Review of the gap between instructions for voting and best practice in providing instructions

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Introduction

What is the issue?

Voters are exercising an important right as American 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. They may not even come to the polling place or ask for an absentee ballot – in part because they fear that they will not understand what to do with the ballot or because they had an earlier experience in which they did not understand what to do.

Clear instructions are a necessary part of the voting process whether voters use paper ballots, mechanical devices (lever or punch card), electronic devices, or any other medium.

What is the focus of this report?

In this report, I focus on the language of instructions and other messages that voters encounter and compare those instructions and messages to best practice. Although I occasionally comment on design (type size, font, capitalization, placement), the main focus is on language (sentences and words). Design is the topic of a different on-going project.

What voting materials did I review?

For Direct Recording Electronic voting machines (DREs)

Vendor	Material reviewed
Diebold	online demo
ES&S	online fact sheets, guides on CD, paper instructions, machine
Hart	online demo, guides on CD, messages provided in an email
Sequoia	online demo, guides on CD, machine

For paper ballots and mechanical device ballots

- ballot samples from 50 states and the District of Columbia, collected by Professor Richard G. Niemi

- ballot samples from 15 states and the District of Columbia, collected by the National Institute of Standards and Technology (NIST)

Notes about the paper ballots and mechanical device ballots

- In both sets of ballots (Niemi, NIST), a state's folder often includes samples from different counties and precincts. Therefore, I had far more than 50 samples to review in each collection.

- The Niemi samples date mostly from 1998 and 2000 elections; the NIST samples date mostly from 2004 elections. The difference in dates, however, is not important here; the language is similar in similar ballot types across all these dates.

What best practices am I relying on?

Research that focuses specifically on voting instructions does not exist. Alvarez (2002) writes:

> Unfortunately, I am aware of no research on voting instructions. …

> Currently, voting instructions seem to be developed largely by election administrators, sometimes in collaboration with election system vendors, sometimes in collaboration with other interested parties… Rarely, and possibly never, are proposed voting instructions subjected to any type of experimental or field testing before their implementation.

As Alvarez says:

> This research vacuum needs to be filled, quickly.

I agree with these statements. Indeed, usability testing (observing and listening to voters as they try to complete sample ballots through either laboratory-based testing or field testing) is absolutely necessary.

In the meantime, we can help election officials and others who must write instructions and messages for voters by applying research and best practice from other similar situations. A wealth of relevant guidelines can be drawn from research in cognitive psychology, human-computer interaction, information design, interface design, linguistics, plain language, reading, and technical and legal writing.

In reviewing ballots for this report, I rely on best practice drawn from research in all those disciplines.

Do instructions for voting follow best practices?

No. Most instructions for both DREs and paper ballots fall short of best practices.

The three main sections of this report give specific examples of the gaps between best practice and

- instructions on DREs
- troubleshooting messages on DREs
- instructions on paper ballots and on sample ballots for lever machines

Gaps between what we find on DREs and best practice in giving instructions

The DREs are not all the same. Each makes different choices about when to give instructions and when to not give instructions. Each uses some words most voters probably know and some words that many voters may not know. Each has its own interaction style, and that interaction style has implications for where instructions are needed or not needed.

Furthermore, each of the DREs that I reviewed includes examples of good practice and of poor practice. The fact that I cite an example of poor practice from a particular DRE does not mean that everything that DRE does is poor practice. I am using the examples only to illustrate the types of problems that we should be concerned about for all DREs (and indeed for all ballots – no matter what medium they are in).

The DREs are not following best practices in at least these ways:

Sometimes, the instructions

- are inconsistent

- do not consider voters' likely mistakes

- do not cover important situations

- use words that many voters may not know

- name buttons with nouns or verbs that may not be explicit enough

- give voters the signal to vote before they have completed the ballot

- warn users when it may be too late to heed the warning

- put the action before the context

Instructions are inconsistent.

People often become confused by inconsistent naming. If an object has a different name on the physical machine, on the physical card the voter uses, and on different screens, how does the voter know that all those messages are talking about the same object?

Poor practice

For example, for one DRE, the card the voter uses has three different names:

The plastic card that the voter is given to insert into the machine says VOTER CARD.

The place to insert it into the machine has the instruction:
Insert voter activate card here.

The message on the screen at the beginning of the process says:
To Begin Voting Insert Voter Card Into Slot Below.

