A Strategic Method for Writing

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Contents

Introduction

Overview

This book is about writing. About getting words down on paper. But it is also about other things because other things go into writing.

It's about *strategy*. About clarifying what, exactly, you want to accomplish and then devising a plan to achieve it.

It's about *thinking*. All of the different kinds of thinking required to write.

It's also about *managing*. Managing your time, your activities, and your thinking as they relate to writing. And it's about managing people, if you write with others or they write for you.

This view of writing is made concrete in a basic six-step strategic approach.

You may find the approach familiar. It draws on techniques for problem-solving and decision-making that many of you have learned elsewhere -- in engineering, computing, or other technical or scientific fields, in business and professional schools, in military officer training. You may already use its methods in your professional work.

All the better. You'll find the approach natural to learn and natural to apply to writing. As one software engineer who uses this approach said, "It makes sense to write like I design a system. Why didn't I think of that before?"

You may find, too, that the approach applies to more than just writing -- to making oral presentations, conducting meetings, planning projects, for example. We hope you'll be like the analytical chemist who told us "I use it for everything; hell, I even planned my vacation with it!"

The book is divided into four parts. The Introduction presents underlying ideas and assumptions. Part 1, the heart of the book, describes six basic steps for writing. Part 2 covers three additional steps. Part 3 adapts the method for varied writing situations and for non-writing tasks.

If you want to get down to work immediately, go to Part 1. If you want more information on the ideas that underlie this approach, continue reading the Introduction.

Strategy

Develop a strategic perspective. If you want to write well, that's more important than skill in using words. Have you ever read a beautifully written document that addressed the wrong problem? the wrong audience ? left out the main point? The writer -- the anyone -- who has a strong sense of strategy, who knows exactly what he or she is trying to accomplish, knows how to go about it, and knows when they've gotten it right, is way ahead. And is a joy to work with.

Some people are born with a sense of strategy. However, most have to develop it through observation, instruction, and practice. Practice on hard, real-world problems. Textbook exercises won't do.

What, exactly, is a strategy?

A strategy is a structured method for achieving a goal.

Goal, method, structured are key terms in this definition; we'll add subgoal, task, and product. Let's sort them out.

Goals are often abstract, like increasing sales 20% or devising a computer system to help people write better. To be useful, goals must be pinned down, turned into a product or associated with something tangible, something that can be observed.

Most goals are too far away or too big to be accomplished in one step. They must be divided into subgoals so that when all of the subgoals have been accomplished individually, the overall goal will have been reached. But just as an overall goal must be made concrete, so subgoals should be associated with intermediate products. The goal of increasing sales 20% needs a sales plan stating how to do it. The goal of a computer system to help writers needs a statement of users' requirements. Often these intermediate products, the sales plan or the requirements statement, have no value themselves except this: if you don't produce them, you are likely to fail in your long term objective.

Methods are recognized procedures to achieve goals or to produce associated products. Our minds deceive us about methods. Most of us believe that when we sit down to solve a problem or produce some mental product, we just do it. We just invent on the spot the technique we use, or do it the same way as the last time we solved a similar problem. Few of us think about developing general analytical skills that apply to a broad range of problems. A strong, efficient thinker will have a collection of such methods that can be drawn on as needed, but even more important, he or she will know when a familiar method can be applied or adapted and when a new approach must be devised.

Finally, structured refers to the order in which you carry out tasks. Sometimes it doesn't make any difference. Sometimes more than one task can be worked on at the same time, if several people are available or you can divide your attention. But for most large projects, certain tasks must be completed before others. Part of devising a strategy is working out the order in which the various tasks that make-up the project will, or can, be carried out.

A task combines three of these components: a goal, a product, and a method. Without a goal, you are working for no particular purpose. Without a product, you can't tell when you are through. Without a method, you are wandering in the dark hoping the goal will happen. With all three, you have a directed, efficient, and predictable approach to getting something done.

In summary, a strategy is the process of dividing a large task into one or more sequences of smaller ones.

