

# Professional Writing by the Numbers<sup>1</sup>

*For Planners and Policy Analysts*

Version 4.0, Revised December 2006

Edward Feser

University of Illinois at Urbana-Champaign

---

## Guide to Major Sections

1	Organization	<i>Structure of the document, headings, format and layout.</i>
2	Style	<i>General good professional writing tips.</i>
3	Usage	<i>Writing rules or near-rules.</i>
4	Numbers	<i>Discussion, presentation and interpretation of data in text and exhibits.</i>
5	Graphics	<i>Proper design of tables, figures, and drawings.</i>

## Summary of Codes

<b>1</b>	<b>Organization</b>	<b>3.11</b>	<b>Write out Percent</b>
1.1	Use Memo Format	3.12	Two Spaces Between Sentences
1.2	Use Short Report Format	3.13	Two Spaces After a Colon
1.3	Do Not Include Title Page	3.14	Use Arabic Numbers for Notes
1.4	Avoid Footers and Headers in Memos	3.15	Citing the URL is Not Enough
1.5	No Conclusion Needed	3.16	No Ampersands in Text
1.6	Left Justify Your Text		
1.7	Use Notes for Technical Explanations	<b>4</b>	<b>Numbers</b>
1.8	Staple, Left Hand Corner	4.1	Interpret Quantities by Comparison
1.9	Use Notes for Citations	4.2	Explain Regional Geography
1.10	Combine Data Source Citations in One Note	4.3	Significant Digits
1.11	Number your pages	4.4	Only Include Exhibits You Reference in Text
1.12	One inch margins	4.5	Report the Quantity
1.13	Twelve point font	4.6	Emphasize Significant Findings
		4.7	Percent versus Percentage Points
		4.8	Refer to Exhibits in Your Text
<b>2</b>	<b>Style</b>	<b>5</b>	<b>Tables, Figures and Graphics</b>
2.1	Awkward Sentence Construction	5.1	Make 'Em so they Stand Alone
2.2	Write Directly	5.2	Avoid Use of Grids in Tables
2.3	Avoid Excessive Use of Jargon	5.3	Decimal Justify Data Columns
2.4	Avoid Passive Voice	5.4	Use Descriptive Column Labels in Tables
2.5	Use Active Headings and Subheadings	5.5	Use Label Hierarchies in Tables
2.6	Avoid Unnecessary Equivocation	5.6	Indicate Source on Figures and Tables
2.7	Don't Say What You're Going to Say	5.7	Used Detailed Sources
2.8	Avoid Giving Places Agency	5.8	Pitch the Pie Chart
2.9	Discuss Findings, Not Exhibits	5.9	Shun 3-D
<b>3</b>	<b>Usage</b>	5.10	Call Tables "Tables" and Figures "Figures"
3.1	Print and Proof	5.11	Sequence Tables, Figures in Order in Text
3.2	Define Acronyms on First Use	5.12	Use Commas for Numbers
3.3	Write out Numbers Less than 11	5.13	Avoid Grids on Figures
3.4	Spell Out Numbers Starting Sentences	5.14	Don't Rely on Colors
3.5	Watch Your Caps	5.15	Report Numbers in 000s
3.6	No Apostrophe on Dates	5.16	Avoid Superfluous Material
3.7	Data are Plural		
3.8	Use Proper Note Punctuation		
3.9	Complete Sentences in Notes		
3.10	Punctuation Inside Quotes		

# **1 Organization**

## **1.1 Use Memo Format**

Present your analysis using a formal memo format. Here is a suggested heading style:

M E M O R A N D U M

To: Boston Red Sox Fans  
From: New York Yankee Fans  
Subj: Ten reasons why New York is still more fun than Boston  
Date: 20 October 2004

## **1.2 Use Short Report Format**

Present your analysis in the format of a short report or "data brief."

## **1.3 Do Not Include Title Page**

Title pages have their place in academic papers and larger, formal technical reports. However, they are inappropriate for memos and short data or policy briefs. Keep it simple. Save a tree.

## **1.4 Avoid Footers and Headers in Memos**

Running footers and headers also have their place for certain types of documents (like this one). But not for memos.

## **1.5 No Conclusion Needed**

The beauty of memos and short data briefs and reports is that they are not "themes" that require opening and closing paragraphs. State your case and let it go at that.