The message at the end of voting calls the card: Vote Card.

Instructions do not consider voters' likely mistakes.

People always bring their earlier experiences to new situations and use expectations built from those earlier experiences. When writing instructions, you must always think about the possible ways in which people will misinterpret the instructions from their other experiences. If voters do not get enough help from the written instructions, poll workers may have to show them what to do or the voters may assume that they cannot act as they would like to act.

Poor practice

For example, to vote on one DRE, voters must push the plastic card into the slot until it clicks and then leave it there during voting.

Many voters, however, push the card in quickly and pull it out again. They are probably thinking of how they use a credit card to pay for gasoline or of how they use a hotel room key card. In both those other situations, the proper procedure is to push the card in and pull it out.

The instruction on the DRE does not tell voters to push the card in until it clicks and to leave it there.

Good interaction practice – no message needed

For another example, in a situation where only one vote is allowed, when voters change their mind on one DRE, they can touch the candidate or option they now want. That changes their vote from the candidate or option they had selected before to their new choice. This probably best matches the interaction process that voters expect.

Poor interaction practice – needed message does not appear

On another DRE, however, in the same situation, voters must first "deselect" the candidate or option they no longer want. That is, they must touch their previous choice again to turn it off before they can choose a new candidate or option. If they try to change their minds by touching the new choice, nothing happens. Not only does the choice not change, no message appears.

Voters who try to change by touching the new option are probably bringing their experience from computer radio buttons to bear on this situation. On a computer screen, if you can only have one option, clicking on the new choice changes the selection. Voters who assume the DRE works like other computer screens may not think of any other way of acting. When the way they think is right does not work, they may assume that they cannot change their minds once they have selected a candidate or option.

The machine should be able to detect when a voter is trying to change a selection. It should send a message, perhaps after the second attempt to touch a new selection, asking voters if they are trying to change the selection and explaining how to do so.

Instructions do not cover important situations.

When there are no instructions, the DRE designers or the ballot writers are assuming that voters will know what to do by themselves. Although we do not want to overburden voters with extra information, it is probably better to assume that many voters will *not* know how to use the machines or how to use the ballot.

Good practice

For example, on one DRE, at the beginning of the ballot, voters see the instruction: Touch language of choice with your finger. This instruction tells voters both how to use the machine (touch…with your finger) and what to choose (language of choice).

Poor practice

However, the instruction on that DRE is only in English, so voters who want a different language are in the same position as all voters on other machines where there is only the list of languages with no instructions.

On another DRE, voters see no instruction about choosing a language; they see only the list of languages.

Poor practice

The sample ballots that I worked with on two different DREs allowed straight party voting. Neither DRE had instructions about how to vote a straight party ticket or what that means. But both had messages that come up when a voter changes a straight party vote.

Poor practice

The write-in screen on one DRE comes with no instructions at all. On another, the write-in screen explains the basics but does not tell voters what to do if they change their mind or make a mistake while typing.

On that DRE, the area that shows what the voter is typing is very long but the maximum allowed (at least for the sample ballot I was trying out) was 24

characters. The system would not accept a 25th character, although there was plenty of space remaining in the write-in area. No message appears to tell voters that they have reached the maximum length of a write-in. Best practice would be to keep the write-in area to the right length, to include a short instruction (even a fragment, such as "maximum length of write-in = 24 letters and spaces"), and to send a message when the voter types more than the maximum number of characters.

Instructions use words that many voters may not know.

Developers use words in talking about how to use electronic machines that may not be common words for many voters.

Poor practice: "activate," "navigate"

For example, here are two of the instructions for voting on one DRE:

> Your electronic ballot is activated.

> Touch circled arrow in lower right corner to navigate forward through the ballot.

Many voters may not understand "activate" or "navigate." (As an aside: In a usability study with blind people, we found that half of the participants in the study did not click on the phrase "skip navigation," even though that is what they wanted to do. They did not recognize "navigate" as relevant to their desire to get directly to the content area of the screen. Theofanos and Redish, 2003)

Good practice: instead of "navigate"

Another DRE gives the instruction about "navigate forward" in much clear language:

> TOUCH the Next button at the bottom right of the screen to move to the next ballot page.

Poor practice: "voided"

For another example, I was able to try out a DRE that gives voters a printed record of their votes and allows changes after printing. If the voter changes selections after printing, the printer marks the old print-out VOIDED. Is "voided" a word that most voters know?

