DOCUMENT RESUME

ED 240 510 CS 007 496

AUTHOR Armbruster, Bonnie B.; Anderson, Thomas H.
TITLE Producing "Considerate" Expository Text: or Easy Reading is Damned Hard Writing. Reading Education Report No. 46.
INSTITUTION Bolt, Beranek and Newman, Inc., Cambridge, Mass.; Illinois Univ., Urbana. Center for the Study of Reading.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE Jan 84
CONTRACT 400-81-0030
NOTE 66p.
PUB TYPE Reports - Evaluative/Feasibility (142) -- Viewpoints (120)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Coherence; Content Area Reading; Content Area Writing; *Expository Writing; *Readability; *Reading Research; Revolutionary War (United States); Rhetorical Criticism; Secondary Education; Textbook Evaluation; *Textbook Preparation; *United States History; Writing Evaluation
IDENTIFIERS *Reader Text Relationship; *Text Structure

ABSTRACT

In an investigation of the characteristics of "considerate" text, defined as informative, content area text that promotes student comprehension, learning and remembering, this report presents a prototypical chapter of considerate text on American history following the Revolutionary War and a commentary on the writing. Beginning with the commentary, the report first briefly presents a rationale for the topic and identifies the audiance--grade 11 students. Stating that theory and research both point out the importance of text coherence in promoting reader comprehension, the report then describes strategies used to develop global, or overall, coherence in the chapter: creating a clear, defensible structure for the text (in this case, goal-action-outcome frames); using an introduction, headings, subheadings, and tables to emphasize the text's organization and content; and relegating the information that might detract from global coherence to an inconspicuous place in the text. To increase local, or phrase, clause and sentence coherence, the chapter uses cohesive ties such as pronoun reference, substitution, and conjunctions or connectives. The second part of the report includes the actual chapter of history text and concludes with reactions by three educators. (MM)

CENTER FOR THE STUDY OF READING

Reading Education Report No. 46

PRODUCING "CONSIDERATE" EXPOSITORY TEXT: or EASY READING IS DAMNED HARD WRITING

Bonnie B. Armbruster and Thomas H. Anderson
University of Illinois at Urbana-Champaign

With Reactions by:
Gary M. Schumacher, Ohio University
Beverly B. Walker, Chicago Public Schools
David Jonassen, University of N. Carolina

January 1984

University of Illinois
at Urbana-Champaign
51 Gerty Drive
Champaign, Illinois 61820

Bolt Beranek and Newman, Inc.
50 Moulton Street
Cambridge, Massachusetts 02238

The research reported herein was supported in part by the National Institute of Education under Contract No. US-HEW-C-400-81-0030.

Table of Contents

Producing "Considerate" Expository Text: or Easy Reading is Damned Hard Writing

Introduction

Our goal in a continuing program of research is to identify characteristics of informative, content area text that influence how well the text is learned and remembered. In earlier publications (Armbruster & Anderson, 1981; Kantor, Anderson, & Armbruster, 1983; Armbruster, 1984), we suggested criteria for "considerate" text--text that facilitates understanding, learning, and remembering. Often we illustrated our points by using excerpts of "inconsiderate" text from existing textbooks.

Recently, we were presented with an intriguing challenge. Dr. Philippe Duchastel, then at The American College in Pennsylvania, challenged several "experts" to write an "ideal text." Using our various conceptions of what an "ideal text" might be like, we were to write a prototypical chapter, accompanied by a commentary explaining the rationale for our product. We were to present our chapter and rationale at a symposium of the 1983 annual meeting of the American Educational Research Association. With trepidation, we accepted the challenge. We felt it was important to convince ourselves, at least, that "considerate" text was not an abstract suggestion.

This report is based on our presentation at the American Educational Research Association meeting in Montreal in April, 1983. The first section of the paper presents our commentary

about the chapter we wrote--the rationale for why we did what we did. The second section is the chapter itself--not ideal, certainly, but one that we are willing to share in hopes of provoking discussion and stirring imaginations. In the third section are reactions by David Jonassen (University of North Carolina), Gary Schumacher (Ohio University), and Beverly Walker (an historian-consultant with the Chicago Public Schools). Jonassen and Schumacher were discussants on the AERA program.

We confess that we came away from the project humbled by the difficulty of writing "considerate" text. We now wholeheartedly endorse a comment attributed to Nathaniel Hawthorne: "Easy reading is damned hard writing." Yet, to us, easy reading is worth the effort. We hope this report will make easy reading for you.

Commentary on "Americans Develop Plans for Government"

Topic and Audience

The challenge to write an "ideal" chapter included the condition that we could choose the topic and target audience. We decided to address the topic of the history surrounding the writing of the Constitution of the United States. Our chapter, entitled "Americans Develop Plans for Government," covers a period of American history immediately following the Revolutionary War.

We chose this topic because it is important and challenging. American history is usually taught at three different grade levels: fifth, eighth, and eleventh. The U.S. Constitution is an important topic in each of those years, particularly in eighth and eleventh grades. Besides its importance, the topic was a challenging one for us. Our experience is that many teachers and most students find the topic difficult and inherently dull.

Our chapter is directed toward eleventh grade students, although we think that with some reworking of the vocabulary (especially technical terms such as amendment and preamble), it would be suitable for middle-school students.

Rationale

We tried to incorporate in our chapter some text characteristics that theory and research in reading comprehension have suggested are important in learning from written materials. The major characteristic is coherence, a "sticking together." With reference to text, coherence refers to how smoothly the

ideas are woven together. In a coherent piece, the relationships among ideas must be clear enough so that there is a logical connection or "flow of meaning" from one idea to the next. Compared to an incoherent discourse, a coherent discourse makes it easier for the reader to perceive the message as an integrated unit.

Coherence operates at both global and local levels; that is, at the level of the whole text as well as at the level of individual sentences. At the global level, a text is coherent to the extent that it facilitates the integration of high-level ideas across the entire discourse. Global coherence is a function of the overall structure or organization of the text. At the local level, features related to coherence help the reader integrate the information within and between sentences. Local coherence features include linguistic connectives that make explicit the conjunctive, temporal, causal, spatial, or conditional relationships between propositions.

We tried to make "Americans Develop Plans for Government" coherent at both the global and local levels. We turn now to a discussion of our strategy for ensuring coherence.

Strategies Used to Increase Global Coherence

We used five strategies to try to ensure the global coherence of our chapter. Our major strategy (the one to which we devoted the most painstaking effort) was to select a clear, defensible structure for the text. We alao tried to make good

use of an introduction to the chapter, headings and subheadings, and tables. Finally, we relegated information that might detract from global coherence to an inconspicuous location in the text. We discuss each of these strategies in the following sections.

Text Structured as Frames

We said that structure or organization is the key to global coherence. Therefore, we wanted a particularly well-structured text. To achieve a well-structured text, we used what we call frames. The basic assumption underlying frames is that much of the content of the disciplines, or subject matter areas, can be formulated in a relatively small number of generic structures or generalized plots, each with its own set of content categories or types of information. These structures reflect typical patterns of thought or ways of conceptualizing the content of the subject matter area. We refer to these generic structures of informative text as frames, and the content categories as slots.

In an earlier paper (Armbruster & Anderson, in press), we identified some of the common structures from history textbooks as a first step in the process of teaching students to use the frames while reading. We found one generic structure that seems to provide a way to account for many facts and events in history is the so-called Goal-Action-Outcome (GAO) frame. In a sense, GAO is an abbreviated form of some of the story grammars proposed by cognitive psychologists (e.g., Mandler & Johnson, 1977; Rumelhart, 1975; Stein & Glenn, 1979; Thorndyke, 1977). In the GAO frame, the Goal, Action, and Outcome are the slots, and are

assumed to constitute the "main ideas" associated with the explanation of an historical event. The Goal is the desired atate sought by the main character, which we are defining as either an individual or a group of people acting or assumed to act as a single entity. The Action is the overt behavior in response to the goals (and perhaps plans) that the characters may have had. The Outcome is the consequence of the Action, which may either satisfy or fail to satisfy the Goal.

As the outline of this chapter shows (see Table 1), we repeated the GAO frame three times in organizing the content of "Americans Develop Plans for Government." To us, at least, the GAO frame seemed to capture quite well the basic patterns underlying the flurry of government planning that characterized this period of American History. And we do mean flurry--13 state constitutions and two national constitutions were written and ratified within a span of just a few years. Through this flurry of activity runs a pattern of similarities. These are similarities of basic Goals, of the Action or process of drawing up a plan of government, and of the Outcome of the actual plans themselves. We think this pattern is important for students to learn and appreciate as American citizens, because it is these patterns that help characterize the American form of democracy as being different from other types of government that the student is likely to study.