## **1.6 Left Justify Your Text**

This paragraph might look neat and tidy at first glance, lined up as it is on both left and right (full justification) but most word processing software cannot pull it off without producing some odd and distracting results in terms of word spacing. Leave the full justification format to your graphics department once your report advances to the publishing stage. They'll use better software and do it properly.

## **1.7 Use Notes for Technical Explanations**

Footnotes or endnotes are best for making brief technical explanations of methods and data, especially for memos and short briefs. Reports will often have a longer methods appendix.

## **1.8 Staple, Left Hand Corner**

Avoid the use of report covers, snazzy bindings, or other nifty document packaging. Again, keep it simple. Staple—do not paper clip—the memo in the upper left hand corner.

## **1.9 Use Notes for Citations in Memos and Report Briefs**

Use an endnote or footnote to supply citations to sources for memos and report briefs. Bibliographies or "Works Cited" lists are appropriate for longer reports and academic papers.

### **1.10 Combine Data Source Citations in One Note**

It makes good sense to use endnotes or footnotes to discuss data used in an analysis in a memo or report brief. But you do not necessarily need to use a separate note for each data source or series. Instead, combine them by introducing one note early in the document. Something like: "The data used in this analysis are from the Bureau of Economic Analysis Regional Economic Information System, the Bureau of Labor Statistics ES-202 series, and the . . ."

### **1.11 Number Your Pages**

Include page numbers in the bottom center or bottom right of your page.

### **1.12 One Inch Margins**

Use one inch margins on the left, right, top and bottom, including on all pages with tables and figures.

### **1.13 Twelve Point Font**

Use a twelve point font, preferably something like Times for your text. You can use a ten point font for footnotes and endnotes. No text should be smaller than ten points.

## **2 Style**

### **2.1 Awkward Sentence Construction**

A catch-all category for a painful-to-read but not necessarily grammatically incorrect sentence. Sentence may be an affront to good writing style. Admittedly, professors often put AWK in places where they know something is amiss, but not being writing instructors, they're not sure technically how to explain what is wrong. Bottom line: the sentence doesn't work.

### **2.2 Write Directly**

Don't mince words: come out and say it. Instead of "The BLS and BEA data show that employment in the microchip industry is very small," write "Employment in the microchip industry is very small." Or, instead of "It is very important to note that data disclosure rules preclude reporting employment for all sectors," write "Data disclosure rules preclude. . ."

### **2.3 Avoid Excessive Use of Jargon**

Avoid the planner's pitfall: too much use of all those fancy planning terms and acronyms. It's not impressive or erudite, just boring.

### **2.4 Avoid Passive Voice**

The extensive use of passive voice may be the single most common reason why a majority of sane individuals would rather walk on hot coals than read a technical document. Doesn't "The region's population growth dramatically outpaced the nation's over the study period" sound better than "Using population data, it was found that the region grew much faster than the US over the study period"? Another example: replace "A three-part analysis will be conducted in this paper" with "This paper will present a three-part analysis" or "In this paper, I will conduct a three-part analysis." Reject passivity. Be active.

## **2.5 Use Active Headings and Subheadings**

Use headings and subheadings to help organize your findings and discussion. In addition, keep 'em active and efficient. Instead of "Location Quotient Analysis" as a sub-heading, try a short title that conveys findings, e.g., "Region Specialized in Manufacturing and Services." Headings and subheadings should never extend beyond one line of text.

## **2.6 Avoid Unnecessary Equivocation**

Sometimes it makes sense to offer caveats or otherwise "hedge your bets" when discussing a finding. However, don't overdo it. Population growth doesn't "seem fast." It either is or is not fast, relative to something else. A location quotient indicates whether a region is or is not specialized in a given industry; it does not indicate that the region "seems specialized" or "may be specialized." On the other hand, location quotients do not say much beyond specialization (you would not damn the torpedoes and argue, on the basis of a manufacturing LQ above 1.2, that the region is "highly competitive" in manufacturing). No one likes to read a waffler so waffle only when appropriate.

## **2.7 In Memos, Don't Say What You're Going to Say**

In academic papers or longer reports it often makes sense to provide a roadmap to the document (e.g., "This report begins by summarizing major trends in population. It then. . ."). The adage that you should "say what you are going to say, say it, then say what you said" doesn't apply for short policy and analysis pieces. Just get on with the analysis and findings.