Poor practice: "enter," "access code"

Another DRE tells voters to

> Enter Your Access Code

and sends this message to voters who do not do that correctly

> The Access Code you have entered is incorrect. Please try again.

Access Code and the verb "enter" in this context are two examples of computer jargon. The instruction should use a verb that reflects the action the voter actually takes to "enter" the code. The message that appears could leave out the phrase "you have entered" and could explain in more detail what the voter should do.

Poor practice: "early casting," "bypass partisan contests"

In addition to computer jargon terms, instructions on DREs sometimes use voting terms that many voters may not know. The manual for one DRE explains that some ballots are set up to allow "early casting." Although I am a regular voter, this is a phrase I have never heard. From the context, I assume it means voting a straight party ticket with an option to bypass all the contests covered by that straight party vote.

Voters who vote a straight party ticket see this message:
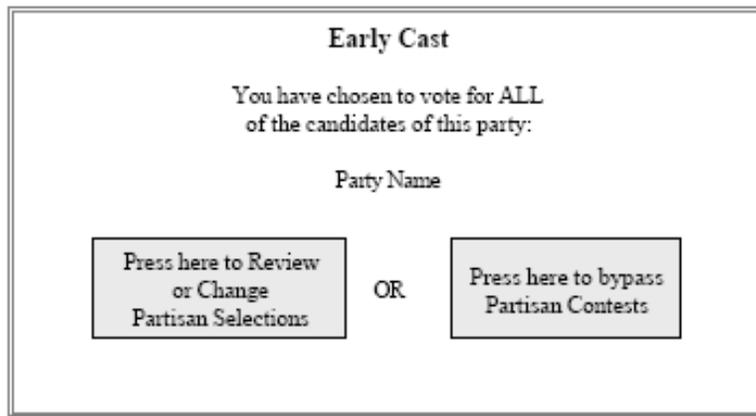
The description of a straight party vote is good:

> You have chosen to vote for ALL the candidates of this party:

However, several other words in the message may be more difficult for voters and thus keep them from understanding the options this message is giving them. Do voters know the phrase "early cast"? Do they know what it means to "bypass partisan contests"?

Do they get this message before they have chosen any individuals? If so, does the word "review" here mean something different than it does elsewhere on the same ballot? Does "review" here mean "look at for the first time" rather than "look at something you have already done"?

Instructions name buttons with nouns or verbs that may not be explicit enough.

On most DREs, voters move through the ballot and take actions by touching "buttons" – areas that look like this with words on them.

Those words are instructions to voters. If the instructions are not clear, voters may not understand how to use the machines.

Good practice

On one DRE, longer instructions sometimes explain the buttons. For example, if a ballot is undervoted, the voter gets this message before casting the ballot:

> You have not made all the choices you are entitled to.

> Press <BACK to return to the ballot.

<BACK is an option on the screen at that point.

Good practice

Also on that DRE, the final screen after the voter has printed the paper record has these messages and choices:

> Please Review The Paper Record Of Your Ballot

> You May Now Cast Your Ballot Or Make Changes

Make Changes	Cast Ballot

Notes to improve this practice

Note how much easier it is to read an instruction that has a capital letter only at the beginning of the sentence than it is to read an instruction where every word starts with a capital letter.

> You have not made all the choices you are entitled to.

> You May Now Cast Your Ballot Or Make Changes

Best practice is to write instructions as sentences, not as book titles.

Note that the instruction after the voter has printed the paper record gives the options in the order: Cast Your Ballot, Make Changes. But the buttons give the options in the opposite order. This inconsistency may cause some voters to touch the button that is not the one they wanted. After reading Make Changes, voters may touch the second button assuming it matches the second choice they read.

Best practice suggests that the options should be in the order of the buttons not of the written instruction. People often choose the first option they come to without reading all the options. (See the section below on **The instructions warn users when it may be too late to heed the warning**.)

Poor practice

In the following example, the two options may not be clear to voters. What do they expect to happen when they choose "cancel"? What do they think they are canceling?