"Americans Develop Plans for Government" reflects the pattern of similarities by using the GAO frame three times to portray three different government planning episodes: one for the Commonwealth of Massachusetts and the other two for the national government. We hope that by encountering the frame repeatedly, the reader will see the pattern of similarities in the content. In addition, the frame has provided us with a means of achieving global coherence through a clearly defined text structure.

Within the top-level GAO frames, we have embedded two other frames. The first frame is embedded in the Outcome slot, which contains information about the final plan of government, or constitution. A feature of constitutions is that they tell how power is to be distributed. Therefore, the Outcome slot becomes a Powers frame, with slots for who has the power and what powers they have. We think these who - what questions are fundamental to a discussion of government planning and constitutions. And once again, of course, we are providing a clear, predictable structure for the reader by casting each of the three Outcome slots as a repeated frame.

The second frame is embedded in the Action or Process slot of the last GAO frame, the one having to do with the U.S. Constitution. The process of formulating the U.S. Constitution involved several important compromises. Since all true compromises have approximately the same characteristics and structure, we were able to define a Compromise frame. The

Table 1.

Outline of "Americans Develop Plans for Government"

I. Introduction

II. The Plan for a State Government--The Constitution of the Commonwealth of Massachusetts

- A. The Goals
- B. The Process
- C. The Outcome: The Constitution of the Commonwealth of Massachusetts
  1. Who Had the Power?
  2. What Powers Did They Have?

III. The First Plan for a National Government--The Articles of Confederation and Perceptual Union

- A. The Goals
- B. The Process
- C. The Outcome: The Constitution of the Commonwealth of Massachusetts
  1. Who Had the Power?
  2. What Powers Did They Have?

IV. The Second Plan for a National Government--The Constitution of the United States of America

- A. The Goals
- B. The Process
  1. Compromise 1--Representation in Congress
     a. The issues
     b. Two different goals
     c. The compromise
  2. Compromise 2--Counting Slaves
     a. The issue
     b. Two different goals
     c. The compromise
  3. Compromise 3--Commerce
     a. The issue
     b. Two different goals
     c. The compromise
- C. The Outcome: The Constitution of the United States of America
  1. Who Has the Power?
  2. What Powers Do They Have?

V. Summary

Compromise frame has three slots: the Issue to be resolved, two different Goals, and the final Compromise itself, which partially satisfies both of the Goals. We used the Compromise frame to present three of the most famous compromises of the Constitutional Convention. We hope that by reading about three compromises presented within the same structure, readers will learn not only the facts about the particular compromises but also the concept of "compromise" itself. Learning the concept of compromise should help students later in their American history studies, when they encounter many other examples of compromise.

Introductory Paragraph

The introductory paragraph of our chapter serves several functions. First it reviews relevant previously studied material and relates it to the current topic. For example, we call to students' attention the fact that the problems in a prior hypothetical chapter on "Colonization" are relevant in this chapter also. Second, it presents an overview of the content of the current chapter. Finally, it introduces the GAO frame that will be used as top-level organizer of the information in the chapter. Ideally, the students should be able to generate a rough outline of the entire chapter after reading the introduction.

Headings and Subheadings

We use the labels of the various frame slots as the basis for headings and subheadings of the chapter. In this way we ensure that the headings reflect the structure of the content and are parallel across various instantiations of a frame.

Tables

Of course, textbooks typically have lots of tables and charts, and we probably have not done anything very new or insightful with our tables. We designed tables that we thought supported and emphasized the structure underlying the content and/or captured the information in a succinct, easy-to-read format.

Table 1 replaces in the chapter about one and one half typewritten pages from an earlier draft of this chapter. It seemed to us that rather than write the ten points in a repetitious paragraph format, we could enter them in a table and make the comparisons more obvious. Also, the table serves as a transition from the section about the Articles of Confederation and Perpetual Union to the one about the Constitution of the United States of America.

Table 2 presents modern paraphrases of the goals of the national government as stated rather archaically in the Constitution itself. We thought this table would highlight the goals as well as make them easier for students to understand.

Table 3 tries to portray the dynamics of compromise in a two-dimensional representation. It shows the issue, the two

sides of the issue, the resulting compromise, and how these components interact. Table 3 also serves as a summary of a section of text. Similarly, Table 4 uses a two-dimensional representation to depict the GAO frame structure of the entire chapter as well as summarize the content.

Ancillary Information

We think that, in general, ideas which do not contribute to main "flow" of a chapter (as determined by the structure) should be left out because such ideas detract from global coherence. However, in some situations ancillary ideas should be included for example:

(1) When skills must be taught that are necessary for understanding a later text unit (such as reading maps or finding directions using a compass).

(2) When text is needed to help the student relate the ideas in the text to what the student already knows.

(3) When the ancillary information can lend some authenticity to certain ideas in the text (such as excerpts from letters, diaries, and notebooks).

(4) When the text introduces a person, and the reputation of that person warrants a full biographical description.

(5) When the text gets brutally boring and seems to need a piece that puts a bit of life into it.

(6) When text needs definitions and notes to clarify and/or highlight points that may be confusing and/or subtle.

We have included five ancillary bits of information which illustrate our contention that some information is not suitable to be in the main "flow" of the chapter, and yet has some characteristics which seem to warrant its inclusion. We have incorporated these "extras" as footnotes because footnotes do not interrupt the main text. Besides, footnotes are easy to handle on our word processor! We know that publishers can and do use more exciting ways to handle ancillary information, for example, in boxes, in margins, or on the facing pages.

One example of ancillary information in "Americans Develop Plans for Government" is The Essex Result. Historically, this document seems to have had considerable influence on the government planners of this era, and yet to include it in the main "flow" of the chapter would leave the reader confused about where the chapter was headed. So, we used a footnote to set aside this information.

Strategies to Increase Local Coherence

Local coherence is achieved by means of several kinds of cohesive ties, or linguistic forms, that help carry meaning across phrase, clause, and sentence boundaries. Examples of common cohesive ties are: pronoun reference (the use of a pronoun to refer to a previously mentioned noun or phrase), substitution (replacement of a word or words for a previously mentioned noun phrase, verb phrase, or clause), and conjunctions or connectives. We took care to ensure that cohesive ties were

clear as we wrote the chapter. Also, we asked other readers to evaluate the chapter, paying special attention to those ties. We incorporated their suggestions in the final draft.

It should be noted that we did not try to write the text so that it would be "readable" at a particular grade level as indexed by readability formulas. For example, we did not try to reduce the "readability" of the text by shortening sentences or substituting common words for technical terms. Several researchers (e.g., Bruce, Rubin, & Starr, 1981; Davison, A., Kantor, R., Hannah, J., Hermon, G., Lutz, R., & Salzillo, R., 1980; Kantor, Anderson, & Armbruster, 1983) have discussed and illustrated some of the problems that arise in informative text when short, choppy sentences have to carry heavy explanatory loads. Therefore, in "Americans Develop Plans for Governments," we used explicit connectives to form compound and complex sentences when we thought it was important for two or more ideas to be connected together. Our text may not be "readable" for eleventh graders according to a formula (we don't know; we haven't tested it), but we think it has some other features that make it reasonably easy to read, understand, and remember.

Summary of Commentary

Our major premise in designing and writing "Americans Develop Plans for Government" is based on theory and research in reading comprehension: the ideas in informative text must be coherent, or connected logically in a smooth "flow of meaning," if students are to learn and remember the information. The

structure of the text is of particular importance in achieving textual coherence. We tried to structure the ideas in our chapter in accordance with preferred patterns of thinking in the discipline (history) as well as with the conventions of written discourse (rhetoric).

To this end, we made use of generic, content-specific structures called "frames"--three repeated Goal-Action-Outcome frames for the top-level structure of the text, with two other frames (one for government Powers and one for Compromises) embedded within the GAO frames. We tried to reinforce the frame-based text structure in the chapter introduction, in headings and subheadings, and in tables. We also tried to enhance coherence by relegating information that was useful but not necessary to the main flow of information to a less salient location in the text. Finally, we took pains to see that connectives and referential devices tied ideas tightly together within and between sentences. Whether or not we produced a coherent chapter is for you to judge in the next section of this report.