What, then, is a strategic perspective?

A strategic perspective is a way of thinking, a habit of mind. Instinctive or cultivated, it is approaching writing -- and any other activity -- with a strong sense of strategy: identifying clear, precise goals; breaking them into subgoals; consciously using developed methods or devising new ones when necessary; sequencing and scheduling tasks to produce intermediate products and then the final product.

It is thinking on several different levels at once. Seeing the problem whole while dividing it into manageable tasks. Working on each in a focused, directed way but with a strong sense of context and purpose. Consciously ignoring some things in order to concentrate on others.

It is working with a strong sense of self-awareness. Choosing to work in a particular way rather than simply reacting or working in your habitual way. Knowing what you know, and what you must learn or delegate. It is also knowing where you are in the process, how much you have done, and how much is yet to be done.

Such self-awareness can be painful. None of us likes to confront our limits or the amount of work yet to be done. But with this awareness comes control. You are managing the task rather than the other way around. Progress and results are more predictable since you know where you are in the process and which parts must still be built in order to complete the final product.

Most important, self-awareness produces a strong sense of reality. A lot of us are optimists. We think the work is almost complete as soon as we see how it could be done. Many projects spend 90% of their time 90% complete, or so they report. A strategic perspective destroys false optimism, but out of those ashes comes a sense of reality on which true confidence and accomplishment can be built.

Thinking

Writing requires many different kinds of thinking. Not just verbal thinking, but creative insight, association, analysis, planning and organizing, inference, deduction, even abstract spatial thinking. And, of course, strategic thinking. Since more poor documents are produced by weak thinking than by bad writing, let's look briefly at some of the types of thinking writers need.

Writing is creative, no matter how technical the content or how practical the purpose. There are always other approaches, other ways a subject could be presented. Finding the best approach, or at least a fresh effective one, takes imagination. You can't force it; you have to step back and let ideas happen. Similarly, seeing how to fit ideas together to make a point or to make them memorable requires creativity. Often not a lot, but always some.

Gaining access to knowledge requires associative thinking. If all the information for a document is in your head, you still have to move it from long-term memory to working memory so that you can 'see' what you have to work with. To do this you follow chains of association, one idea leading to another, continuing down some paths, cutting off others that don't seem relevant. It's a pretty mysterious process. We can never be sure that our memories haven't failed us, that some fact isn't buried in there that would draw everything together. Yet, we tend to 'know' on some instinctive level when we have exhausted our store of knowledge and should go to other sources or when additional reflection will be fruitful.

Associative thinking is also involved in gathering material from external sources -- from other people, from files, from printed material, from computers, or wherever. As ideas and data come into our ken, they suggest new lines of inquiry. Again we follow chains of association, from person to person or source to source. Again, we must exercise executive control over the process, not spending too much time on any one point but also not closing too early.

We classify when we group ideas according to some principle of similarity. We use inductive reasoning when we articulate the more abstract point several ideas add up to, deductive reasoning when we divide a point into its constituents. The products that result, the small logical relationships, are conceptual building blocks.

Using these building blocks to create a large, integrated structure of ideas takes another kind of mental skill, sustained hierarchical thinking. First, seeing that two ideas are at the same level of abstraction, or that one is higher or lower in the hierarchy than the other. Then, fitting the pieces together, recognizing what fits and what doesn't,

reshaping a piece so that it does. All done abstractly. While inference and classification are natural, instinctive mental acts, sustained hierarchical thinking is more artificial -- learned through instruction or long experience -- and requires conscious effort.

Aiming a hierarchical structure is different from creating it. It involves sorting out from all the possible results the specific one you want to make happen. It also involves empathizing with all the different people who will read your document, to understand what information they need, what they already know, what attitude they have toward you and your purpose, how they are likely to respond to your document or to any action you may want them to take.

And, finally, verbal thinking. This is when you put ideas into words. Give substance to the abstractions contained in the conceptual structure. Name the relations among ideas. Even note ideas or data that are difficult to express in words and decide on an alternative form, such as a graphic or table.

