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Part IV: Writing Your Argument

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Reference:

- Wayne Booth, George Colomb, Joseph Williams, Joseph Bizup, and William FitzGerald, **The Craft of Research**, 4th Edition, The University of Chicago Press, 2016.

Outline

Prologue

12. Planning and Drafting

13. Organizing Your Argument

14. Incorporating Sources

15. Communication Evidence Visually

16. Introductions and Conclusions

17. Revising Style: Telling Your Story Clearly

Prologue

- To simplify writing, **write as you go**
 - Your major research question
 - A possible answer
 - A body of evidence to support the answer
 - The major warrants
 - The objections you will have to rebut
 - The objections you cannot rebut

Prologue

- You are **ready to draft** your work when you:
 - Know **who your readers are**, what they know, and why they should care about your problem.
 - Decide the **kind of ethos or character** you want to project.
 - Can sketch **your question and its answer** in two or three sentences.
 - Can sketch **the reasons and evidence** supporting your claim.
 - Know the **questions, alternatives, and objections** that your readers are likely to raise, and you can respond to them.
- Ready? Go to planning!

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12.1 Planning Your Paper

12.2 Avoiding Three Common but Flawed Plans

12.3 Turning Your Plan into a Draft

12.1 Planning Your Paper

1. Sketch a working **introduction**.
 - Background and gap, objective, contribution, road map
2. Identify **key concepts** that will run through your whole paper.
 - Capture the key ones in the work title.
3. Plan the **body** of your paper.
4. Plan each **section and subsection**.
5. Sketch a working **conclusion**.

Experimental sciences:

- Introduction
- Related work
- Methods and Materials
- Results
- Discussion
- Conclusion

Select titles carefully.

12.2 Avoiding Three Common but Flawed Plans

1. Do not organize your paper as a **narrative of your thinking**.
2. Do not assemble your paper as a **patchwork** of your sources.
3. Do not map your paper directly on to the **language of your assignment** in the course.



Important to showcase your contributions

12.3 Turning Your Plan into a Draft

- Draft in a way that feels **comfortable**.
- Start drafting **as soon as you can**.
- Use **keywords** to keep yourself on track.
- Work through **procrastination and writer's block**.
 - Find the **reason** and solve it.
 - Concentrate first on **putting things on paper**, then revise and perfect.
 - Let your unconscious work on the problem. When the flow stops, **you have other tasks to do**.

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13.1 Thinking Like a Reader

13.4 Revising the Organization of Your Paper

13.5 Checking Your Paragraphs

13.6 Letting Your Draft Cool, Then Paraphrasing It

13.1 Thinking Like a Reader

- **Readers** do not read word by word, sentence by sentence.
- They want to begin with a **sense of the whole**.
- Then they use that sense of the whole and its aims to interpret its **parts**.
- Attend first to your overall organization, then to sections, then to the coherence of your paragraphs and the clarity of your sentences, and, finally, to matters of spelling and punctuation.

13.4 Revising the Organization of Your Paper

- Do **key terms** run through your whole paper?
- Does each **major section** begin with words that signal how that section **relates to the one before it**?
- Is it clear how each **section relates to the whole**?
- Is the **point** of each **section** stated in a **brief introduction** (preferably) or in its conclusion?
- Do **terms** that **unify** each **section** run through it?

13.5 Checking Your Paragraphs

- Every paragraph should **begin with a topic sentence** and be directly relevant to the section in which it appears.
- **Arrange** your paragraphs so that they lead your readers through the conversation you are orchestrating.
- Paragraphs should be **long enough** to develop their points but not so long that readers lose focus.

13.6 Letting Your Draft Cool, Then Paraphrasing It

- What seems good one day often looks different the next.
- When you return to it, **skim** its top-level parts: its introduction, the first paragraph of each major section, and its conclusion.
- **Paraphrase** for purpose, clarity, coherence and consistency.

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14.1 Quoting, Paraphrasing, and Summarizing Appropriately

14.2 Integrating Direct Quotations into Your Text

14.3 Showing Readers How Evidence Is Relevant

14.4 The Social Importance of Citing Sources

14.5 Four Common Citation Styles

14.6 Guarding Against Inadvertent Plagiarism

14.1 Quoting, Paraphrasing, and Summarizing Appropriately

- You must build your paper out of **your own words** that reflect your own thinking.
- **Support it** with quotations, paraphrases, and summaries, with proper citations.
- **Summarize** when details are irrelevant or a source isn't important enough to warrant much space.
- **Paraphrase** when you can state what a source says more clearly or concisely or when your argument depends on the details in a source but not on its specific words.

14.1 Quoting, Paraphrasing, and Summarizing Appropriately

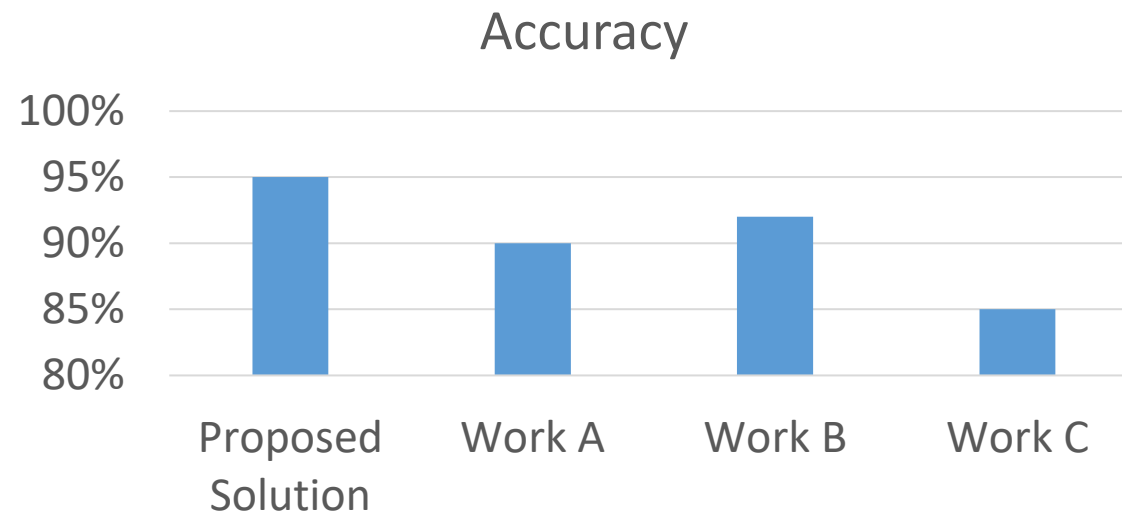
- **Quote** for these purposes:
 - The words themselves are **evidence** that backs up your reasons.
 - The words are **from an authority** who backs up your claims.
 - The words are strikingly **original** or express your key concepts so compellingly that the quotation can frame an extended discussion.
 - A passage states a view that you **disagree** with, and **to be fair** you want to state it exactly.

14.2 Integrating Direct Quotations into Your Text

- For four or fewer quoted lines, run them into your text, **surrounded by quotation marks**, e.g., I want to recall here what JFK emphasized: *“Ask not what your country can do for you – ask what you can do for your country.”*
- For five or more lines, set them off as an indented block.
In discussing religious pluralism, Posner says that *“a notable feature of American society is [our] religious pluralism”* and notes how social norms affect *“the efficacy of governance . . . in view of the historical importance of religion as both a source and enforcer of such norms”* (299).