References for Commentary

Armbruster, B. B. (1983). Learning from content area textbooks: The problem of "inconsiderate text." In G. Duffy, L. Roehler, & J. Mason (Eds.), Comprehension instruction. New York: Longman.

Armbruster, B. B., & Anderson, T. H. (1981). Content area textbooks (Reading Ed. Rep. No. 23). Urbana: University of Illinois, Center for the Study of Reading. (ERIC Document Reproduction Service No. 203 298)

Armbruster, B. B., & Anderson, T. H. (1982). Structures for explanations in history textbooks or so what if Governor Stanford missed the spike and hit the rail? (Tech. Rep. No. 252). Urbana: University of Illinois, Center for the Study of Reading. (ERIC Document Reproduction Service No. 218 595)

Bruce, B., Rubin, A., & Starr, K. (1981). Why readability formulas fail (Reading Education Rep. No. 28). Urbana: University of Illinois, Center for the Study of Reading. (ERIC Document Reproduction Service No. ED 205 915)

Davison, A., Kantor, R. N., Hannah, J., Hermon, G., Lutz, R., & Salzillo, R. (1980). Limitations of readability formulas in guiding adaptations of texts (Tech. Rep. No. 162). Urbana: University of Illinois, Center for the Study of Reading. (ERIC Document Reproduction Service No. ED 184 090)

Halliday, M. A. K., & Hasan, R. (1976). Cohesion in English. London: Longman.

Kantor, R. N., Anderson, T. H., & Armbruster, B. B. (1983). How are children's textbooks inconsiderate? Or, of flyswatters and alfa. Journal of Curriculum Studies, 15(1), 61-72.

Mandler, J. M., & Johnson, N. S. (1977). Remembrance of things parsed: Story structure and recall. Cognitive Paychology, 9, 111-151.

Rumelhart, D. E. (1977). Understanding and summarizing brief stories. In D. Laberge & J. Samuels (Eds.), Basic processes in reading: Perception and comprehension. Hillsdale, NJ: Erlbaum.

Stein, N. L., & Glenn, C. G. (1979). An analysis of story comprehension in elementary school children. In R. O. Freedle (Ed.), Advances in discourse processes (Vol. 2): New direction in discourse processing. Norwood, NJ: Ablex.

Thorndyke, P. W. (1977). Cognitive structures in comprehension and memory of narrative discourse. Cognitive Psychology, 9, 77-110.

SECTION II: A CHAPTER OF HISTORY TEXT

Americans Develop Plans for Government

Introduction

The idea of government was first introduced in Chapter 2, "Colonization." As you read there, all groups--including families, baseball teams, and nations--want to keep life running smoothly so that the group and the individual group members can accomplish their goals. In order to keep things running smoothly, the group needs rules: rules that tell what people should do as well as those which tell what people should not do. In other words, all groups need some kind of government. Governments make rules about people's actions and tell how to enforce these rules (see that the rules are followed). A good plan of government includes a statement of (a) who makes and enforces the rules, (b) what kinda of rules can be made and enforced, and (c) how the rules are to be made and enforced.

The plans of government discussed in this chapter are those for a nation--the United States. This nation was born on July 4, 1776, when the thirteen colonies declared their independence from Britain. Being independent from Britain meant that the Americans no longer had to obey the rules of the British government (see Chapter 3 for a description of these rulea and how the Americans reacted tn them). The Americans living in the new nation needed to design their own plan of government.

The Americans formed plans for two types of government. The first type was a government for each of the thirteen states. The

second type was a central or national government for all of the states. As it turned out, the Americans wrote two plans for a national government. The first plan, the Articles of Confederation and Perpetual Union, was not very successful. Therefore, the Americans worked out a second plan for the national government, which we now know as the Constitution of the United States.

This chapter is not only about the plans of government for the new country. It is also about the goals of the people who created the plans of government, and the process they used to create the plans. The process used by the Americans is important to know about because it is different from the process used to create governments in many other nations.

Americans used very similar processes to create the two types of government (state and national). First, the people elected representatives or delegates to represent them at special planning meetings. At these meetings the delegates discussed and debated various plans among themselves. Then, they resolved their differences and wrote up their plan. Next, they sent the plan to the people they represented. The people read the plan and decided whether or not to approve, or ratify, it. If a majority of the people ratified the plan, it was put into effect.

This chapter is organized in the following way. The three major sections correspond to three plans of government: (a) the plan for a state governme t (the Constitution of the Commonwealth

of Massachusetts), (b) the first plan for a national government (the Articles of Confederation and Perpetual Union), and (c) the second plan for a national government (the Constitution of the United States of America). Each major section will have the following organization: a statement of the people's Goals for a government, a description of the Process involved in creating a plan of government, and a description of the Outcome of the Process--the plan itself.

The Plan for a State Government--The Constitution of the Commonwealth of Massachusetts

All thirteen states wrote constitutions.[1] In this chapter, the goal of the people, the process of making a plan of government, and the outcome of the actual plan of government are illustrated for one state--The Commonwealth of Massachusetts.[2] Massachusetts is chosen as an example of the way that states formed governments and because its plan (Constitution) is similar to the U.S. Constitution. Therefore, learning about the Massachusetts Constitution may help you learn about the U.S. Constitution later in the chapter.

---

[1] **A constitution** is a written description of the plan of government that the people wanted.

[2] **Commonwealth** means state. Massachusetts chose to call itself a Commonwealth at this time.

The Goals

The goals that the people of Massachusetts had for their government are stated in the Preamble, or introduction, to their constitution. The basic goal of the people of Massachusetts was to establish a government that would support two ideas from the Declaration of Independence: Government gets its power from the consent of the governed (in other words, from the people themselves), and the people have the right to change their government as they see fit (see Chapter 5 for more about the Declaration of Independence).

The Process

After the publication of The Essex Result,[3] the temporary government of Massachusetts decided that the voters in each town should elect one or more delegates to a constitutional convention for the purpose of writing the state constitution. The constitutional convention began on September 1, 1779. A first draft of the constitution had been written mostly by John Adams.

---

[3] The Essex Result was a pamphlet written by Theophilus Parsons and published in 1778. It explained the principles that should be represented in any plan of government, or constitution. For example, the Essex Result suggested something about the process of writing a constitution. It suggested that a special meeting, or constitutional convention, be called to write the constitution. The Essex Result also suggested something about desirable outcomes for a Constitution. It suggested that a constitution should have a bill of rights, a proper separation of powers among legislative, executive, and judicial branches of government and a bicameral (two part) legislature.

Adams used many of the ideas set forth in The Essex Result. The delegates to the Convention argued and debated the document for six months. They debated many issues. They argued ovewr how power would be separated among the executive, legislative, and judicial branches of the government, about who could vote and hold office, about how many delegatea would come from each town, and about what freedoms should be guaranteed to the individual. The arguments were finally resolved and the delegates came to an agreement about what they thought was a good state constitution.

The next step was to take the proposed constitution to the people of Massachusetts. On March 2, 1780, copies of the proposed constitution were sent to each of the towns in the state. The townspeople were to read and discuss the constitution and vote whether or not to ratify (accept) it. If two-thirds of the townspeople voted "yes," the town would accept the constitution. After several months, the votes from all the towns were in. Massachusetts ratified its constitution in the summer of 1780.

The Outcome:

The Constitution of the Commonwealth of Massachusetts

Who Had the Power?

The Massachusetts Constitution reserved most of the power for the people, since all of the government's power was to come from the "consent of the governed."

The power that the people gave to the government was divided three ways--into legislative, executive, and judicial branches of government. Each branch was to have its own separate powers.

The legislative branch, or legislature, consisted of two parts--the Senate and the House of Representatives. The state was divided into districts. The number of Senators elected from each district was to be based on the amount of taxes paid by the district. In contrast, representation in the House of Representatives was based on the population of towns: the larger the town, the greater the number of representatives.

The executive branch consisted of a supreme executive, the governor, who presided over an executive council. The judicial branch consisted of a system of courts.

What Powers Did They Have?

Individual citizens were given certain powers or rights. Among these rights of individuals were: freedom of speech, press, assembly, and religion; due process of law; speedy and impartial trial; limits of search, seizure, and bail.

The legislature had the power to propose laws, to establish courts, to establish taxes, and to regulate state and local elections. The governor was "to order and direct the affairs of the commonwealth." The governor was commander-in-chief of the military forces of the state and had the power to appoint judges and veto legislation. The judicial branch had the power and responsibility of interpreting and enforcing the laws.