## **2.8 Avoid Giving Places Agency**

In discussing economic and demographic trends for neighborhoods, cities and regions, avoid implying that places have "agency." Example: "El Paso shifted its population mix in response to major changes in Federal immigration policy." In this case, El Paso as a collective, is being treated as an actor when it is actually simply a place with a collection of actors (people, households, businesses, organizations) who are reacting to the federal policy change in various ways. It would be more accurate to say that "El Paso's population mix shifted in response..." There may be cases when implying the place is an actor makes sense, for instance when you are discussing a community-wide strategy or policy.

## **2.9 Discuss Findings, Not Exhibits**

People don't want to read about figures and tables. They want to read about trends that matter. Avoid discussing exhibits. Instead, discuss findings, referring to figures and tables as supporting evidence. No: "Figure 1 shows that poverty in center city neighborhoods in Cleveland is increasing." Yes: "Poverty in center city Cleveland is increasing (see Table 1)."

# **3 Usage**

## **3.1 Print and Proof**

Catchall category for "edit your draft with greater diligence." Achieve such a objective by printing your paper and correcting it by hand. Errors that have a way of getting lost on the computer monitor show up in embarrassingly stark relief on the ol' parchment.

## **3.2 Define Acronyms on First Use**

The first time you use an acronym (e.g., BLS), spell it out, followed by the acronym in parentheses. "Data are from the Bureau of Labor Statistics (BLS)." Then use the acronym to your heart's content.

### **3.3 Write out Numbers Less than 11**

Although sometimes the convention is that numbers one through ninety-nine should be spelled out. Numerals should be used for rates, percentages and other “data” indicators. Thus we would write “there are eight counties in the MSA,” but “the region grew by 8 percent.”

### **3.4 Spell Out Numbers Starting Sentences**

Any number that begins a sentence (or a bullet point) should be spelled out.

### **3.5 Watch Your Caps**

No need to capitalize industries, occupations, or other sectoral-type categories. Do not over-capitalize. Note that when referring to a single county, write “Tehama County.” But writing about multiple counties, it is “Tehama and Shasta counties.” Also: the “City of New York” but the “cities of Palo Alto and San Jose.”

### **3.6 No Apostrophe on Dates**

When referring to decades (e.g., 1990s), do not use an apostrophe.

### **3.7 Data are Plural**

No: “The data is hard to find.” Yes: “The data are hard to find.”

### **3.8 Use Proper Note Punctuation**

Note numbers are best placed at the end of a sentence outside the punctuation. For example: This is a sentence that requires a citation.<sup>1</sup> Not: This is a sentence that requires a citation<sup>1</sup>.

### **3.9 Complete Sentences in Notes**

Footnotes and endnotes should be complete sentences. Complete sentences have punctuation at the end.

### **3.10 Punctuation Inside Quotes**

Punctuation generally goes inside quotes. Yes: “Run, Tom, run,” said Jane. No: “Down, Spot, down”, said Percival, Dick’s little-known cousin from Topeka.

### **3.11 Write out Percent**

One of the few times the “less ink is better” rule is violated. Write “8 percent,” not “8%.” It’s less distracting to the eye.

### **3.12 Two Spaces Between Sentences**

One space is the practice in journalism but professional writing ain’t ‘da papers. Two spaces. Always.

### **3.13 Two Spaces After a Colon**

But be advised that word processing software like Word and WordPerfect frequently perpetuates incorrect punctuation by automatically deleting the extra space. Note also that the word following the colon is not capitalized. And one space after semicolons, by the way.

### **3.14 Use Arabic Numbers for Notes**

Microsoft Word often defaults to the use of Roman numerals for notes and endnotes (i, ii, iii. . .). Change this option and use Arabic numerals. More efficient.

### **3.15 Citing the URL is Not Enough**

In the Internet age it has become distressingly common practice to cite only the URL for online documents. But consider this: if you quoted Tolstoy's *War and Peace* using a copy you checked out from the New York Public Library, you would not cite the library as the source. The same principle applies to the Internet. For web sites, which are inherently Internet-based, you should list the name of the site and then the URL. For documents accessed online, you should cite in the usual way (author, date, title, etc.) and then include the URL. Note that you are not obligated to list the URL for freestanding documents if you include the complete citation otherwise.