Verbal thinking is not simple. To revise what you've written, you must think like both a reader and a writer. You need to read your document as if you didn't write it. If you find problems, you become the writer again as you correct them. Thus, revising is both analysis and synthesis, reading what you have written, noting problems, and resynthesizing solutions. And it must be done at several levels of abstraction, ranging from the structure of the document as a whole down to individual sentences and words.

You have acquired all these thinking skills at one time or another. We will try to help you develop them further. Think of them as a box of tools. One for every job, some that can be used for more than one, some that are highly specialized. Just as you would use a wrench instead of a pair of pliers or a screwdriver to loosen a bolt, so you should use the right mental tool for each specific job in the overall writing task. Just as a skilled craftsperson knows his or her tools, so you should become conscious of your own mental tools -- which ones you have; which ones you should develop or, perhaps, borrow from someone else; which tasks each is best suited for. Used incorrectly, your mental tools can be ineffective, even destructive, but used skillfully, they can produce results that are effective, predictable, sometimes even beautiful.

Managing

Writing requires management. If it is to be done efficiently and effectively, it must be managed the same way. Like the different levels of thinking needed, several different forms of management are required. You must manage your thinking, your activities, your time, and often, your colleagues or collaborators.

We've talked a lot about thinking, all the various kinds required by the different steps of the writing process. You need to keep in mind where you are in the process and what particular thinking skills are best suited for your current activity. For example, when you are gathering ideas and information, you need to think associatively. You need to spend time creating, letting your mind play over the material. Usually, you can't spend all day at it, but you should spend some time in unstructured, undirected thinking to let ideas happen. When you organize your material, you will work much more logically and purposefully. When you write, you need to keep your thinking focused on generating, not on revising. And in revising, you'll work on only one level of editing at a time. Consciously ignore some things that need changing so that you can look out for problems of a particular "size" or of a particular kind. When you do this, you are controlling your thinking throughout all the stages of writing, choosing to think in a

particular way in order to accomplish specific tasks, monitoring the time you spend on each -- not too much but also not too little.

Closely related to managing your thinking is managing your activities. Don't try to do everything at once. Concentrate your efforts, get one thing done and then move on to the next task. If you try to gather information, organize it, write, and revise all at the same time, you have no control over the process or what kind of document you will end up with. It could be great, but it usually isn't. By breaking the task into subtasks, by consciously using specific thinking skills for each, your work becomes predictable, controlled, manageable.

As pointed out earlier, writers tend to be optimists. Most of us underestimate the time it will take us to write something by a factor of two or three. However, by managing your thinking and by dividing the overall task into separate subtasks, you can also manage your time much more effectively. After a little practice with the methods presented here, you will know where you are in the process, how much you have done, how much is yet to be done. You will also know which tasks you can accomplish quickly and which ones take more time. Sometimes you will have to put the brakes on your anxiety to get on with your work in order to spend sufficient time planning or mulling over ideas. But you will learn that time spent early in associative thinking or in hierarchical analysis, for example, repays with interest by reducing the time required for writing and revision. All of this will help you make more realistic estimates of how long it will take you or someone working with you to write something.

Finally, writers need to manage the writing of others. Most professionals don't work alone. They work with others in an organization. Frequently they write something for someone else, or they work with several others to produce a joint document, or they oversee the work of others. Group writing requires a special kind of management, particularly if the group consists of experts from different fields. So does delegated writing. You need special conceptual tools to help you integrate disparate ideas, attitudes, and data into a coherent, single conceptual structure. You'll find the tools you need in the approach to writing presented here.

A strong understanding of strategy and how it applies to writing, a diverse collection of thinking skills, and effective management techniques are all needed if you are a professional who writes on the job. You probably have enough of these skills already to get your writing and your work done. This book will help you strengthen those skills. It will help you become a more efficient and effective writer and a more productive thinker.