The First Plan for a National Government--
The Articles of Confederation and Perpetual Union

The Goals

With the Declaration of Independence in 1776, the thirteen former British colonies became thirteen separate, independent states. The delegates to the Second Continental Congress agreed that the thirteen states must unite under some kind of central government in order to fight the war with Britain. At the same time, most delegates wanted to prevent the central government from becoming so strong that it would threaten the freedom and independence of the states.

The Process

The Second Continental Congress appointed a committee to work out a plan for a central government. Headed by John Dickinson of Pennsylvania, the committee prepared a written plan and presented it to the Continental Congress on July 12, 1776. This plan was called the Articles of Confederation[4] and Perpetual Union.

After debating the Articles of Confederation for more than a year, the Continental Congress voted to adopt the plan on November 15, 1777. Before the Articles could go into effect,

---

[4] A confederation is a loose union of states which join together because of a common goal. Each state keeps many of its own powers of government.

however, each of the thirteen states had to ratify them.[5] The process of ratification took several years. One state, Maryland, did not ratify the Articles of Confederation until 1781.

The Outcome:

The Articles of Confederation and Perpetual Union

Who Had the Power?

The Articles of Confederation divided the power between the national government and the thirteen states. The Articlea specified that each state would retain "its aovereignty, freedom, and independence, and every power, jurisdiction, and right . . . not . . . expressly delegated to the United States in Congress asaembled." In other words, the atates would keep most of the powers of their individual governments, but they would give some specific powers to the central government.

The powers that the states decided to grant to the central government were given totally to the legislative branch--the Congress. Congress was to be made up of delegates from each state. The method of selecting or replacing delegates was left

---

[5] Note that the process uaed in writing the Articles of Confederation and Perpetual Union waa a little different than the process used in writing the Constitution of the Commonwealth of Massachusetts. The difference ia that delegates were not elected to attend a special constitutional convention to write the Articles of Confederation. Instead, a committee was appointed from a group of elected delegates--the Second Continental Congress. Otherwise, the process was basically the same: the Articles of Confederation were debated and finally approved, the plan was sent to the people (the states) for ratification, and the plan went into effect after all the states ratified it.

to state legislatures. Although the number of delegates could vary from state to state, each state had only one vote in Congress. All laws made by Congress had to be approved by 9 of the 13 states. The Articles themselves could not be amended (changed) unless all 13 atates agreed.

The Articlea made no provision for an executive or judicial branch of the government, as the Constitution of the Commonwealth of Massachusetts had done.

What Powers Did They Have?

The powers given to the central government (Congress) in the Articles of Confederation included the following: (a) determining war and peace, (b) sending and receiving ambassadors, (c) making treaties and alliances, (d) regulating the value of money, (e) setting standards of weights and measures, and (f) managing affairs with the Native Americans. A power specifically denied to Congress was the power to tax. The colonists denied this power to the new central government because they resented the taxes that their previous central government, the British Parliament, had tried to make them pay.

The Articles of Confederation was a poor plan of government in many ways. The weaknesses of the Articles caused many problems for the new nation. Table 1 describes some of the weaknesses and the problems they caused.

Even though Americans were afraid of a national government that was too strong, they realized that the government of the Articles of Confederation was not strong enough. Many Americans

felt that the country needed a stronger national government that could solve the kinds of problems mentioned in Table 1.

The Second Plan for a National Government--The Constitution of the United States of America

The Goals

In 1787, fifty-five Americans gathered in Philadelphia for the purpose of revising the Articles of Confederation. However, because the problems of the Articles of Confederation were so great, the Americans decided to design a completely new plan of government rather than to revise the Articles.

As with the Constitution of the Commonwealth of Massachusetts, the goals for the new plan were included in the Preamble of the Constitution of the United States. Table 2 presents these goals in two forms: as they appear in the Preamble and in language that is easier to understand today.

To accomplish these goals, the delegates realized there had to be a stronger national government than the government created under the Articles of Confederation. First, they wanted this government to have special powers of its own, powers that would not be controlled by the state governments. The delegates wanted the national government to consist of three branches--legislative, executive, and judicial--each with its own powers.

The Process

The delegates to the Constitutional Convention agreed on the major goals of the new constitution, but they disagreed on many

Table 1

Weaknesses of the Articles of Confederation and the Problems They Caused

	Weaknesses of the Articles:		Problems Caused:
1.	No executive branch to enforce the laws.	1.	Laws would not be effective if the states chose not to enforce them.
2.	No judicial branch.	2.	There was no court to settle disputes among the states. The states argued about taxes and claims on land to the west of the Appalachian Mts.
3.	No power to tax people.	3.	Congress could only ask for money, and the states could easily refuse to pay.
4.	No power to regulate foreign and interstate commerce.	4.	American businesses suffered because there was no way to put protective tariffs on foreign goods.
5.	Joint power with the states to coin and regulate money.	5.	Paper money lost its value and prices rose.
6.	No power to train and maintain a national army and navy.	6.	Each state took care of its own defense with volunteers. When the nation needed troops, the states were asked to provide them. The national army was so weak that it could not drive the British from American lands in the west.
7.	Little power in foreign affairs or dealings with other countries.	7.	Other countries had little respect for the U.S. In fact Europeans made bets as to how long the U.S. would survive.
8.	Nine states had to agree in order to pass laws.	8.	It took a long time to pass laws.
9.	All 13 states had to agree in order to pass amendments to the Articles of Confederation.	9.	Since delegates from all 13 states were unable to meet together, it was impossible to pass amendments.
10.	Each state, irrespective of size, had one vote.	10.	The states with higher populations thought they should have more votes, and often would not cooperate in Congress.

Table 2

Goals for a National Government as Given in the Preamble to the U.S. Constitution

	As Stated in the Preamble:		In a Modern Paraphrase:
1)	"to form a more perfect Union"	1)	to have a better government that will bind the people together
2)	"to establish Justice"	2)	to have lawful ways of settling conflicts
3)	"to ensure domestic Tranquility"	3)	to have peace in all the states
4)	"to provide for the common defense"	4)	to protect ourselves and the country from enemies
5)	"to promote the general Welfare"	5)	to have good living conditions
6)	"to secure the Blessings of Liberty to ourselves and our posterity"	6)	to have freedom for ourselves and for future Americans

points. Many times the disagreements were resolved by a compromise.[6] The Constitution as we know it is the result of many compromises; without these compromises there might never have been a Constitution.

The next section will present three of the most important compromises made during the process of writing the Constitution: the compromise about representation in Congress, the compromise about counting slaves for purposes of representation in Congress and taxes, and the compromise about the role of the central government in commerce.[7] For each of these compromises, you will first read about the issue that needed to be settled. Then you will read about the goals of each side. Finally, you will read about the compromise that was reached and how it partially met the goals of each side.

The issue. The issue involved how many votes each state should have in the legislative branch.

Two different goals. There were two different goals. One goal was that representation in Congress should be according to population. This goal was held by the Commonwealth of Virginia, a state with a large population. The people of Virginia believed

---

[6] A compromise is a technique for settling a conflict between two or more persons, or groups of persons. When two or more groups compromise and settle the conflict, each side gives up some and gets some of what it wants. Neither side gets everything it wants.

[7] Commerce here refers to the buying and selling of goods among the 13 states and between the United States and other countries.

Compromise 1--Representation in Congress

that the number of representatives that a state had should be determined by the number of people who lived in the state. The more populated a state, the more representatives it should have. This plan, of course, meant that the more populated states would have more power in deciding what laws would be made because they would have more representatives in Congress. The larger states favored this idea.

The other goal was that representation in Congress should be equal for all states. This goal was held by the state of New Jersey, a state with a small population. This plan meant that the less populated states would have the same power in deciding what laws would be made as the larger states. The smaller states favored this idea.

The compromise. The Compromise was that Congress was to consist of two parts, or houses. One house, the Senate, would have an equal number of representatives (2) from each state. The plan for the Senate matched the New Jersey goal. In the other house, the House of Representatives, the number of representatives from each state would be based on population. The plan for the House of Representatives matched the Virginia goal. Therefore, each side got at least part of what it wanted.