### **3.16 Avoid Ampersand (&) in Text**

The symbol "&", known as the ampersand, should not be used in your text write-up. It is ok to use it for labels in tables and figures.

## **4 Numbers**

### **4.1 Interpret Quantities by Comparison**

Do not just report growth rates, quantities and other indicators for individual places. They are hard to interpret by themselves. For example, to back up a claim that your region has faced substantial population growth in the last decade, contrast its growth rate with the national average growth rate.

### **4.2 Explain Regional Geography**

The first time you mention your region, explain—either in the text or in a note—what its geographic composition is (e.g., its counties).

### **4.3 Significant Digits**

Use numbers with levels of precision that match the realistic precision in the underlying data. Should a location quotient be expressed as 1.709? No. Round to the nearest tenth (1.7). Percentage growth rates for subnational areas are also usually best expressed with one decimal place. Shares can be converted to percentages and expressed to one decimal place to make them more readable.

### **4.4 Only Include Exhibits You Reference in Text**

No table, figure, chart or line drawing should be included in the report or report appendix unless it is referenced somewhere in the text discussion. That reference may be very brief ("see Table 4"), but it has to be there (it could also be in an endnote or footnote). Think of it this way: if it wasn't important enough for you to mention it, why did you include it?

### **4.5 Report the Quantity**

Sometimes it is easy to forget to report the variable levels when we are analyzing variable trends. For example, it is common in analyses of wage trends ("wages are on the up and up") to find nary a mention of wage levels. As a reader, you are left wondering "wages are going up, but are they high or low?" It is better to ground an analysis of changes in a given variable with a mention of the levels of the variable. So "The current annual average wage in River City for production workers is \$27,500. That is up 12 percent in real terms since 1997. By contrast, the average production worker wage nationwide increased by 16.5 percent. . ."

### **4.6 Emphasize Significant Findings**

When analyzing data we are looking for the most significant findings and often a "story" that helps explain those findings. In descriptive analysis, significance is often first assessed not in a statistical sense, but by looking for high and low values or major changes. But not all high/low values or large changes

are necessarily important from a policy or planning point of view. Be careful to think through the potential implications of a finding before discussing it. Ask yourself: “So what?” If you can’t think of an answer, leave it out. (Example: “Since 1990, River City’s unemployment rate has registered below the U.S. rate in every quarter except IIQ 1996 and IVQ 1998” might be better stated as “River City’s unemployment rate has registered below the U.S. rate in 54 of the last 56 quarters.” A subtle change but the reader is not left asking: “Hmm, I wonder if I’m supposed to know why it was higher in those two periods?”

#### **4.7 Percent versus Percentage Points**

Let’s say you’re comparing the U.S. unemployment rate of 5.0 percent to the Peoria unemployment rate of 4.0 percent. Is the Peoria rate 1 *percent* lower than the national rate? No. It is 1 *percentage point* lower. A Peoria rate 1 percent lower than the national average would be 4.95 percent.

#### **4.8 Refer to Exhibits in Text**

Refer to your figures and tables directly in your text. Example: “Table 2 reports employment growth figures for the 1995 to 2003 period.” Or: “Employment growth was particularly strong in the retail and construction sectors (see Table 4).” If you are going to send readers to a table in a parenthetical phrase (like the last example), be sure to include the word “see.” So, you would not write: “Employment growth was particularly strong in the retail and construction sectors (Table 4).”

### **5 Tables, Figures and Graphics**

#### **5.1 Make ‘Em so they Stand Alone**

Figures, graphs and tables should be constructed so that they can stand alone (as much as feasible). That is, someone could pick up and read the table without the accompanying text and get the gist of what it is trying to say. It goes without saying that sources of all data and calculations should be clearly indicated.

#### **5.2 Avoid Use of Grids in Tables**

There is almost never any reason to include gridlines on a data table. Putting a line below the column headings and one below the last row of data, followed by the data source, is usually the best approach.

#### **5.3 Decimal Justify Data Columns**

Line up columns of numbers in tables on their explicit or implicit decimal points. Do not center justify numeric data.