Part 1:
Six Basic Steps

Overview

Part 1 describes Six Basic Steps for writing. They don't cover every aspect of writing. But after you have mastered them, you should have a clear, strategic sense of the writing process as a whole. You can fill in the details and the subtleties later as you use these steps in your work.

The format for each step is the same. Each begins with the goal for that step and the rationale behind that goal. To make the goal concrete, we next describe a product, a concrete thing you actually produce. While that product is intermediary for most steps and not part of the actual document you are working on, the thinking that goes into each is essential. The product is followed by step-by-step instructions for producing it. Each step ends with a comment that gives additional details.

If you try to read the book through, you will probably find this uniform format annoyingly repetitious. Instead, use the book as you work on a writing task you need to complete during the next week. Work through a step or two at a time, applying the techniques to your project. Later, when you go back to the book for reference, the consistent format will help you find the information you're looking for quickly and easily.

We've tried to make these steps as simple as possible. However, don't be deceived. Learning to think, and write, simply and clearly is not easy. It takes practice and it takes effort. Plan on using the methods described in this book on several projects over the next few weeks. At first they will slow you down. When time pressures make it impossible to apply all of them to a task, use one or two. As they become familiar, they will become reflexive. That's when you will really start realizing their benefits.

Explore

Goals

o   To gather the raw material from which the document will be constructed

o   To explore that material in order to get familiar with it

o   To play with different clusters of ideas and relations among them

o   To let ideas happen

Rationale

Most successful goal-oriented people, given a task, will immediately start working on that task. Very quickly they become committed to a particular approach. Sometimes that's fine, but sometimes the first approach that comes to mind is not the best approach. By the time they realize this, it may be too late to change.

The early moments of a project are critical. It's then that the basic directions are set. It's like starting out on a hike. You can go in any direction you want, but once you start in one particular direction, that pretty well determines which way you will be going for the duration.

Stop. Give yourself some time to think, to get your thoughts out in the open, to let ideas happen, to consider alternative approaches. We human beings think slowly -- only about 300 - 400 feet per second, neuron to neuron to neuron. It takes time to be creative. So don't close too early.

Rollo May, the psychologist, once asked the question: "Why do I always get my best ideas while I'm shaving?" He answered the question by describing a functional view of creativity.

Creative insights often come during general periods of intense concentration and work. Not while you're sitting at your desk, not even while you're consciously thinking about the task, but while you're taking a walk, just waking up in the morning, driving home from work, or while you're showering or shaving. They come when least expected; usually they just pop into your head, but whole and with a sense of certainty.

The reason seems to be related to the way the subconscious and conscious minds communicate with one another. Unfettered by logic and habit, the subconscious seems to stick bits and pieces of thought together at random. Occasionally it comes up with a new combination that solves the problem at hand, fully, and in a novel way. But because it's the subconscious, you aren't aware of the answer. In moments of relaxation when the conscious mind lets down its guard, the two can link up and the solution can pop into consciousness.

So relax. Take some time to be creative. To think about the task from different perspectives, to let ideas happen. It doesn't take a lot of time but it does take some. You can't force it, but if you care about your work you can't afford not to invest time in exploring your ideas and your data.

Product

o   A visual representation of your ideas and your data that lets you play with different combinations and relations

Procedure

- o   Clear out some space in which to think
  -    the top of your desk
  -    the wall
  -    a whiteboard

- o   Do nothing for 5 - 10 minutes

- o   After that, jot down ideas as quickly as you can
  -    use small "post-its", one per idea
  -    only a word, a symbol, or a phrase at most; just enough to remind you of the idea

- o   Continue until you start to run dry

- o   Put the post-its into groups of related ideas

- o   Fill in any holes, any missing ideas, suggested by the groups

- o   Try different combinations

- o   Throw away any you don't want

- o   Continue until you have mapped the conceptual space of your document

- o   Step back and look at what you have created

Comments

By holding back at first, you let pressure build up. When you release it, ideas come pouring out.

