Touch the NEXT button at the bottom right of

Context

the screen to move to the next ballot page.

✓ **Example 2D (good practice)**

Context

Action

To move to the next ballot page, touch the NEXT button at the bottom right of the screen.

Best Practice 3.

Use familiar, common words. Avoid technical or specialized words that users are not likely to understand.

This is a basic "plain language" guideline. Many research studies have found that words that have high frequency of use in everyday language are understood better than low-frequency words. Short, familiar words are recognized faster and read faster.

Technical words that are not necessary

Many voters are likely to be confused by the technical terminology that some DREs use.

Compare Example 3A with Example 3B.

✗ **Example 3A (poor practice)**

Your electronic ballot is activated.

What does this really mean for the voter? Example 3B makes the same point from the voter's point of view in language that is more meaningful to voters.

✓ **Example 3B (good practice)**

You may now start to vote.

Metaphors that may not work well

"Navigate" in the meaning of move around in a web site or computer program is a metaphor based on boating. Many voters may not understand that metaphorical use.

Compare Example 3C with Example 3D.

✗ **Example 3C (poor practice)**

Navigate forward through the ballot.

Theofanos and Redish (2003) found that half of the people in their study of web users did not click on the link "skip navigation," even though that is what they wanted to do. Participants in this study were experienced web users who are blind and who regularly use a screen reader to listen to web sites. Clicking on "skip navigation" would allow them to get directly to the content and not listen to the same information at the top of every web page. Many sites include a link with these words, and these users must have heard the phrase many times. However, they did not understand the word "navigation" in the meaning of getting somewhere on a web site. Their words for what they wanted to do were "get directly to the content" or "skip to the content."

Will all voters, some of whom are computer novices, understand "navigate" in this context? Example 3D is a clearer way to convey the same message.

✓ **Example 3D (good practice)**

Move to the next ballot page.

Legal language that is outdated

Legal documents in the United States tend to be very conservative in their language. Writers use old documents as models, without updating the language in them.

But, one of the most basic findings of linguistic research is that language changes over time. As Redish explained with examples in a 1985 paper, what was clear, plain language hundreds of years ago is not clear, plain language today (Redish, 1985).

Compare Example 3E with Example 3F.

Example 3E is a case in point. We no longer use "such" in the way it is used in this ballot.

✗ **Example 3E (poor practice)**

such candidate as you desire

Example 3F is contemporary English for the same message.

✓ **Example 3F (good practice)**

the candidate you want

Best Practice 4.

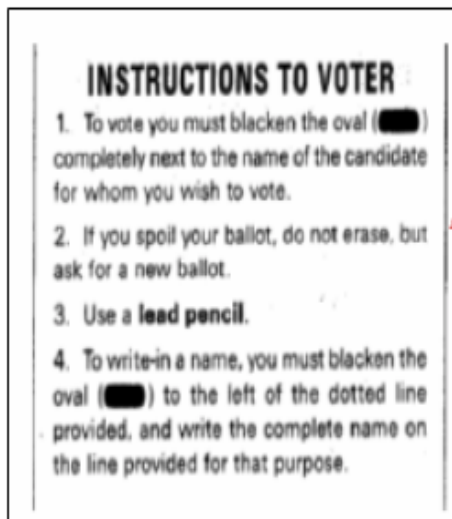
Put instructions in logical order: First task, first; last task, last.

This practice is relevant to both paper and electronic ballots, but the issue comes up most seriously on typical paper ballots. On most paper ballots, the voter gets several instructions at the top of the page. Most of these top-of-the-page instruction blocks violate many best practices.

Example 4A actually has several features that make it better than many other paper ballots: Each instruction is in its own paragraph with a little space between paragraphs. The instructions are numbered. The order in each instruction is context first, action second; so it does well on Best Practice 2.

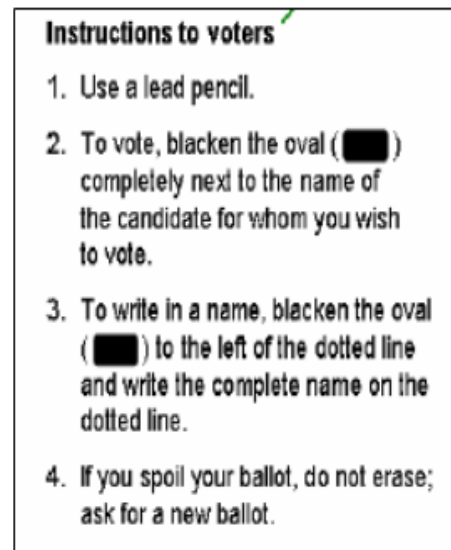
However, the two instructions on how to actually vote are separated by the basic instruction on what to use. And the instruction on what to do if you make a mistake is also in the middle. If erasures on ballots are a serious problem, the instruction should stand out more. When people come back to look for what to do if they make a mistake, having the instruction at the end of the list rather than in the middle will make it easier to find.

X Example 4A (poor practice)



In Example 4B, we have only reordered the instructions so that the general instruction about what to use comes first, the two instructions about how to vote come one after the other, and the instruction about what to do if there is a problem comes last.

✓ Example 4B (good practice)



Notice, however, that two of the instructions here might raise other issues:

- Must voters use a "lead" pencil? Do voters today know what that means? What type of pencil might they have that is not a "lead" pencil?
- The instructions about writing in a name, say to write the "complete name." But what does "complete" mean here? Does the voter have to know a middle name or middle initial?

In voting, issues like these are not trivial. In some jurisdictions, a name that does not meet the local legal definition of "complete" is not counted as a legitimate write-in vote. Yet, the instruction itself is not complete because it does not define "complete" for the voter.

Further research is needed

The examples in this paper illustrate just four of many best practices for instructions that our review found are violated in most ballots today. Even our preliminary study shows that language in voting instructions could be greatly improved to help voters by following research-based best practices. However, those best practices are derived from research with other types of documents in other contexts. We still need to study how they apply to ballots. We need further research on two sets of questions:

Question 1: How important are these best practices to a successful experience for voters?

By suggesting that each of the best practices that we derived from research is relevant to voting instructions, we are, in effect, predicting that violating the best

practice hinders voters and applying the best practice helps voters. The next logical research step is to find out if these predictions are valid.

The best method for that research is usability testing – having representative voters work in realistic voting settings with realistic ballots – where we vary the wording and presentation of language in controlled ways.

Question 2: Do voters have difficulty understanding words that are special to voting?

A specific area for further research is the set of words that are special to voting. Ballots include many words that are not part of common, everyday English or that are used on ballots in special meanings. These special words include

- candidate
- non-partisan
- cast a ballot
- partisan
- contest / race
- party
- early cast
- split ticket
- mixed ticket
- straight ticket

Research with actual voters is needed to know what voters think these words mean and to explore ways of explaining them.

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² Design for Democracy has looked at improving election design with a focus on better layout. See <http://www.designfordemocracy.org/content.cfm?Alias=electiondesignhome>. There are also efforts by election officials for improved ballot design such as the San Francisco Ballot Simplification Committee.

³ Some of the best practices can be applied to ballot instructions that are subject to state and local election law or under control of whoever is designing the ballot for a specific election. This type of best practice would not be part of federal equipment guidelines, but would be guidance to election officials and ballot designers.