The candidates of

| party |

will be replaced with

| party |

Candidates you have selected
from a different party
will be retained.

| Press here to Cancel | | Press here to Continue |
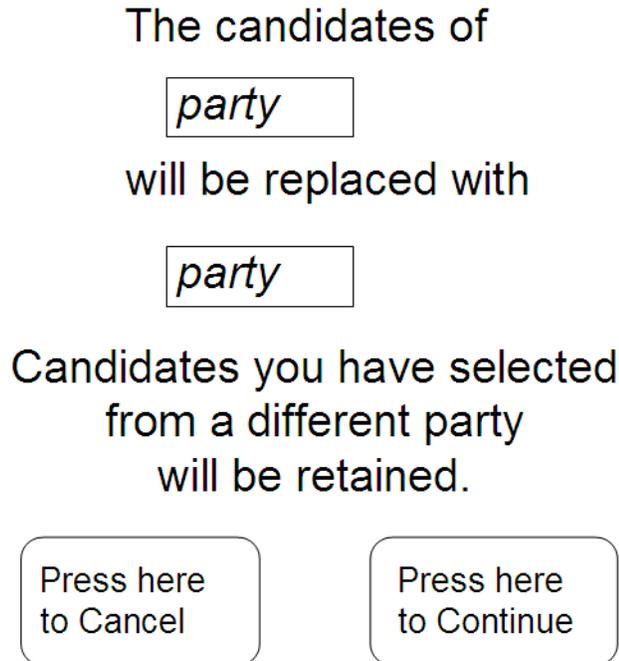
Instructions give voters the signal to vote before they have completed the ballot.

People tend to act on the first and brightest message on a screen. Also, flashing words or buttons are very eye-catching even when they are in our peripheral vision. If a bright or flashing message suggests that it is time to vote, voters may be distracted and not realize that they have not yet looked at the rest of the screen.

Poor practice

For example, as one DRE gets to the last page of the ballot, the VOTE button at the top lights up. That button is a form of instruction. It is a brightly lit imperative verb, calling to the voter to push it. Many voters may be distracted and push it without going over the last page of the ballot.

Instructions warn users when it may be too late to heed the warning.

From research on instructions in many different types of documents (screen and paper), we know that people often act as soon as they read an instruction. They do not continue on to see if there is more that they should read before acting.

Poor practice

For example, voters who do not make a choice everywhere they can on one DRE's ballot see a screen with these messages after they press VOTE:

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 can not return to the ballot to make changes.

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

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. The instructions should instead be in this order:

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.

Instructions put the action before the context.

Many instructions for voting are sentences with two parts:
- what the voter wants to do (the context, "to do ….")
- what the voter should do (the action, "do…")

Research shows that if you give people the action before the context, many will act without waiting to read or hear the context. Best practice, therefore, is to put the "to do…" part before the "do…" part.

In the previous example, note how I changed

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

to

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

Good practice

DREs (and paper ballots) are inconsistent in the way they present the context and action parts of instructions. For example, in its online demonstration, one DRE gives this instruction in best practice order:

> To change a selection, TOUCH the **X** again. The **X** will disappear and you may make a new selection.

Poor practice

However, the same demonstration gives the next instruction in the opposite (not best practice) order:

> TOUCH the **NEXT** button at the bottom right of the screen to move to the next ballot page.

Gaps between what we find on DREs and best practice in giving troubleshooting advice

In addition to the instructions that all voters see, the DREs have messages that appear when something goes wrong. I have examples of these messages from the manuals that come with the machines and directly from one manufacturer. It is not entirely clear from the messages themselves who is expected to see and take care of all of the situations covered by these messages. However, many seem to be for voters and poll workers, and many of those do not follow best practice.

Best practice for writing messages to help users understand and recover from problems include

- explaining the problem and its probable cause
- telling users what to do
- using words that users understand easily
- not blaming the user; not using words like "illegal" to mean that the system does not recognize something the user did

A few DRE messages illustrate these best practices. Too many, however, illustrate poor practice. This is somewhat surprising because the research that established good practice in writing software system messages was done in the 1980s, and examples of good messages are common in contemporary software systems.

Good practice

This message is in clear language. It tells the voter what the problem is and what to do about it:

> Batteries are too low to continue. Please get a poll worker to help you. Thank you.

Poor practice – clear but insufficient

Although the following messages are in clear language, they do not explain the problem in enough detail for most voters or poll workers to understand what has happened. And they do not tell the voter or poll worker what to do.

> Ballot has already been voted.

> It is too early to close.

Poor practice – computer jargon

Messages like the following are not in language that either voters or poll workers are likely to understand: The poll worker who sees one of these messages must go to the manual to discover that it is necessary to call the company's customer service line.