14.3 Showing Readers How Evidence Is Relevant

- **Introduce** your evidence with a **sentence** stating what you want your readers to get out of it.
- **Example:** Chart 1 shows that the proposed solution gives higher accuracy than previous work.



14.4 The Social Importance of Citing Sources

- **Citations benefit you**
 - Plagiarism, trust, respect
- **Citations help your readers**
 - Reference, and to check reliability, currency, and completeness
- **Citations honor your sources**
 - Reputation, honor

14.5 Four Common Citation Styles

Two basic patterns: **author-title** and **author-date**

1. **Anes, Lee J.** *A Story of Ohio: Its Early Days*. Boston: Hobson Press, 1988.
2. **Anes, Lee.** 1988. *A story of Ohio: Its early days*. Boston: Hobson Press.

1. Two **author-title** styles

1.1 Chicago **author-title style:** List your sources in a bibliography and cite them in your text with footnotes or endnotes.

1.2 MLA style: Give a list of works cited and cite your sources parenthetically in your text (Author page[s]).

Some have claimed that Castro would reform Cuban politics.⁵

5. George Smith, *Travels in Cuba* (Boston: Hasbro Press, 1999), 233.

14.5 Four Common Citation Styles

2. Two **author**-date styles

2.1 Chicago **author-date style:** List your sources in a bibliography but cite them parenthetically in your text (Author date, page[s]).

2.2 APA style: This style uses parenthetical citations as well.

Authors	End of Sentence	Start of Sentence
1	... (Abandah, 2020, a).	Abandah ... (2020, a)
2	... (Abandah and Davidson, 1996).	Abandah and Davidson ... (1996)
3 or more	... (Abandah <i>et al.</i> , 2015, p. 76).	Abandah <i>et al.</i> ... (2015, p. 76)

APA Style (Adopted in U of J)

- Abandah, G. A., & Davidson, E. S. (1996, April). Modeling the communication performance of the IBM SP2. In Proceedings of International Conference on Parallel Processing (pp. 249-257). IEEE.
- Abandah, G. A., Graves, A., Al-Shagoor, B., Arabiyat, A., Jamour, F., & Al-Tae, M. (2015). Automatic diacritization of Arabic text using recurrent neural networks. International Journal on Document Analysis and Recognition, 18(2), 183-197.
- Prinz, P., Crawford, T., Hennessy, J. L., & Patterson, D. A. (2018). Computer Architecture: A Quantitative Approach. (6th ed.). Elsevier.

IEEE Conference Style (MS Doc A4 Template)

Number citations consecutively within brackets [1]. The sentence punctuation follows the bracket [2]. Refer simply to the reference number, as in [3]—do not use “Ref. [3]” except at the beginning of a sentence: “Reference [3] was the first ...”

- [1] G. Eason, B. Noble, and I. N. Sneddon, “On certain integrals of Lipschitz-Hankel type involving products of Bessel functions,” *Phil. Trans. Roy. Soc. London*, vol. 47, no. 2, pp. 529–551, April 1955.
- [2] G. A. Abandah and E. S. Davidson, “Modeling the communication performance of the IBM SP2,” in *Proceedings of International Conference on Parallel Processing*, pp. 249-257, 1996.
- [3] P. Prinz, T. Crawford, J. L. Hennessy, and D. A. Patterson, *Computer Architecture: A Quantitative Approach*, 6th ed., Elsevier, 2018.

14.6 Guarding Against Inadvertent Plagiarism

- **Don't do it!**
- **How to know?** If the person you borrowed from read your writing, would she recognize your words or ideas as her own, including paraphrases, summaries, or even general ideas or methods? If so, you must cite and quote.

14.6 Guarding Against Inadvertent Plagiarism

- **Cite** the source of every quotation, paraphrase, or summary.
- **Signal every quotation**, even when you cite its source.
- **Don't paraphrase** too closely.
- Usually **cite** a source for **unfamiliar ideas**. Cite when:
 1. The idea is associated with a specific person.
 2. It's new enough not to be part of a field's common knowledge.
- **Don't plead ignorance**, misunderstanding, or innocent intentions.

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15.1 Choosing Visual or Verbal Representations

15.2 Choosing the Most Effective Graphic

15.3 Designing Tables, Charts, and Graphs

15.4 Specific Guidelines for Tables, Bar Charts, and Line Graphs

15.5 Communicating Data Ethically

15.1 Choosing Visual or Verbal Representations

- When the data are few and simple, readers can grasp them as easily in a **sentence** as in a **table**:

In 2013, on average, men earned \$50,033 a year and women \$39,157, a difference of \$10,876.

TABLE 15.1. Male-female salaries (\$), 2013

Men	50,033
Women	39,157
Difference	10,876

- When many or complex, use **graphics**:
 - **Tables**
 - **Figures**
 - **Charts** typically consist of bars, circles, or other shapes.
 - **Graphs** consist of lines.

15.2 Choosing the Most Effective Graphic

- Use a **table** to present your data **precisely and objectively**.

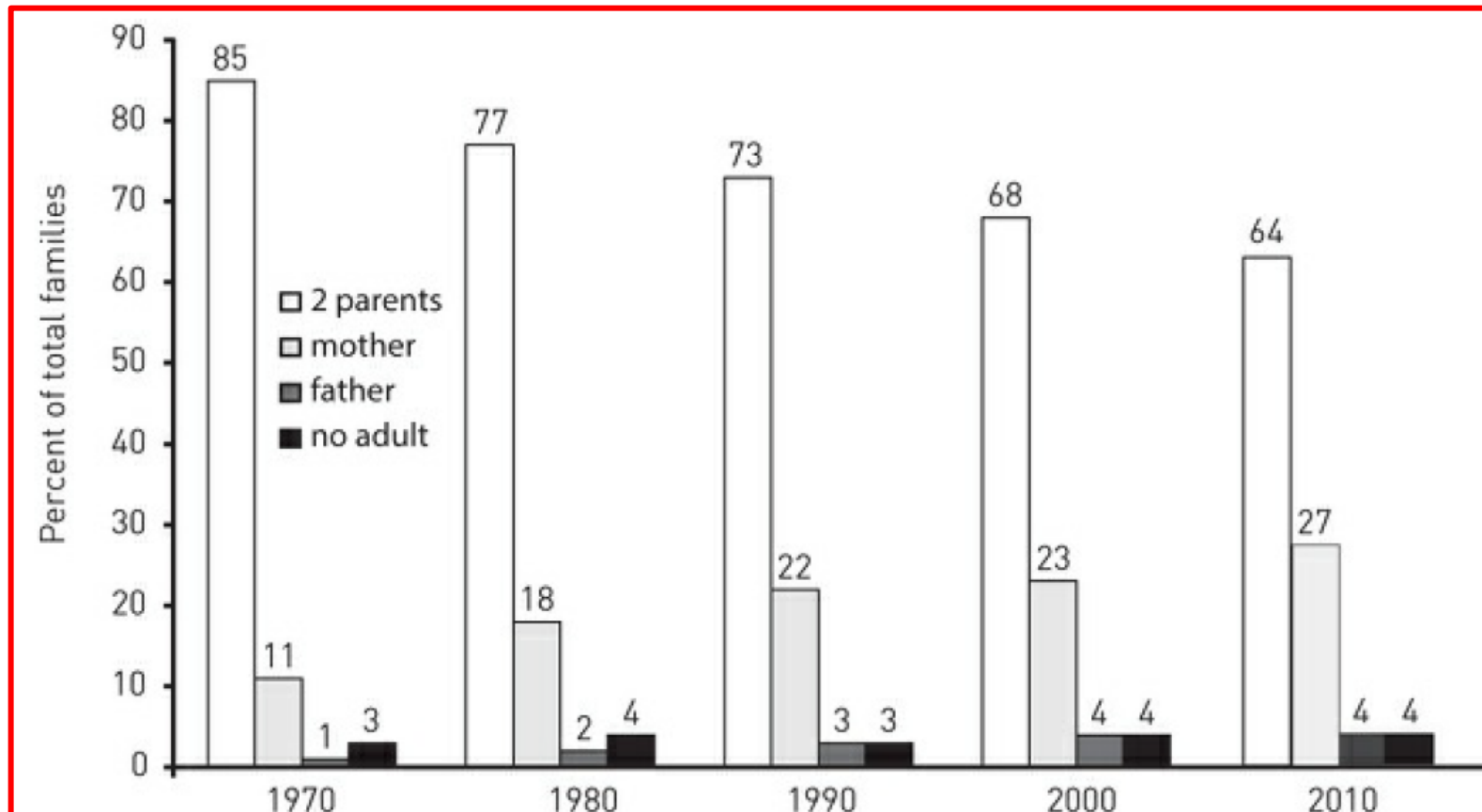
TABLE 15.2. Changes in U.S. family structure, 1970–2010