This compromise about representation in Congress became known as the "Great Compromise."[8]

Compromise 2--Counting Slaves

The issue. The issue involved how slaves should be counted as part of a state's population when deciding that state's representation and taxes.[9]

Two different goals. There were two different goals. One goal was that slaves (a) should not be counted for purposes of representation because they could not vote, but they (b) should be counted for purposes of taxation because slaves were considered property. This goal was held by the northern states, which had few slaves. The northern states had this goal because if slaves were not counted for representation, the southern states would have fewer representatives; therefore, the northern states would have more power in deciding the laws. Likewise, if slaves were counted for taxation, the northern states would pay a smaller share of the total taxes to the national government.

The other goal was that slaves (a) should be counted for purposes of representation, but they (b) should not be counted as

---

[8]Note that the Great Compromise closely resembles the idea of a two-house Congress found in the Constitution of the Commonwealth of Massachusetts, written seven years previously.

[9]Note that the states were going to have to pay taxes to the national government. These taxes were to be based on the value of the property held by the state and the people in the state.

property for purposes of taxation. This goal was held by the southern states, which had many slaves. The southern states had this goal because if slaves were counted for representation, the southern states would have more representatives in Congress and thus more power in deciding the laws. Likewise, if slaves were not counted as property, the southerners would pay a smaller share of the total taxes to the national government.

The compromise. The Northerners and Southerners compromised by agreeing to count three-fifths of the slaves for purposes of establishing representatives and paying taxes. Both sides gave up something of what they wanted but gained something of what they wanted. The South got more representatives than the North wanted them to have, but paid more taxes than they wanted to pay. This compromise became known as the "Three-Fifths Compromise."

Compromise 3--Commerce

The issue. The issue involved how much control over commerce, including the slave trade, the central government should have.

Two different goals. There were two different goals. One goal was that the national government should regulate commerce, including ending the slave trade by prohibiting the importation of slaves. This goal was held by the northern states. The manufacturing states in the North were active in trading and shipping; therefore, they wanted the national government to regulate commerce so their interests would be protected. Also, many northerners thought that slavery should be abolished

(eliminated) in the United States, and they wanted the national government to take an active part in ending slavery.

The other goal was that the national govetnment should not regulate commerce, including the slave trade. This goal was held by the southern states. The agricultural aouthern states exported much of their harvest. Southerners were afraid that the national government might impose export tariffs that would hurt the southern economy. Also, the southern states needed slaves to work on the plantations and farms, and they were afraid that the national government would stop the alave trade.

The compromise. The northern and southern states compromised by allowing the government to regulate trade between the United States and foreign countriea and between states, as the North wanted. However, they decided to charge no tariff on exporta and to allow the slave trade to continue at least until 1808, as the South wanted. Table 3 presents a summary of the three compromises discussed in this section.

The Outcome:

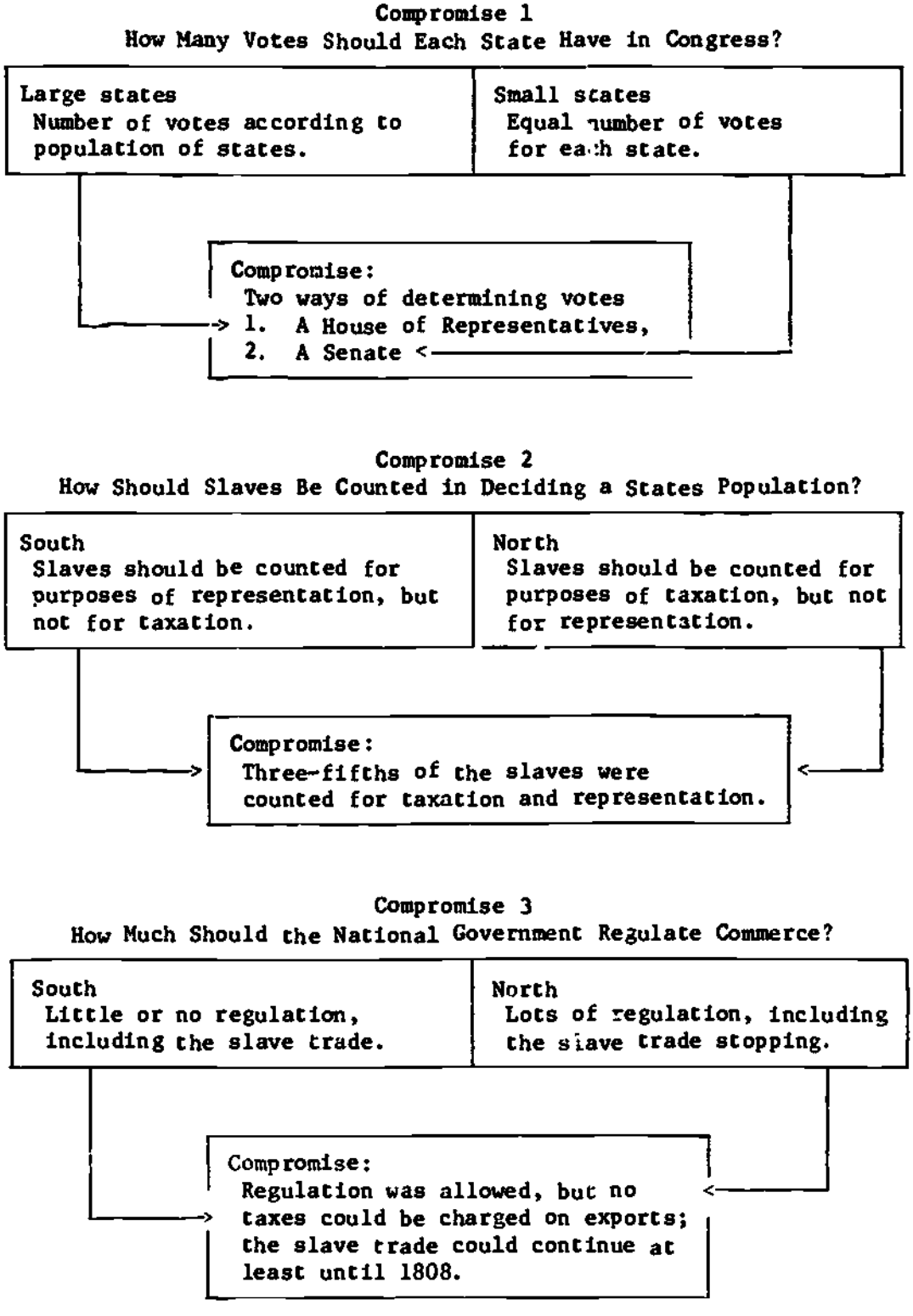
The Conatitution of the United States of America

Who Has the Power?

The U.S. Constitution divides the power among the three branches of government: executive, legislative and judicial. The legislative branch is further divided into two housea: the House of Representatives and the Senate. Members in each of the houses are elected to office by the people. The President, nead

Table 3

Summary of Three Compromises Used in Planning the U.S. Constitution



of the executive branch, is also elected by the people. Members of the judicial branch, called judges, are appointed by the President and approved by the legislative branch.

What Powers do They Have?

The legislative branch has the power to formulate laws that the entire country must obey. The executive branch is responsible for seeing that the people obey those laws; if the people do not obey the laws, the executive branch sees that the people pay for their crimes. The judicial branch is primarily responsible for seeing that laws are consistent with the intent of the Constitution. In addition, each branch of government has certain powers over each of the other two branches. This complicated system of "checks and balances" and the powers of the three branches of government are discussed in the next chapter.

Summary

This chapter is about plans for government--state and national--that were developed soon after the thirteen American colonies became independent from Britain in 1776. The plans follow a pattern, the same pattern that was used to organize the chapter. The state and national governments were: (a) shaped in a similar way--by the goals of the people, (b) developed using a similar process, and (c) resulted in a similar outcome: a final written plan of government called a constitution. It is important for you to know about this pattern, for it

distinguishes the plan of government of the United States from plans of government used in other nations.

The first plan described in the chapter was a plan for an individual state government--the Constitution of the Commonwealth of Massachusetts. The first national plan, The Articles of Confederation and Perpetual Union, failed because it did not provide for a strong enough national government. The second plan, the Constitution of the United States of America, is still working today, almost 200 years after it was written. The next chapter is about this great plan of government. Before turning to the next chapter, however, take a moment to review the Goals, Processes, and Outcomes of the three plans for government in Table 4.