#### **5.4 Use Descriptive Column Labels in Tables**

Remember the golden rule in table and figure construction: make it stand alone. That means column headings that someone can understand without reading the report body. Sometimes this is hard to do efficiently (headings can get too long). In such cases an alternative is to use short-hand headings but explain what they mean in a footnote to the table.

## 5.5 Use Label Hierarchies in Tables

A good way to make tables more efficient is to use hierarchical labeling of columns. In the table below, employment and payroll data for Illinois were available in 2003. But national and regional data were available only for 2001. The table efficiently reports the 2003 Illinois numbers along with national and Midwest growth rates for 1990-2001 and location quotients for 2001. A note at the bottom of the table should clarify how the Midwest is defined as well as what the reference area is for the location quotient.

Sector	Employment								
	2003	Per Estab	Percent Growth			Location Quotient		Payroll	
			IL '90-'03	MW '90-'01	US '90-'01	2001	Change '90-'01	Mil \$	Average Wage

## 5.6 Indicate Source on Figures and Tables

Data sources should be indicated clearly on all figures and tables.

## 5.7 Used Detailed Sources

For some series simply listing the data provider agency is not enough. For example, BLS reports several employment series. Therefore, list the series within BLS (or other) that you are using. For example, *Regional Economic Information System, US Bureau of Economic Analysis*, or *Covered Wages and Employment, US Bureau of Labor Statistics*.

## 5.8 Pitch the Pie Chart

While seductive to the eye, pie charts are far less interpretable than a simple bar chart. Go for conveying your findings clearly, not spicing up your document with spurious graphical devices.

## 5.9 Shun 3-D

Three dimensional bar charts and other graphics generally should be avoided. While they look great, they usually compromise proper interpretation of the findings. Keep it simple: no 3-D.

## 5.10 Call Tables “Tables” and Figures “Figures”

By convention, tables are called “tables” and graphics such as data charts or line drawings are called “figures.” Sometimes people use the word “exhibit” to label a line drawing. Avoid use of the terms “chart” and “graphic” for labels (e.g., Chart 1, Graphic 1). Also, never call a table a figure or a figure a table. Note that exhibit labels are generally capitalized: “Population trends for River City are summarized in Table 4.”

## 5.11 Sequence Tables and Figures in Order in the Text

If you have three tables, do not discuss Table 1, then Table 3, then Table 2. If the results in Table 3 are mentioned prior to those in Table 2, renumber the tables. Same for figures or any other exhibit.

## 5.12 Use Commas for Numbers

In data tables, include commas in the number formatting. So: \$47,500 instead of \$47500.

## 5.13 Avoid Grids on Figures

Microsoft Excel’s default on data charts includes gridlines. Most charts are simple enough not to need them. Get rid of the clutter and save some ink!



### **5.14 Don't Rely on Color**

Remember two things: 1) not everyone has a color printer; 2) your document may be photocopied at some point even if initially printed in color. That means your document should not depend on color to convey its findings. An example of depending on color would be to use red text in your tables to indicate negative values or any color to highlight interesting trends.

### **5.15 Report Numbers in 000s**

It is ok to report very large numbers in thousands or even millions in tables if the precision in the original units is unnecessary. It is probably not critical in most cases for people to know that the US population changed by 1,456,789 over a given period (1.46 million will probably suffice). For small areas, such as counties and regions, reporting the original units is usually preferred except for large number variables (e.g., total dollar income).

### **5.16 No Superfluous Material**

Avoid the practice of tacking on photocopies of government documents or tables to your reports as “general points of information.” The idea in most professional writing is to convey maximum information with minimum material; tossing in nonessential material from secondary sources defeats that aim.

## Notes

1. The use of codes and guides to mark writing and provide feedback was actually invented by my uncle, Donald Feser, a former high school English teacher and lifelong wordophile. He was troubled by how difficult it is for a teacher to find the time to mark writing in enough detail to be of use to aspiring writers. He has developed an extensive series of guides for grammar, spelling, style, etc. This document is my shameless knock-off for professional writing. But hopefully it will prove helpful. Disclaimer: I am not a writing teacher and, to keep things simple, I emphasize only the issues that I encounter repeatedly when I view professional students' work. Comments (and corrections and suggestions) are very welcome.