Percentage of total families

Family type	1970	1980	1990	2000	2010
2 parents	85	77	73	68	64
Mother	11	18	22	23	27
Father	1	2	3	4	4
No adult	3	4	3	4	4

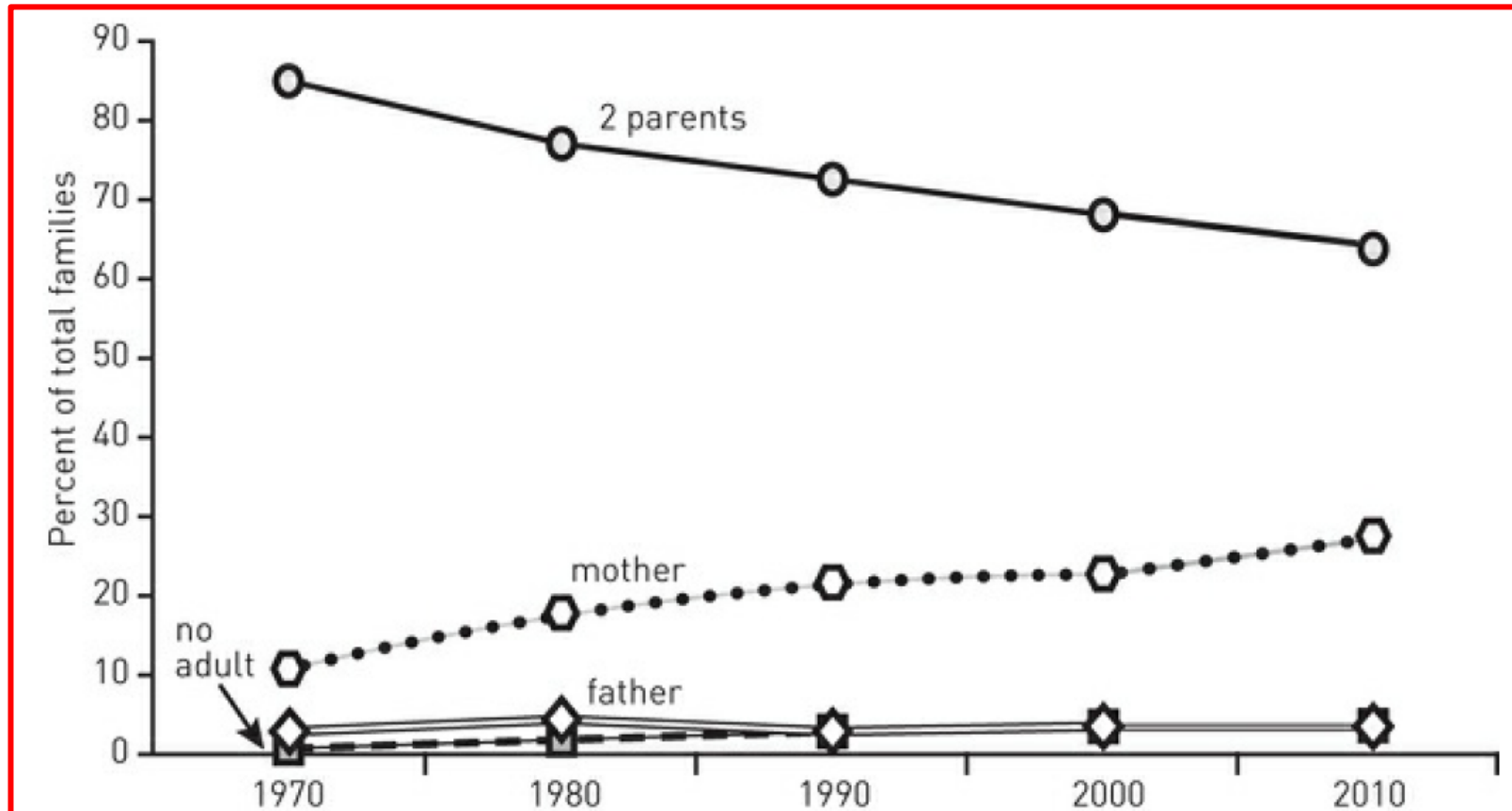
15.2 Choosing the Most Effective Graphic

- Use a **bar chart** to emphasize **contrasts** among discrete items.



15.2 Choosing the Most Effective Graphic

- Use a **graph** to emphasize **change** over time or **trend**.



15.3 Designing Tables, Charts, and Graphs

- Frame each graphic to **help readers understand it**.
 - **Label** every graphic in a way that describes its data.
 - Insert into the table or figure **information** that helps readers see how the data support your point.
 - **Introduce** the table or figure with a sentence that explains how to interpret it.
- Keep all graphics as **simple** as their content allows.
 - Include only **relevant data**.
 - Keep the visual impact **simple**.
 - Use **clear labels**.

15.4 Specific Guidelines for Tables, Bar Charts, and Line Graphs

- **Tables**
 - **Order** to facilitate finding information.
 - **Round** numbers to a relevant value.
 - **Sum** totals at the bottom of a column or at the end of a row.