Table 4

Table 4

A Comparison of Goals, Processes, and Outcomes of American Plans of Government

	GOALS:	PROCESSES:	OUTCOMES:
Commonwealth of Massachusetts	Government gets power from the governed. Governed can change the Government.	Each town elected one or more delegates to a constitutional convention.	The Constitution of the Commonwealth of Massachusetts
Continental Congress, Plan 1:	Preserve freedom and independence of states. Prevent central government from becoming too strong	Congress appointed a committee to work out a plan.	The Articles of Confederation and Perpetual Union
Continental Congress, Plan 2:	Government would bind people together. Government would have lawful ways to settle conflicts. Government would have peace in all the states. Government would protect the country from enemies. Government would help provide good living conditions. Government would help provide freedom for all Americans.	Each state sent delegates to a constitutional convention. The Constitution of the United States of America.	The Constitution of the United States of America.

A Reaction to "Americans Develop Plans for Government"

by Gary M. Schumacher

The attempt to design an ideal textbook is an innovative and insightful assignment. It is analogous in some ways to a computer simulation. Juat as a computer simulation requires the translation of a theoretical model into a specific program, the construction of an ideal text necessitates the translation of an implicit (usually) theoretical aystem into a concrete written product. In the same manner that a computer simulation requirea clear and precise definition of terms to accomplish the simulation, the generation of an ideal text necessitates clear and specific decisions as to chapter organization, content selection, and typographical layout to produce the ideal text.

Unfortunately the research on the impact of text variables on comprehension and retention of text has not produced a coherent theoretical model. At best it has identified a set of variables that have some impact on comprehension and retention of text under laboratory conditions (for a critique of some of this work see Schumacher, Moaes, & Young, in press). The task of designing an ideal text therefore requires researchers firat to derive the foundation of a model which will allow them to determine which variables are most important and which play aecondary roles.

There are a large number of text variables which could play a role in designing the ideal text. These include typographical variables (e.g., type font and layout), adjunct aids (e.g.,

inserted questions), content characteristics (e.g., interest-value), or structural variables (e.g., cohesion). Arguments could be made for making any number of these the major emphasis in the design of an ideal text. For example, it could be claimed that the key variable in an ideal text is the interest-value of the material. Text which is of high interest-value could make the choice of a number of other variables of little importance. It could also be argued that typographical layout is of prime importance; in this case the greatest emphasis could be on how clearly the typographical layout cued the reader to the text's meaning. It becomes readily apparent from these examples that a key issue involved in evaluating the quality of the model underlying an ideal text concerns the text variables or characteristics which are given prime emphasis in the model.

In generating their ideal text chapter Armbruster and Anderson claim the major characteristic is coherence--how smoothly the various ideas in the text are woven together. It is possible to view this issue of coherence at either a global level (the whole text) or a local level (individual sentences). While both of these are important, Armbruster and Anderson place more emphasis on global coherence. The concept of global coherence as used by Armbruster and Anderson relates to how well structured a text is. Well-structured texts, it is claimed, are based on a small number of generalized plots or generic structures called frames. These frames reflect typical ways of thinking about the

content in various subject matter areas. The concept of frames is not greatly dissimilar from the grammars proposed for stories in the late 1970's (e.g., Thorndyke, 1977), but the idea has rarely been used for describing textbook type materials.

Using the concept of frames as the foundation for generating text has considerable appeal since it places the emphasis on the underlying organization of the text. Extensive research in cognitive psychology indicates that finding the underlying organization is the key to remembering information, solving problems, and comprehending text. Thus by making the major characteristic of text design the issue of global coherence, Armbruster and Anderson would appear to be matching the design of texts with the process of comprehension.

While conceptually the approach taken by these authors seems very defensible it is not without its difficulties. Most notable among these are potential problems surrounding the concept of frames. For example, it is not at all clear how many such structures there are and whether there is a useful and meaningful way to describe them. This concept appears to have some of the same difficulties inherent in the concept of schema which has had an exciting impact on cognitive psychology but which has substantial difficulties associated with it (Alba & Hasher, 1983). A number of issues need to be addressed if the concept is to have significant impact. These include the following: (a) Are readers knowledgeable about or aware of the types of frames which are embedded in text? Need they be? (b) Would texts

generated around such frames be seen as stilted? (c) How do readers process articles which are generated from such frames? (d) Are the same frames useful in all contexts in which a text is read?

In summary, I find the global coherence notion a useful approach to the designing of texts, but one that needs further development. It emphasizes the importance of the underlying structure of the information to be transmitted. As extensive work in cognitive psychology has shown, finding the underlying organization of to-be-remembered material is crucial not only to understanding but also to remembering.

There are several other aspects of the Armbruster and Anderson ideal text chapter which are worthy of comment. The use of the introductory paragraph to orient the reader to the structure of the coming text is useful. It should further aid the reader to develop a hierarchical structure for the chapter and a meaningful construction of the intended message. Similarly, the use of headings to aid the processing of frames should aid the reader in constructing the intended text meaning.

The effectiveness of the use of tables in the ideal text is somewhat less clear. The first two tables appear to accomplish important aspects of the presentation and are appropriately referred to in the text. Table 3 on the other hand is not referred to in the text, which may leave the reader unsure as to its purpose and when it should be considered. Both Tables 3 and

4 do serve summary purposes but I wonder how effectively tables can serve such a purpose. Unfortunately, there is little evidence as to how tables are used by readers. This is an area in which there is a considerable need for well-controlled investigations.

The issue of how ancillary information should be used in texts is a very interesting one. Armbruster and Anderson speak to two important and related characteristics of such information: what ancillary information should be included, and where should it be placed in the text. Regarding the first of these issues it is highly debatable whether some of the kinds of information that Armbruster and Anderson consider ancillary really is. A good case could be made that four of the six types of ancillary information they list are crucial for the text: information which helps develop skills necessary later, information which helps relate new ideas to stored information, information which lends authenticity, and information which highlights or clarifies. It appears the authors are calling ancillary anything which does not directly fit a slot in a frame. This is too narrow a view; if followed to the letter it would result in very stilted text.

The remaining two types of ancillary information mentioned by the authors are truly ancillary and there is good reason for arguing that they should not be included at all in the text. This is especially the case for that information which Armbruster and Anderson claim should be included to enliven a text when the

text becomea "brutally boring." Some basic questions need to be raiaed before auch information should be conaidered for inclusion. Haa the author miajudged the level of detail necessary to convey the principal ideaa and thua included too much information in the text? Doea the insertion of intereating but irrelevant information rekindle the student's intereat in the text or interrupt the flow of the text and thus make it harder to determine structure? Some pilot observations from our laboratory show that if too much such information ia included (e.g., boxes, picturea, cartoons) readers have a difficult time following the thrust of the text. Again it seems we need well-controlled atudiea monitoring the proceasing of text to determine the impact of the incluaion of ancillary information in texts.

The location of ancillary information (or information which ia important but doesn't fit within the major frame) also is a debatable issue. Armbruater and Anderson decide to place auch information in footnotea. Although this decision has merit, it may also lead to aome problems. Readers who do chooae to read this ancillary information will be markedly diverted from the text and hence be more likely to lose the major thread of the article. On the other hand, placing ancillary infort tion in footnotes probably increaaea the likelihood that the information will not be attended to. Thia ia not a problem if the information is truly ancillary, but if it is information which aids the reader in some important way then comprehension will be impaired.

Thus, it may be that a more defensible strategy regarding ancillary information is to require that each such piece of information either play some important role in the text or be deleted. Once the decision has been made to include the information the best way to weave it into the ongoing text can be decided. This approach allows for the inclusion in the text of interesting analogies, examples, or pictures which make important points. Appropriate use of reminders of text structure could then be used to keep the reader from losing track of the major thread of the chapter.

At the beginning of my comments I indicated that the process of designing an ideal text is analogous to computer simulation in that it forces us to translate concepts into an actual product. At this time we need to consider this analogy more fully. In doing computer simulations, a simulation is not complete until we have run the program and determined how well it fits human performance. Similarly there is an additional step which needs to be carried out in the design of ideal texts--we need to have students use them and determine how well they work. Unfortunately this task presents an interesting problem--how do we measure how well they work? In the past our principal approach would have been to have students use the materials. We would then ascertain either how well they did on tests over the information (retention measures) or how much they liked them. As Schumacher and Waller (in press) have argued, however, outcome

measures such as these provide limited information about the effectiveness of text design. Retention measures, for example, provide an especially narrow window through which to view the usefulness of text. In fact it can be convincingly argued that retention of material should not be our major concern. Rather, how a student's knowledge of an area is altered by having read a text may be of much greater use. In contrast to outcome measures Schumacher and Waller suggest that more detailed information about the impact of design features can be obtained through the use of one of several different process measures. These measures include user edits (observations of pauses and errors as individuals use a document), protocol analyses, and micro and macro eye-movement measures. Through the use of such procedures it is possible to determine how text variables are influencing reading pattern and text usage from the word level through chapter and book length text. The use of process measures could provide us with the level of data needed to determine how and when tables should be used, how frame-structured text impacts on reading patterns, and how the placement of ancillary information relates to the determination of text structure.