> Ballot checksum in RAM invalid.

> Ballot Header pointer is null.

Poor practice – blaming the user; raising anxiety unnecessarily

The following message blames the user. It also makes the problem seem much more serious than it probably is.

> Illegal password.

Many of these messages will be seen by poll workers, not by voters. However, DRE developers should realize that poll workers are likely to be less sophisticated computer users even than many voters. Many poll workers are older, retired people. They did not grow up with computers; they may have never used computers. Although they may have been acting as poll workers for many elections, they are likely to be new to electronic voting. The job is one they do infrequently (annually, bi-annually, or only once every four years). Troubleshooting messages appear only when the problem occurs; therefore, no matter how long a poll worker has been helping on election day, that poll worker is probably seeing the message for the first time.

Turning poor messages into useful and usable messages

Most poll workers are likely to be bewildered by a message like this:

> ElectNID.txt file could not be found.

The manual says that one likely cause of this problem is that the compact flash card is missing. Another likely cause is that the compact flash card is not properly seated in the terminal. Poll workers do not know the names of individual files, nor

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do they care, nor do they need to know the names to fix the problem. They need information on what to do rather than information on the exact file that is missing. They need the information on the machine, not only in a manual. The manual may not be readily available.

A better message would be something like this:

> Cannot find a necessary file from the compact flash card. [picture showing what the card looks like]

> If you do not have the card, you must find it and put it in the proper slot in the voting machine. [picture showing the card and where it goes in the machine]

> If you have the card, try taking it out and reinserting it firmly in the proper slot in the voting machine.

> If you cannot find the card or if reinserting it does not solve the problem, call [company name's] customer service.

Gaps between what we find on paper ballots and best practice in giving instructions

Note: In this section, "paper ballots" means ballots completed by pen or pencil, punch card ballots, and instructions for lever voting machines. Punch card ballots are similar to ballots completed by pen or pencil in that the instructions are on the paper with the voter's choices. The instructions that I reviewed for voting by lever machines are on sample ballots that the voter receives on paper before going to the polls (either in the mail or in the polling place).

The paper ballots violate best practices in at least these ways:

The instructions

- are all in one place, not where they are needed

- are not in logical order

- come too late to be useful

- are in paragraph format, not on separate lines

- are statements, not directions to voters

- use gender-based pronouns

- use voting jargon without explanation

- use other words that may confuse voters

- are longer than necessary

- threaten rather than help voters

- use double negatives rather than the positive

Instructions are all in one place, not where they are needed.

Most ballots give all the instructions at the beginning of the ballot, including what to do in each type of contest and what to do when the voter has finished. This poses a heavy burden on the voter's memory or causes the voter to have to return to the front of the first page of the ballot at the end of the task.

Best practice would have each instruction at the point in the task where the voter needs that instruction.

Poor practice

Most of the individual instructions on this ballot are fairly well written. However, having them all at once at the top of the ballot means that voters have to remember what to do further down the ballot and after they have finished voting.

INSTRUCTIONS TO VOTER: To vote for the candidate of your choice, completely fill in the oval to the right of the candidate's name for whom you wish to vote.

To vote for a candidate who is not on the ballot, you may write in the person's name, and completely fill in the oval to the right of the write-in space. If that oval is not marked, your vote cannot be counted for the write-in candidate.

To vote on a measure, completely fill in the oval next to your choice of "YES" or "NO."

Place your ballot inside the secrecy sleeve, take your ballot to the ballot box.

If you make a mistake while voting, return the ballot to the election official for a new one. A vote which has been erased or changed will not be counted.

Instructions are not in logical order.

Instructions on how to do the task should come before instructions on what to do if you have a problem.

Poor practice

In this example, instructions 3 and 4 should come before instruction 2.

INSTRUCTIONS TO VOTER

1. To vote you must blacken the oval (⬛) completely next to the name of the candidate for whom you wish to vote.

2. If you spoil your ballot, do not erase, but ask for a new ballot.

3. Use a **lead pencil**.

4. To write-in a name, you must blacken the oval (⬛) to the left of the dotted line provided, and write the complete name on the line provided for that purpose.

Instructions come too late to be useful.

People read and act in the order in which information comes to them. Therefore, instructions must come before, not after, the situation to which the instructions refer.

Poor practice

In this example, the instruction comes after the question and voting options.