Table Example

TABLE 15.5. Unemployment in major industrial nations, 1990–2000

	1990	2001	Change
Australia	6.7	6.5	(0.2)
Canada	7.7	5.9	(1.8)
France	9.1	8.8	(0.3)
Germany	5.0	8.1	3.1
Italy	7.0	9.9	2.9
Japan	2.1	4.8	2.7
Sweden	1.8	5.1	3.3
UK	6.9	5.1	(1.8)
USA	5.6	4.2	(1.6)

TABLE 15.6. Changes in unemployment rates of industrial nations, 1990–2000

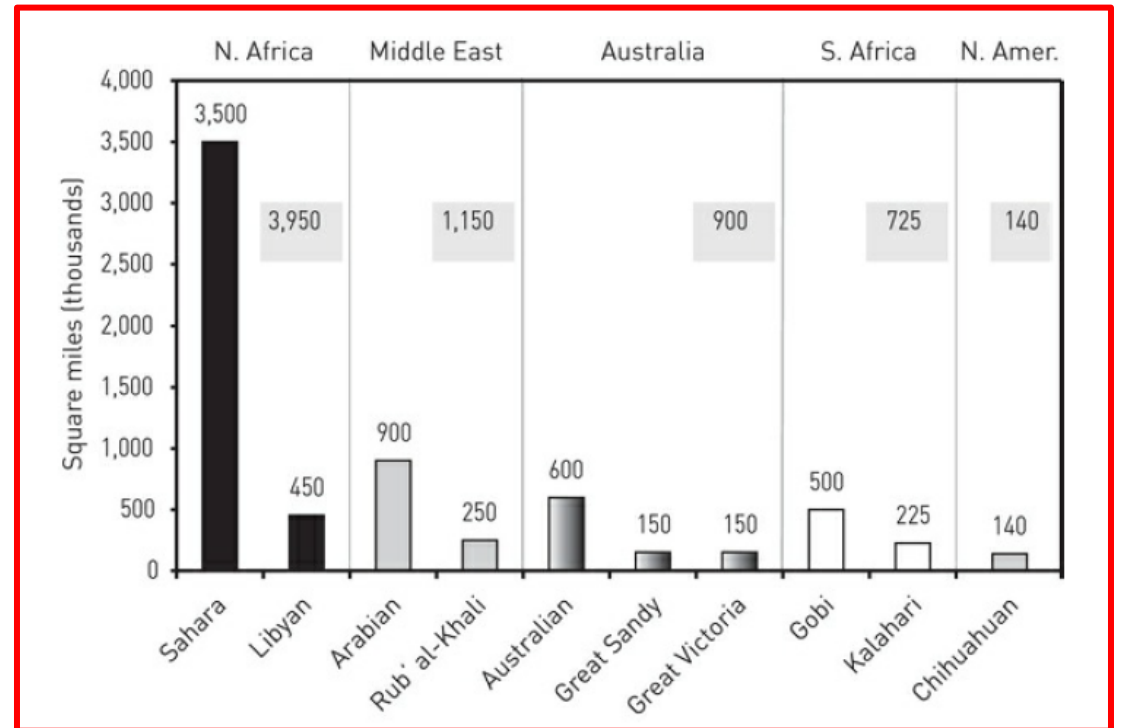
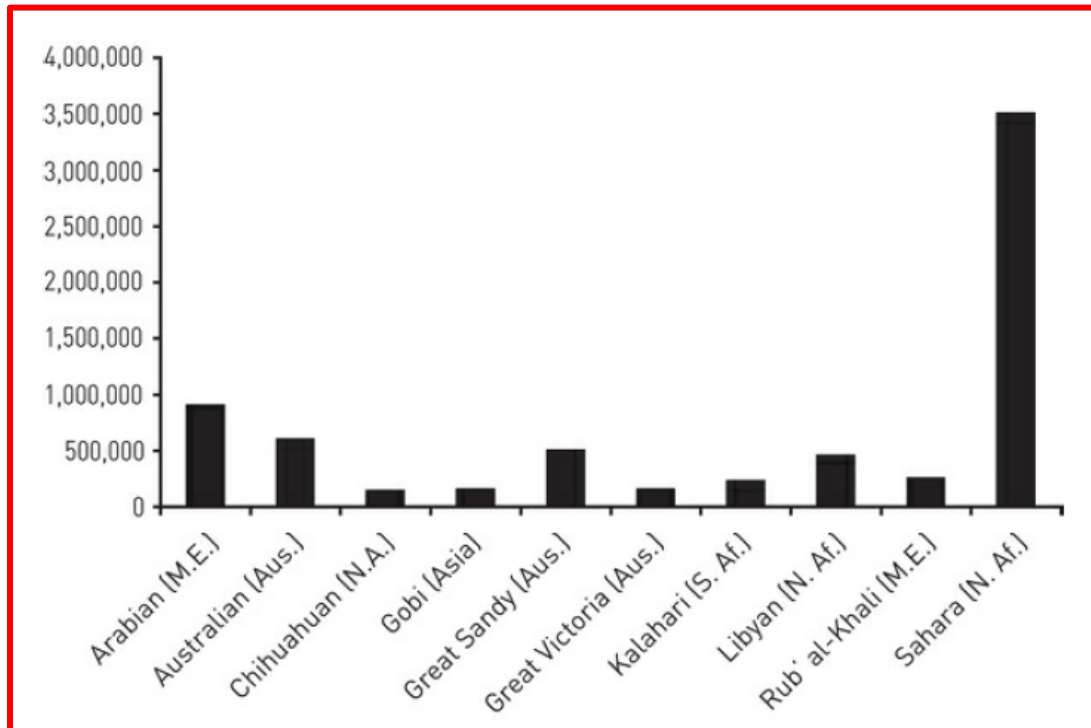
English-speaking vs. non-English-speaking nations

	1990	2001	Change
Canada	7.7	5.9	(1.8)
UK	6.9	5.1	(1.8)
USA	5.6	4.2	(1.6)
Australia	6.7	6.5	(0.2)
France	9.1	8.8	(0.3)
Japan	2.1	4.8	2.7
Italy	7.0	9.9	2.9
Germany	5.0	8.1	3.1
Sweden	1.8	5.1	3.3

Bar Charts

- **Group and arrange** bars to create an image that matches your message.
- Example: We need a chart to support the statement: *Most of the world's deserts are concentrated in North Africa and the Middle East.*