In summary, the task of designing an ideal text is a very useful one. It forces those interested in text design to think clearly and carefully about their conceptual models and to integrate them into a coherent model of text design. Armbruster and Anderson's chapter is a remarkably good initial attempt at this process. It places the major emphasis on the right

variables and raises issues which need to be clarified by good process measures of text usage. As further attempts of this type are made at least four issues need to be considered. First, can we develop a model of text design independent of variables such as the setting in which the text will be used, the prior knowledge of the reader, the goals of the reader, or the subject's processing capabilities? Second, what levels of text characteristics should be included in a model of text design? Should the model deal with the interest-value of the material, the typographical layout, the writing style, readability level, or type font? Third, can we formalize an explicit theory of text design which can be both communicated and tested? Fourth, are ideal texts desirable? Do they or could they lead to an attitude among readers that texts must come to the reader, and that if comprehension fails, it is the fault of the text? Is it possible for us to do too much for the reader? Comprehending and learning in the final analysis are carried out by readers. How much of the process of structuring and ordering should we do for them?

References

Alba, J. W., & Hasher, L. (1983). Is memory schematic? Psychological Bulletin, 93, 203-231.

Schumacher, G. M., Moses, J. D., & Young, D. (in press). Students' studying processes on course related texts: The impact of inserted questions. Journal of Reading Behavior.

Schumacher, G. M., & Waller, R. H. W. (in press). Testing design alternatives: A comparison of procedures. In T. Duffy & R. Waller (Eds.), Designing usable texts. New York: Academic Press.

Thorndyke, P. W. (1977). Cognitive structures in comprehension and memory of narrative discourse. Cognitive Psychology, 9, 77-110.

A Reaction to "Americans Develop Plans for Government"

by Beverly B. Walker

I have been asked to comment upon Ronnie Armbruster and Tom Anderson's chapter, "Americans Develop Plans for Government" as an example of a considerate text in American history. The following review will evaluate how various aspects of the text's structure contributed to or detracted from the historical content. Have the writers sarificed "considerate" history for a "considerate" text structure? Can there be a middle ground?

The principal goal of considerate text is coherence, that is, the "sticking together" of ideas both at the global and local level. Basically, I have no argument with the degree of coherence achieved by the Armbruster and Anderson chapter. For the most part, it is well-written, highly-organized, and easy to read. Moreover, the use of generic structures such as frames and slots were effective aids to comprehension. The reader is always prepared for what information to expect from the text and how the ideas will flow. However, I do not feel that the strategies used to achieve global coherence make for good history. Often, the writers' emphasis on structure relegates much of the historical content to the background. That is, the chapter reads like "generic" history. While the subject of the chapter is the writing of state and national constitutions after the American Revolution, the text leaves out much about the people and "spirit" that accompanied that process. Thus, we learn a great deal about how the documents were written but less about why or

even when they were written. As a result, much that is left to be "understood, learned, and remembered" is structural--not historical--in nature.

Armbruster and Anderson used five major strategies to achieve global coherence in their example of a considerate text. These strategies are: (a) to select a clear overall structure for the text, (b) to make good use of the Introduction to the chapter, (c) to make effective headings and subheadings, (d) to construct effective tables and (e) to set aside ancillary information to an inconspicuous place in the text. Let's look at how each of these strategies affected the historical content of the chapter.

Overall Structure

Frames are very useful ways of organizing information in a text, but one frame cannot stand alone across a piece of historical text as large as a chapter. Armbruster and Anderson describe the Goal, Action, Outcome (GAO) frame as a generic plot, but history is a series of plots that are layered one upon another. To write good history, therefore, we must show that these plots often occur simultaneously. For example, the cause-effect frame is just as important as the GAO frame for understanding this period of American history. A series of causes and effects underlay the process of Americans making state and national constitutions. Some of those causes were part of the American Revolution and we see their effects in the actual

writing of the constitutions. Other causes, however, were part of the constitution-writing process itself and we see the effects in certain features of the final documents. Embedded within the GAO frame, then, are cause-effect frames which are essential to the historical content of the chapter.

Introduction

The Introduction does a good job of acquainting the reader with the content and structure of the following chapter, but the Introduction suffers from a content problem imposed by the GAO frame structure. First, the review of information from previous chapters focuses only on goals, whereas those chapters may have been organized predominantly by other frames. Second, neither the Introduction nor the chapter makes explicit the important connection between the making of state constitutions, the failures of the Articles of Confederation and the writing of the American Constitution, a connection that was mainly a chain of cause-effect frames.

Headings and Sub-headings

The headings and sub-headings were one of the most useful strategies used by Armbruster and Anderson to achieve global coherence. Like road signs, they guided the reader through both content and structure.

Tables

Armbruster and Anderson's principles about the use of tables are sound and Tables 2 and 3 reinforced both the structure and ideas of the text in an easily digestible manner. However, Table

1--Weaknesses of the Articles of Confederation and the Problems They Caused--does not follow the principles and therefore seems inconsiderate of the reader in two ways. First, because the table completely replaces text, a level of detail which the text does not suggest, the uninformed reader may get lost in the details of the table. Second, many of the ideas are part of a cause-effect frame which the writers have not included in the chapter's structure.

Ancillary Information

The challenge to writing "considerate" texts in content areas like history is to integrate what Armbruster and Anderson call detracting information with the global structure of the text. Instead of relegating such information to an inconspicuous place like footnotes, considerate texts must learn to weave together structure with details and other ancillary information. Placing extra information in boxes, margins and footnotes is highly inconsiderate of most readers who expect texts to be a running account of all that the writer wants them to know. In fact, the global coherence of a text can be greatly interrupted by fragmenting information and putting it in various places within the text.

In conclusion, I have pointed out some problems with Armbruster and Anderson's history, problems that were caused by the limitations imposed by the use of structures like the GAO frame. In spite of my unhappiness, however, the use of generic

structures does hold significant value for history texts. Many students, especially at the elementary and high school level, seem to have trouble understanding the overall structure of historical events. That is, these students learn American history as people, places, dates, and events without learning how to organize and relate these details. Frames teach this process of organization.

Given that frames are so useful to students but are so limiting in texts, what do I suggest? First, I suggest that, in history texts, we systematically embed frames within each other. For example, we should be able to see that causes and effects often lead people to certain goals, actions and outcomes. Although Armbruster and Anderson integrate a powers frame and a compromise frame within their chapter, more such integration is needed.

Second, I suggest that we teach students to make and identify frames. Students can then decide to focus on a particular historical question and then use frames to extract information pertinent to that question from a historical text.

A Reaction to "Americans Develop Plans for Government"

by David Jonassen

Rationale

The organization of knowledge is frequently described by cognitive psychologists in terms of schema theory (Rumelhart & Ortony, 1977) or associated constructs, such as scripts (Shank & Abelson, 1977). The popularity of these constructs is attributable to their ability to explain individual construction of knowledge structures. Because of this flexibility, schema theory is often misused--invoked, as it were, as a theoretical shibboleth--to lend academic credence to a variety of practices or hypotheses. Authors too often apply schemata (scripts) as universally accepted descriptions of knowledge, rather than as theoretical constructs for knowledge mechanisms. Often, no attempt is made to relate practical work to the theory, which functions only as a theoretical justification rather than a rationale. In this chapter, direct and explicit links between theory and practice are evident.

Just as with memory, structures are important to the construction of text. Like memory, individual ideas (schema) are combined to form slots (authors' term), which combine to form more elaborate text structures (scripts, frames, grammars, etc.). The conceptual links among ideas determine the nature of text. These story grammars, already alluded to by the authors, reflect the structure and sequence of ideas (schemata activated by the text). Different types of text link schemata in different ways,

thereby applying different structures of story grammars. For instance, expository prose structures ideas in familiar and accepted patterns (called frames by the authors), such as list structures, comparison/contrasts, etc. Narrative prose, on the other hand, normally depends on a different set of structures (e.g., temporal sequence), while argumentative text usually employs a different combination (e.g., causal, comparison/ contrast). Each type of prose is distinguished by its particular system for arranging and connecting ideas in text. More specifically, different types of content suggest a more select combination of text structures that best describe its organization, so that expository descriptions of scientific information will use a different set of structures than historical information. While such structures are usually transparent in text, the assumption of this chapter, as supported by a body of literature reviewed by Armbruster (1984), is that the more consistent and apparent the organization of ideas in text, the more likely it will be learned. The premise is that consistent organization produces coherent text which facilitates learning.