FOR DISTRICT COURT JUDGE
DISTRICT 8, DEPT. 3

Shall Judge Kenneth R. Neill of the Eighth Judicial District, Department 3, of the State of Montana be retained in office for another term?

⬭ YES

⬭ NO

(Blacken the oval ▬ before the word "YES" if you wish the official to remain in office. Blacken the oval ▬ before the word "NO" if you do not wish the official to remain in office.)
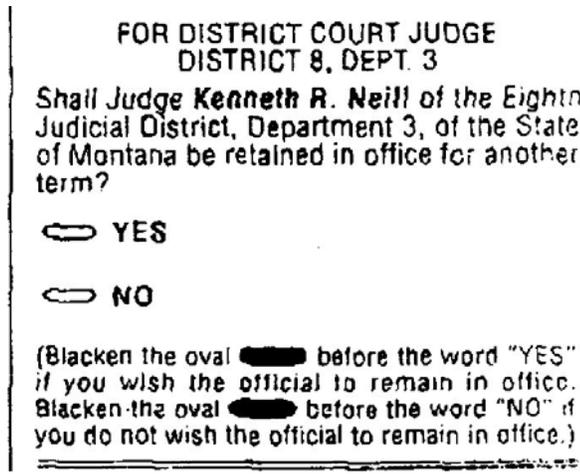
Instructions are in paragraph format, not on separate lines.

Best practice is to give each instruction on a separate line. That way, voters can more easily see that there are multiple situations and multiple instructions. They are less likely to miss instructions. They can more easily find the instruction they need if they don't remember and come back to check on what to do (for example, if they want to write in a name).

Poor practice

This example puts both instructions into one paragraph. The instructions are well written: They are in parallel style (To do x, do…). They each start with the context (To do x, …). They state clearly what the voter should do. But the second instruction is buried inside a paragraph when it should be on a line by itself.

To vote, complete the arrow ⬅ ▬ pointing to your choice(s), like this: ⬅▬ To vote for a person whose name is not printed on the ballot, write their name in the blank space provided for that purpose and complete the arrow immediately to the right of the name so written in.
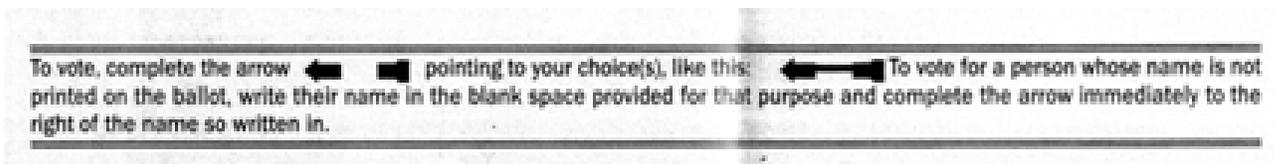
Poor practice

This example is a run-on sentence. All the instructions are strung together in one sentence, even though they cover two different situations. This puts a

tremendous burden on the voter. The voter has to figure out that this covers two ways of voting: for a named candidate and of an unnamed person. The voter than has to understand what to do in each of those situations.

> Vote for such candidates as you desire by placing an X in the small square at the right of the names, or by writing in the names of the persons you desire to vote for, and place an X in the square at the right of their name.

Poor practice

The next example has four instructions all in one paragraph. Although each instruction is fairly well written, voters may not read them at all. Even in important situations like voting, people tend to jump immediately to act without reading.

When you write each instruction on a separate line, the instructions are easier to scan. Voters are more likely to look at instructions that are easy to scan than at instructions that are in one long paragraph.

I realize that space is always at a premium on ballots. However, design changes can make ballots easier to use and allow space to give instructions separately. For example, capital letters take up more space than lower case letters. If you write in regular mode (capital letters only where they occur in ordinary sentences), you save space. That space can be used to separate instructions.

> ## INSTRUCTIONS TO VOTERS
>
> Complete the oval (⬭) at the left of the name of the candidate for whom you choose to vote, like this: (⬤). You may vote for a person whose name does not appear on the ballot by writing the person's name and municipality of residence in the blank space provided and completing the oval at the left. If you make a mistake, you may request a new ballot. DO NOT ERASE.
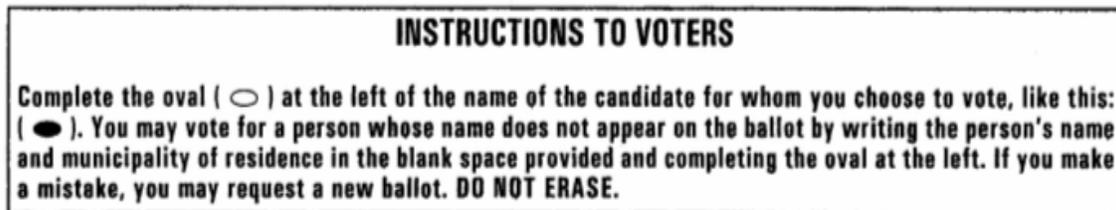
Instructions are statements, not directions to voters.