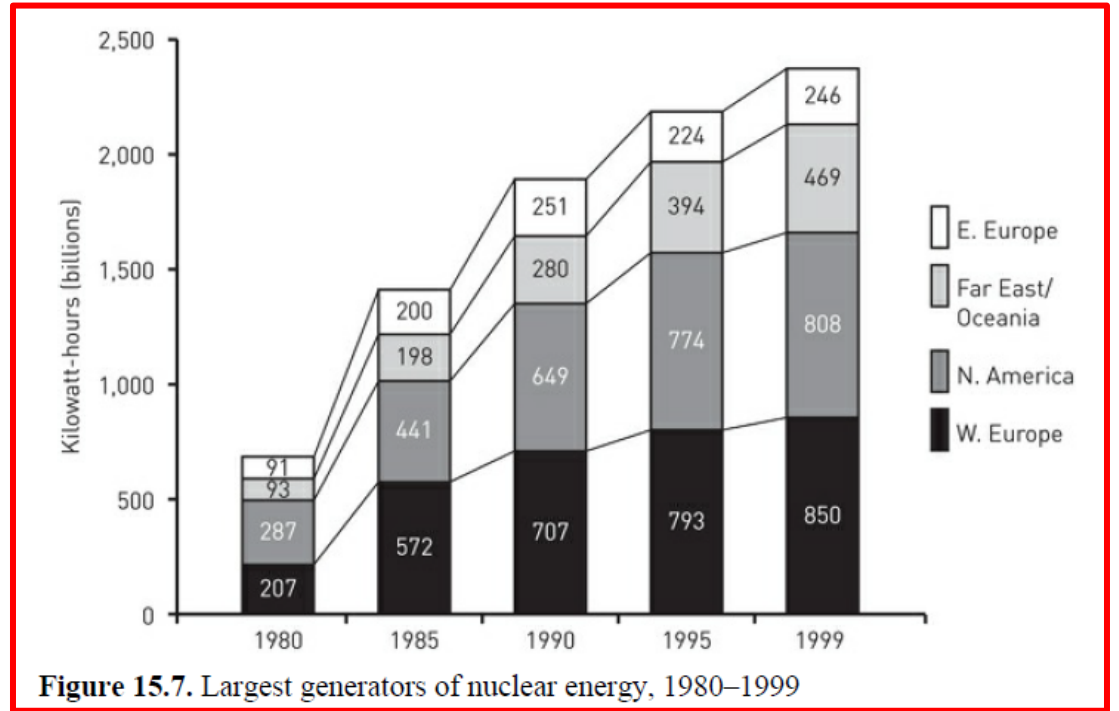
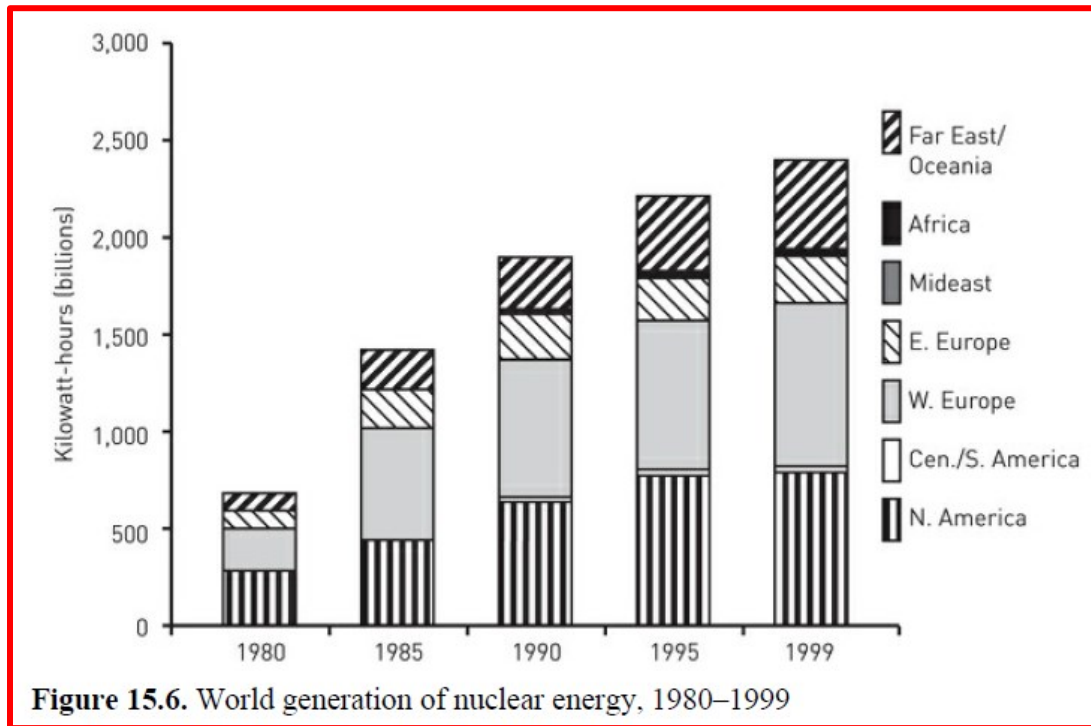
Bar Chart Example



Stacked Bar Charts

- Use stacked bar charts **to show the parts of the whole**.
 - Use stacked bars only when you want readers **to compare whole values** for different bars rather than their divided segments.
 - Arrange segments in a logical order. If possible, put the **largest** segment at the **bottom** in the **darkest** shade.
 - **Label segments** with specific numbers and to assist comparisons; **connect corresponding segments** with gray lines.

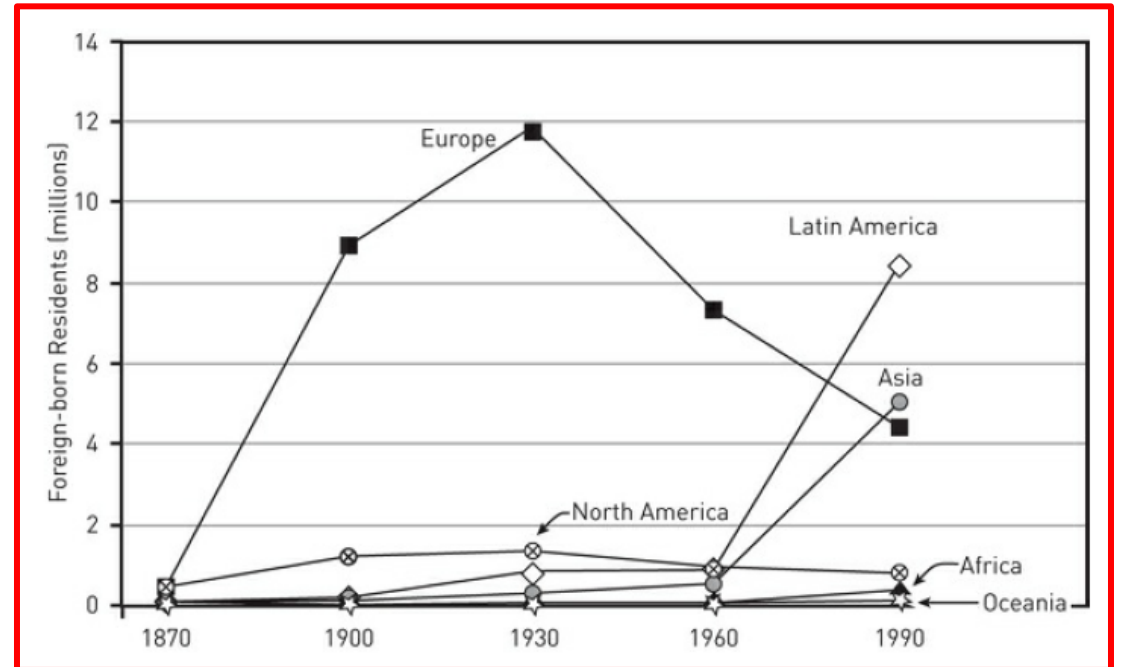
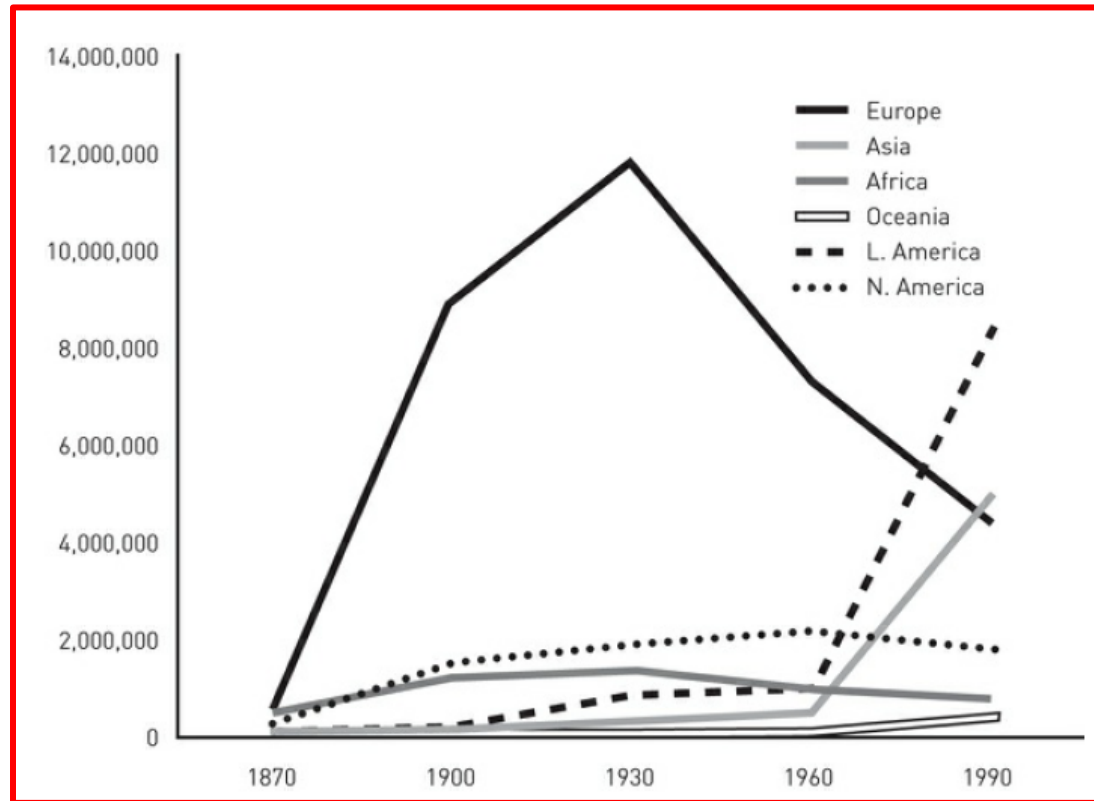
Stacked Bar Chart Example