Theory into Practice

What makes this chapter so distinct is the meaningful translation of theory into practice. This textbook chapter and its rationale represent one of the most theoretically meaningful and consistent implications of text structure that I've

encountered. The rationale is firmly grounded in relevant theory. The chapter clearly evinces that orientation. What is most useful about their work is that the connections between theory and practice are so clearly explicated. The reason for virtually every characteristic of text is obvious to the reader.

Typographic Cueing

The version of their chapter reproduced in this document is distinctive also in terms of the consistency with which the various typographic signals reflect the structure of the text.

Headings. Having described the structure of the chapter in the introduction, the headings and sub-headings announce and describe that structure. This explicit signalling of text structure may be redundant, but more importantly, it is consistent. A recent study by Meyer and Rice (1983) indicated that the emphasis plan needs to be consistent with the organizational plan in order to avoid confusion and learning decrements. The replicative cueing in this chapter assures consistency.

Underlining. Even the underlining in this chapter supports the global and local coherence. Most of the terms underlined are those which emphasize the slot being discussed or which locally emphasizes some connectives. There are a few exceptions, which for the sake of consistency, should not be cued or cued in a different manner (e.g., bold face, caps, italics, etc.).

Boxes.[1] Information not directly relevant to the frame structure is boxed, removing it from the continuous prose in order to improve text coherence. The purpose of this information along with some directions on how to deal with it should be included somewhere in the text. This is important because the boxed information contains many of the details so likely to be emphasized and memorized by readers, which should distract attention from the structural cues. Tables 1 and 2 need to be boxed as well, because the information they contain is ancillary to the chapter.

Introduction. The introduction serves three useful functions:

* relates chapter ideas to prior learning

* provides an overview of the chapter

* introduces the top level structure (frame) of the chapter.

All of these are consistent with most theories (especially Ausubelian) of cognitive learning. This elaborative sequence is quite common and conceptually consistent with the other characteristics of this text. Based upon this conceptualization and the dual coding hypothesis, it might be good to move Table 4 to the introduction section and move Table 3 to the beginning of the "Process" section prior to the narrative description of Compromise 1. To further enhance the effect, Table 4 could be converted to a diagrammatic form.

---

[1]Author's note: The boxes referred to here have since been replaced by footnotes.

Text Design Issues

As clearly as the issues have been dealt with by Armbruster and Anderson, this chapter and related readings raise some additional questions. I will attempt only to address the questions. Definitive answers will require a considerable amount of research.

Implicit or explicit characteristics. As indicated earlier, the organization of ideas in text is normally transparent, that is, the structure of ideas is implicit in text. The expressed purpose of this chapter is to make the structure of text explicit. Explicit strategies can include linguistic signalling of the structure (e.g., introductions, topic sentences, connectives), typographic cueing, and detached learner strategies (e.g., directions to outline or focus on top level ideas). This chapter uses the first two directly and implies the third. The question is, How much is enough? How much signalling should be included? How explicit should it be? Should it be typographically cued? The answer, as suggested by some of the individual differences work in reading, is a function not only of the type of prose and the complexity of the structures involved, but also learner characteristics (e.g., conceptual style, field independence, organizational ability). That is, we should expect interactions between text and learner characteristics.

Learner-generated vs. text-provided comprehension. It is generally accepted that comprehension is a function of the reader's understanding of the top level structure of a passage.

In order to facilitate that understanding, this chapter purports that the ideas in a passage should be structured in such a way as to clearly communicate that structure to the reader. The macroprocesses associated with comprehending top level structure, according to this belief, are or at least can be externally controlled. It involves discerning and accepting the author's arrangement of ideas. Comprehension as such is data-driven.

An equally valid case can be made for the role of learner-generated meaning from the text. The generative hypothesis (Wittrock, 1974) contends that comprehension is primarily a function of the availability of distinctive, relevant memories in the learner. Comprehension relies on the activation of existing knowledge structures to explain text (or any other stimuli). Comprehension is less affected by how the text structures ideas than by the arrangement of ideas in the learner's memory. Comprehension is said to be conceptually-driven. To what extent is comprehension conceptually-driven or data-driven? Do readers rely more on their own knowledge structures or the arrangement of ideas in text in order to comprehend meaning? To what extent can the reader's knowledge structure be supplanted by the content/text structure? These questions have no definitive answers. Comprehension obviously involves both conceptually- and data-driven processes. Without personal constructs, no comprehension could occur. The availability and arrangement of those knowledge structures determines to a large extent what gets

comprehended. Yet the structure of content-specific knowledge is also important. Understanding a body of knowledge is also important. Understanding a body of knowledge obviously involves the assimilation of content structures as well as the ideas to fill it. The degree to which comprehension is either conceptually- or data-driven is a function of the content being comprehended and the complexity and familiarity (availability of similar constructs and structures) of the structures employed. Comprehension is also a function of the purpose for which the reader is attempting to comprehend the text (course learning, problem solving, casual reading, etc.) as well as the situation in which it is used. Myriad learner characteristics doubtlessly interact with the type of content structure and the strategies employed by the reader in attempting to comprehend the material. For instance, a consistent body of research suggests that field independent learners prefer to rely more on conceptually-driven processes, while field dependents are more likely to use the author's structure. That is, field independent thinkers prefer to impose their own structure on newly encountered material. The point of this issue is that the very meaningful characteristics for signalling text structure as provided in this chapter are going to be differentially effective. For better readers, the techniques are likely to have little or no effect and could perhaps even produce decrements for some learners. For all readers, there is an undefined limit on any improvement in comprehension or retention produced by these techniques.

Instructional design. The instructional design implications of this structural orientation need to be considered. Without identifying a set of expected learner outcomes, the effectiveness of such structural methods may not be manifested and certainly won't be documented. While the expectations of frames on comprehension are detailed in their rationale, the authors provide no discussion of how those effects would be measured. This is important because of the nature of the effects predicted by such a structural approach. Comprehension and memory for top level structure are seldom measured by locally-produced comprehension exams. Since the emphasis of this chapter is on passage structure, explicit measures of that structure in appropriate forms are needed. Such measures may include mapping techniques, outlining, diagramming, tree structures, or the like. Likewise, directions, instruction, and practice in recognizing and memorizing top level structure need to be provided, since such mental efforts are not consistently taught as a reading comprehension strategy. Test items and instructional materials need to be included with the text to insure that such higher level passage information is being taught and tested. In the absence of those items, structural comprehension strategies might not develop and probably won't be measured in most instructional settings.

Conclusion

The textbook chapter provided by Armbruster and Anderson is

in many ways exemplary. It is theoretically consistent with the most widely accepted conceptualizations of learning. The explicit signalling of top level structure overtly and clearly communicates that structure to the reader in a way that improves comprehension of the material as well as increasing the likelihood that the structural information will be committed to memory. Two major concerns include the role of individual differences in comprehending the structural information and the related concern of the representativeness of the structural information provided. The author who includes such explicit structural information provides a preclusive context for comprehending the material. However, most content presented in textbooks implies just such an accepted content structure.

References

Armbruster, B. B. (1984). Learning from content area textbooks: The problem of "inconsiderate text." In G. Duffy, L. Roehler, & J. Mason (Eds.), Comprehension instruction. New York: Longman.

Meyer, B. J. F., & Rice, G. E. (1983). Interaction of text variables and processing strategies for young, middle-aged, and older expert readers. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Quebec, Canada, April.

Rumelhart, D. E., & Ortony, A. (1977). The representation of knowledge in memory. In R. C. Anderson, R. J. Spiro, & W. E. Montague (Eds.), Schooling and the acquisition of knowledge. Hillsdale, NJ: Erlbaum.

Schank, R. C., & Abelson, R. P. (1977). Scripts, plans, goals, and understanding: An inquiry into human knowledge structures. Hillsdale, NJ: Erlbaum.

Wittrock, M. C. (1974). Learning as a generative process. Educational Psychologist, 11, 87-95.