Instructions tell people what to do. The verb form for telling people what to do is the imperative, the form that tells people "Do this."

Poor practice

This statement is meant as an instruction to the voter, but it is not written as an instruction. It sounds like a statement of law, especially as it uses archaic legal language, "shall" and "retained."

> This ballot stub shall be removed
> and retained by the voter.

If you really want voters to keep the stub, say so:

Remove and keep this ballot stub.

Instructions use gender-based pronouns.

Ballots must not make people feel excluded. Writing that uses gender-based pronouns, such as, "he," "his," sends the message that all voters or all candidates must be male.

Poor practice

In this example, the instruction includes a statement about voters with masculine pronouns. I am sure that election officials do not mean to exclude women as voters, but the language of the statement has that effect. If this is a quote from the law, the language in the law should be changed. Most ballots do not include an equivalent statement. Is it necessary?

INSTRUCTIONS TO VOTERS
CANDIDATES
Punch a hole opposite the name of the person for whom you wish to vote. The voter shall cast his vote in accordance with this instruction, and shall vote in no other manner.

Poor practice

This example sends the message that voters can only write in the names of men. I'm sure that is not what the election officials meant, but it is what the sentence says.

WRITE-IN
To vote for a person not on the ballot, write the title of office and his name in the space provided in the envelope in which you received your ballot.

Instructions use voting jargon without explanation.

Although paper ballots are usually free of computer jargon, they often use words that relate to voting but that many people, especially new voters, may not understand. Examples include:

- straight party vote; straight party ticket
- split ticket
- partisan contest; non-partisan contest

Some ballots explain what straight party voting means; others do not. When you leave out the explanation, you must be assuming that everyone who comes to vote understands the concept without any explanation. Is that a valid assumption?

Good practice, but…

This example attempts to describe the different ways of voting. But do most voters even understand "partisan" and "non-partisan"?

PARTISAN SECTION: To vote the partisan section of the ballot, you may cast a "straight ticket," a "split ticket" or a "mixed ticket."
STRAIGHT TICKET: Vote the party of your choice. Nothing further need be done in the partisan section.
SPLIT TICKET: You may vote a straight ticket AND vote for individual candidates of your choice.
32   MIXED TICKET: Vote for the individual candidates of your choice in each office.
The NONPARTISAN and PROPOSAL SECTIONS of the ballot must be voted separately. Be certain to check the reverse side of the ballot.

Good practice, but…

This example should be in upper and lower case, not all capitals. But it does attempt to explain what happens if the voter selects the straight party option. However, it then does not explain what to do if you want most, but not all, candidates from one party.

TO VOTE A "STRAIGHT PARTY TICKET" PRESS THE BUTTON OF THE PARTY OF YOUR CHOICE. THIS WILL CAST A VOTE FOR EVERY CANDIDATE'S NAME IN THE PARTY.

Good practice, but…

The next example, like the previous one, has design problems. The line length is much too long for easy reading. However, it does explain straight party voting in even more detail than the previous example. And it is in Spanish as well as English.

INSTRUCTION NOTE: Vote for the candidate of your choice in each race by placing an "X" in the square beside the candidate's name. You may cast a straight-party vote (that is, cast a vote for all the nominees of one party) by placing an "X" in the square beside the name of the party of your choice. If you cast a straight-party vote for all the nominees of one party and also cast a vote for an opponent of one of that party's nominees, your vote for the opponent will be counted as well as your vote for all the other nominees of the party for which the straight-party vote was cast.
(NOTA DE INSTRUCCION: Vote por el candidato de su preferencia para cada candidatura marcando una "X" en el espacio cuadrado a la izquierda del nombre del candidato. Usted podrá votar por todos los candidatos de un solo partido político ("straight-ticket") marcando una "X" en el espacio cuadrado a la izquierda del nombre de ese partido político. Si usted vota por uno de los partidos políticos y también vota por el contrincante de uno de los candidatos de dicho partido político, se contará su voto por el contrincante tanto como su voto por todos los demás candidatos del partido político de su preferencia.)