Line Graphs

- **Show the trend clearly.**
 - Choose the variable that makes the line go in the desired direction, **up** for **good news**, **down** for **bad news**.
 - No more than **six** lines
 - If you have fewer than ten or so data points, indicate them with **dots**. If only a few are relevant, **insert numbers** to show their exact value.
 - **Do not** depend on different **shades of gray** to distinguish lines.

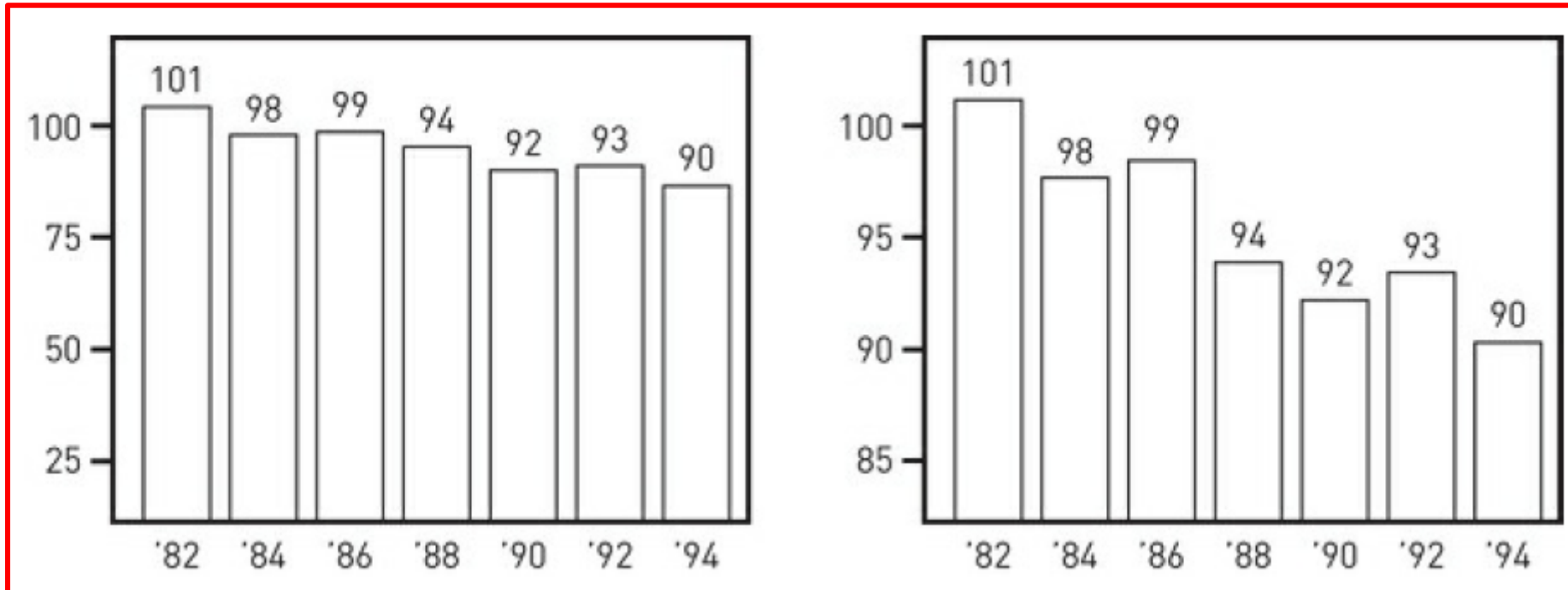
Line Graphs



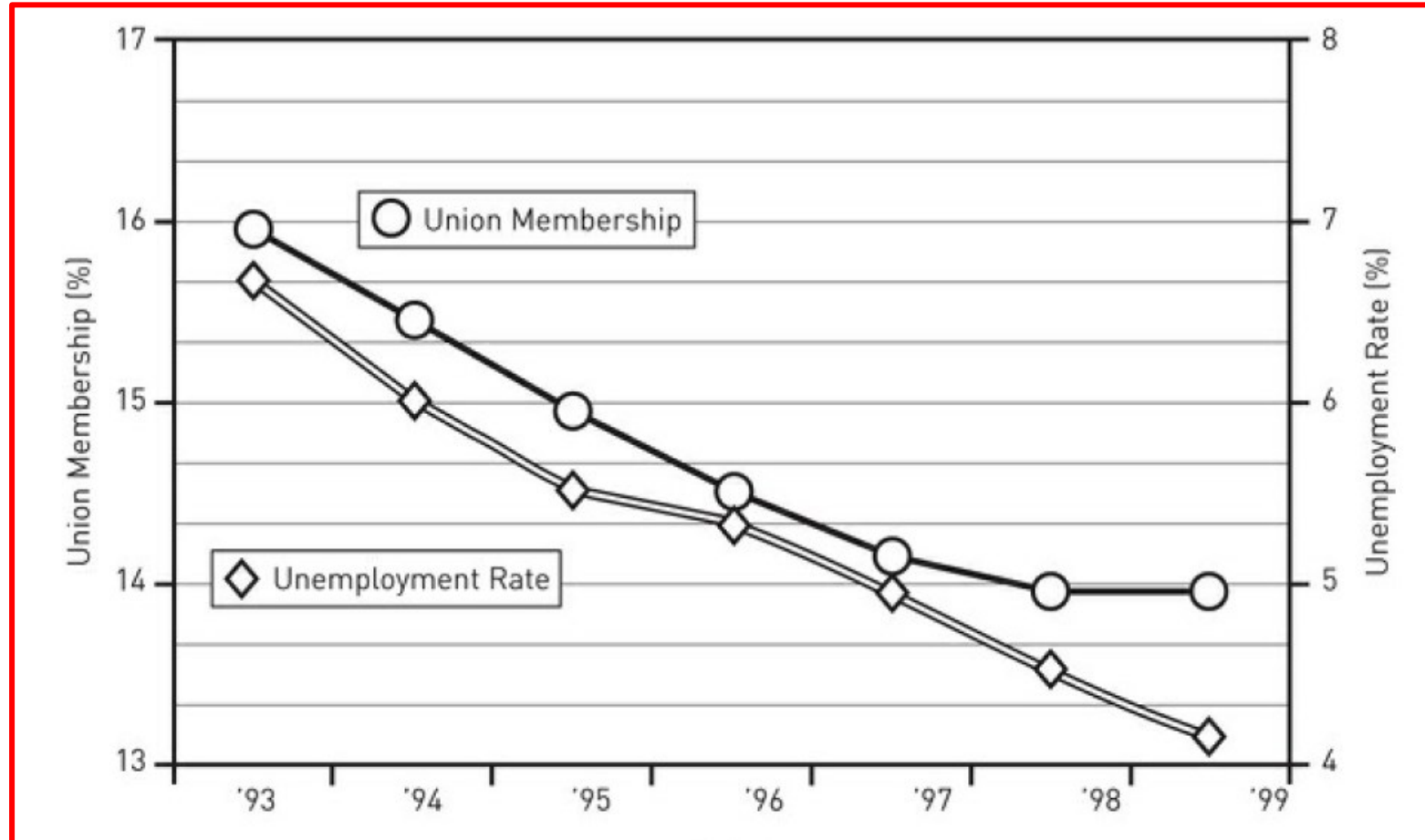
15.5 Communicating Data Ethically

- **Do not** make a table or figure unnecessarily **complex** or **misleadingly simple**.
- If the table or figure **supports a point, state it**.
- **Three don'ts**

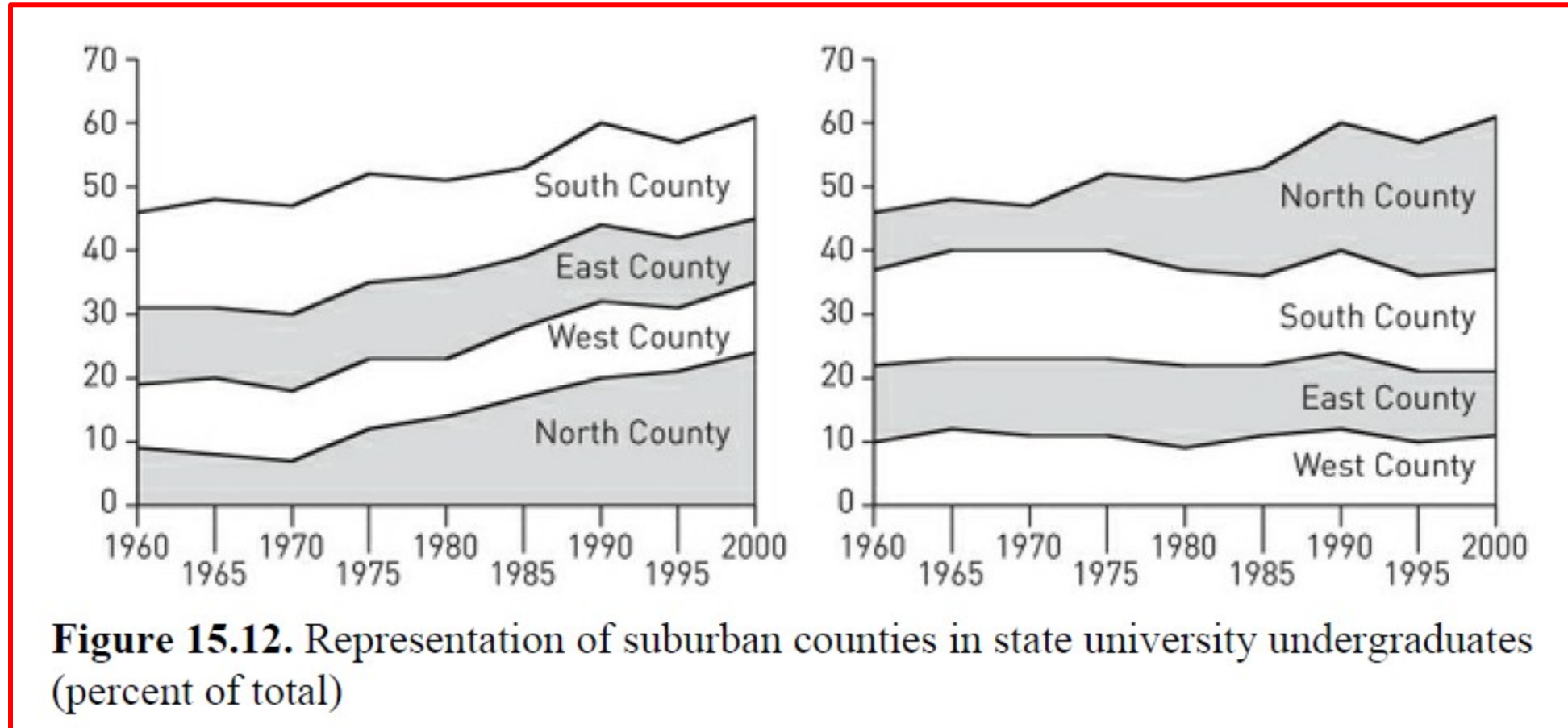
1. Do not manipulate a scale to magnify or reduce a contrast.



2. Do not manipulate the image to imply false correlations.



3. Do not manipulate the image to encourages readers to misjudge values.



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16.1 The Common Structure of
Introductions

16.2 Step 1: Establishing a Context

16.3 Step 2: Stating Your Problem

16.4 Step 3: Stating Your Response

16.5 Setting the Right Pace

16.7 Finding Your First Few Words

16.8 Writing Your Conclusion

16.1 The Common Structure of Introductions

- The **common structure** consists of three elements. Each of those elements plays its own role not only in **motivating** readers to read your paper, but in helping them **understand** it.
 1. **Contextualizing background**
 2. **Statement of the problem**
 3. **Response to the problem**

16.2 Step 1: Establishing a Context

- Most introductions follow the same **strategy**.
 1. They open with the **stable context of a common ground**—some apparently unproblematic account of research already known.
 2. The writer then **disrupts it with a problem**.
- Write to someone who has read some of the same sources as you and is generally interested in the same issues, but does not know what is the problem or your solution.