Instructions use other words that may confuse voters.

Other words may cause unnecessary confusion; they could be left out or changed.

Poor practice – "cross" for x

This sentence is in good word order (To vote, [do this]). It is short. It has a picture to show the voter what to do. But it calls the "X" a "cross." Many voters associate a religious symbol with the word "cross" and would not draw a cross as an x. The instruction would be clearer and simpler if it said: "To vote, put an X in …"

1. To vote, make a cross (X) in the square
opposite your choice, like this [X]

Good practice – x without calling it a cross

Some ballots simply call the x a "voting mark." or just say to put an x without calling it anything special.

a voting mark (X or ✓)

Poor practice – a different example

Some ballots carry over words that seem very old fashioned today. Will all voters understand what this example is telling them to use? Is a "lead pencil" a special pencil with refillable pieces in which you turn the top to make more lead come out? Is it just a regular pencil?

3. Use a **lead pencil**.

Instructions are longer than necessary.

Long sentences put a burden on users' memory. Best practice is to be as succinct as possible while conveying the necessary information.

Good practice

This instruction is sort, simple, and clear:

Mark the voting square to the right of your choice, like this [▬]

Poor practice

The last part of the sentence in the next example seems redundant to the first part.

> To vote for the candidate of your choice, completely fill in the oval to the right of the candidate's name for whom you wish to vote.

A simpler version would be

> To vote for the candidate of your choice, completely fill in the oval to the right of that person's name.

Instructions threaten rather than help voters.

Many paper ballots tell voters what to do if they somehow mess up the paper and need to start again. The wording and tone of these messages varies widely. Some messages are calm and clear; others are intimidating. It would be interesting to know the frequency of spoiled ballots in different jurisdictions as well as the frequency of requests for new ballots. (That is, are people who need a new ballot asking for one at a higher rate in some jurisdictions than in others, and does that correlate with the clarity and tone of the wording of this instruction.)

Good practice

This simple instruction is short and straightforward.

If you spoil your ballot,
ask the judge for a new one.
Si usted daña su boleta,
pídale una boleta nueva al Juez.

Good practice

And here is another example of a straightforward instruction on this topic, using words a voter is very likely to understand:

*IF YOU MAKE A MISTAKE, return the ballot to the Election Officer at the ballot table to receive a second ballot.

Poor practice

This example, however, does not have a friendly tone. Does it really need do say "deface," "make a mistake and wrongfully mark"? Are people intimidated by "you must" more than they are by the more direct verbs, "ask," "return," that the other ballots use?

NOTICE
If you tear, deface or make a mistake and wrongfully mark any ballot, you must return it to the election board and receive a new ballot or set of ballots.

Instructions use double negatives, rather than the positive.

Positive sentences are easier to understand than negative ones. In English, we can always rewrite a sentence with two negatives so that the sentence is positive instead.

Poor practice

Consider this example:

To vote for a candidate who is not on the ballot, you may write in the person's name, and completely fill in the oval to the right of the write-in space. If that oval is not marked, your vote cannot be counted for the write-in candidate.

This would be easier to understand if it were written this way:

To vote for a candidate who is not on the ballot, write in the person's name and completely fill in the oval to the right of the write-in space. You must mark the oval for your write-in vote to be counted.

Conclusion

For both paper ballots and DREs, it seems as if election officials in each jurisdiction, as well as the vendors, are writing instructions with little or no help from writing specialists. They are trying to help voters but are not getting help themselves.

In reviewing all these ballots, I was struck by the fact that election officials are giving the same messages in many different ways. They must explain how to vote for a named candidate. They must explain how to write in a person when they want to do that. They must explain how to vote yes or no for propositions or questions. In many cases, they must explain straight party and split ticket voting. For each of these situations, some ballots give clearer instructions in simpler words than other ballots.

For both DREs and paper ballots, many gaps exist between common practice and best practice in giving instructions to voters. For DREs, many messages that the system sends when a problem occurs do not follow best practice for messages.

We can help election officials and DRE vendors write better instructions and messages by providing guidance on best practices. The next step in this project is to develop that guidance, focusing on the gaps identified in this report.