16.3 Step 2: Stating Your Problem

- The problem has a **condition** and **consequences**.
- **Specify the condition** for the problem.
- **Specify the consequences** of the problem, if needed.
- To **convince** readers that they should take your problem seriously, you must state the **cost** they will pay if it is not resolved or the **benefits** they gain if it is.

16.4 Step 3: Stating Your Response

- Two alternatives
 1. **State the gist** (core) of your solution
 2. **Promise** a solution

16.5 Setting the Right Pace

- The **pace** of an introduction **varies by field**.
- Researchers whose problems are already **familiar** to their research communities can open **quickly**
- Those who work in fields where problems are **not widely shared** must start more **slowly**.

16.7 Finding Your First Few Words

- Open with a **striking fact** relevant to your problem.
- Open with a **striking quotation**.
- Open with a **relevant anecdote** (short story).

16.8 Writing Your Conclusion

- Start with your **main point**.
- Add a **new significance** or application.
- Call for **more research**.

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17.1 Judging Style

17.2 The First Two Principles of
Clear Writing

17.3 A Third Principle: Old Before
New

17.4 Choosing between the Active
and Passive Voice

17.5 A Final Principle: Complexity
Last

17.6 Spit and Polish

17.1 Judging Style

1. Conventional management practice assumes that interaction and collaboration enhance organizational performance by improving employee creativity and productivity. But unless collaboration is punctuated by isolation, and unless workspace configurations provide isolation opportunities, erosion rather than enhancement of organizational effectiveness may result.
2. Managers want the people who work for them to interact and collaborate. When they do this, they become more creative and productive. The organization then performs better. But people also need opportunities to work alone, and workplaces need to provide these opportunities. Otherwise, the organization may become less effective.
3. Managers conventionally assume that when employees interact and collaborate, they become more creative and productive, thus leading the whole organization to perform better. But unless employees also have opportunities to work alone, and unless workspaces are configured to provide them, the organization may become less rather than more effective.

17.1 Judging Style

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Too Academic

2. Managers want the people who work for them to interact and collaborate. When they do this, they become more creative and productive. The organization then performs better. But people also need opportunities to work alone, and workplaces need to provide these opportunities. Otherwise, the organization may become less effective.

Simpleminded

3. Managers conventionally assume that when employees interact and collaborate, they become more creative and productive, thus leading the whole organization to perform better. But unless employees also have opportunities to work alone, and unless workspaces are configured to provide them, the organization may become less rather than more effective.

Professional

17.2 The First Two Principles of Clear Writing

1. Make your **subjects** name the main **characters** in your story.

3a. If rain forests are stripped to serve short-term economic interests, the earth's biosphere may be damaged.

3b. The stripping of rain forests in the service of short-term economic interests could result in damage to the earth's biosphere.

2. Express **actions** not as **nouns** but as **verbs**.

3a. If rain forests are stripped to serve short-term economic interests, the earth's biosphere may be damaged.

3b. The stripping of rain forests in the service of short-term economic interests could result in damage to the earth's biosphere.

17.2 The First Two Principles of Clear Writing

- Abstract nouns also **clutter** a sentence **with articles** and **prepositions**.

4a. Having standardized indices for measuring mood disorders, we now can quantify patients' responses to different treatments.

4b. The standardization **of** indices **for** **the** measurement **of** mood disorders has now made possible **the** quantification **of** patient response **as a** function **of** treatment differences.

17.3 A Third Principle: Old Before New

10a. Because the naming power of words was distrusted by Locke, he repeated himself often. Seventeenth-century theories of language, especially Wilkins's scheme for a universal language involving the creation of countless symbols for countless meanings, had centered on this naming power. A new era in the study of language that focused on the ambiguous relationship between sense and reference begins with Locke's distrust.

10b. Locke often repeated himself because he distrusted the naming power of words. This naming power had been central to seventeenth-century theories of language, especially Wilkins's scheme for a universal language involving the creation of countless symbols for countless meanings. Locke's distrust begins a new era in the study of language, one that focused on the ambiguous relationship between sense and reference.

17.3 A Third Principle: Old Before New

- 10b is better because it begins with information that readers would find familiar.
- Recipe
 1. Make the **first words** refer to **familiar information**.
 2. Put at the **ends** information that readers will find **complex**.

17.4 Choosing between the Active and Passive Voice

11a. The quality of our air and even the climate of the world depend on healthy rain forests in Asia, Africa, and South America. But the increasing demand for more land for agricultural use and for wood products for construction worldwide now threatens these forests with destruction.

11b. The quality of our air and even the climate of the world depend on healthy rain forests in Asia, Africa, and South America. But these rain forests are now threatened with destruction by the increasing demand for more land for agricultural use and for wood products used in construction worldwide.

Although 11b uses passive verb, it is better because the beginning of the second sentence picks up on the character introduced at the end of the first sentence.

17.4 Choosing between the Active and Passive Voice

- Although **English teachers advise avoiding passive verbs**, put **familiar characters in your subjects** even if you will **use passive**.
- **Scientists** typically use the **first person** and active verbs at the **beginning** of journal articles, where they describe how they discovered their problem and **at the end** where they describe how they solved it. **In between**, when they describe processes that anyone can perform, they regularly use the **passive**.

13a. It can be concluded that the fluctuations result from the Burnes effect.

13b. We conclude that the fluctuations result from the Burnes effect.

17.5 A Final Principle: Complexity Last

- **New technical terms** at the sentences **ends**.
 - a. The **monoamine hypothesis** has been the leading biological account of depression for over three decades. According to this hypothesis, **deficits in monoamines including dopamine, epinephrine, norepinephrine, and serotonin** are associated with depression. **Monoamine concentrations in neural synapses** are regulated in different ways by different types of antidepressants.
 - b. For over three decades, the **leading biological account of depression** has been the monoamine hypothesis. According to this hypothesis, **depression** is associated with deficits in neurotransmitters called monoamines, including dopamine, epinephrine, norepinephrine, and serotonin. **Different types of antidepressants** work in different ways to regulate concentrations of monoamines in neural synapses.

17.5 A Final Principle: Complexity Last

- Put **complex bundles** of ideas that require long phrases **at the end** of a sentence.
 - a. The quality of our air and even the climate of the world depend on healthy rain forests in Asia, Africa, and South America. But **the increasing demand for more land for agricultural use and for wood products for construction worldwide** now threatens these forests with destruction.
 - b. The quality of our air and even the climate of the world depend on healthy rain forests in Asia, Africa, and South America. But **these rain forests** are now threatened with destruction by the increasing demand for more land for agricultural use and for wood products used in construction worldwide.

17.6 Spit and Polish

- There are other important issues:
 - **Sentence length**
 - The right **choice of words** and **concision**
 - **Grammar, spelling, and punctuation**
 - **Conventions** for representing **numbers, proper names, foreign words**
 - **Format** and **font**

Summary

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