You'll find this build-up and release particularly useful if you are one of the many people for whom the hardest part of writing is getting started. (This is an instance of what we mean by "managing your thinking.")

By getting your ideas and data out of your head and into a spatial configuration, you overcome the limits of short-term memory -- 4 or 5 ideas at most. You can now literally see the ideas you have to work with.

This is "bottom-up" thinking. Later you will use a top-down strategy to organize the document you will write. But for now, the goal is simply to gain familiarity with the material.

Exploration can be modified in several ways for special kinds of writing tasks. For example, pause 5 - 10 seconds before you make a telephone call to clear your mind and focus on what you want to accomplish. For large group projects, try having the group as a whole to go through a similar exploration and brainstorming before setting initial directions for the project. We'll come back to these and other adaptations in Part 3.

Analyze Readers

Goals

o   To identify who is likely to read your document

o   To rank them

o   To estimate what they know about your subject and what you need to tell them

o   To set realistic goals for how much you want to change
-        their knowledge
-        their attitude

Rationale

Writing with a clear, strategic sense of your readers is important. There's no easier way to waste your time and your readers' time than by getting wrapped up in your subject and writing for yourself rather than for them. There's no better way to write ineffectively than by talking over their heads, talking down to them, trying to oversell your point, or thinking that information alone will persuade them. To address different readers with different purposes successfully, you need to think about them and then plan your document accordingly.

Making your assumptions explicit is the best way to start. You need to consolidate what you know. To get that information out in the open so that you can see it and turn it into functional knowledge you can actually use.

You always write to a particular reader or group of readers. You never write to a "general" reader. Even if you have no direct knowledge of who will read your document, you still must make assumptions about who they are, what they know, how they will react to what you say.

To help you do this, we'll describe three different products and procedures. The first helps you figure out who all is likely to read your document and to rank them in importance. Almost never is a document read by only one reader or even just a principal group of readers. A memo is passed on to keep others informed. A specification written to guide implementation will also have budget, scheduling, marketing, and other implications and is, thus, likely to be passed to several different groups. You can't control distribution but you can anticipate it and plan for it.

The second procedure will help you get a sense of the limits of your most important readers' knowledge. This will help you decide which words to use, which to explain; what information to assume, what background to provide in context, what outside references to make, or what information to append.

Most documents try to change something -- readers' attitudes, their knowledge of the subject, both, or perhaps some other set of factors. The third procedure will help you decide what kinds of changes you want to accomplish and how large these changes need to be. You're headed for trouble if you try to make an advocate of a reader who only needs to be neutral, or try to make an expert out of a decision maker who only needs to know in general what you are explaining. Consequently, the third procedure will help you clarify your intentions and set realistic goals.

Identify Readers

Product

o   A chart identifying individuals or groups who are likely to read your document

Procedure

o   Draw a small circle in the middle of a page and write in it your name (or the name of the team for a group project)

o   Draw a larger circle around "your" circle

o   List in that circle the individuals or types of individuals (position or role) that are closest to you in your organization who are likely to read your document

- members of your group
- your manager
- others working on the project

o   Draw a larger concentric circle and list individuals or types who will read the document but who are further away in the organization

- colleagues in your department
- your second level manager
- others with direct knowledge of the project but not participating

o   Repeat the process for other readers further away but still in your organization

- colleagues in division but without direct knowledge of project
- third-level and higher management
- readers in other divisions who don't yet know much about the project but may be affected by it

o   Draw one last circle for readers outside your organization

o   When finished, go back and rank the readers by importance

Comments

The purpose of the first part of the procedure is to help you systematically think about your known and potential readers. First you array them. Then you rank them.

The product is a "family portrait" of your readers with the most important individuals and groups identified.

One final suggestion: when you write your document, mentally line up your most important readers in front of you on your desk like those miniature plaster busts of Beethoven and Bach. Then keep them in mind as you write to "advise" you about what to say, how to say it, and to help you anticipate probable reactions.

Audience Chart
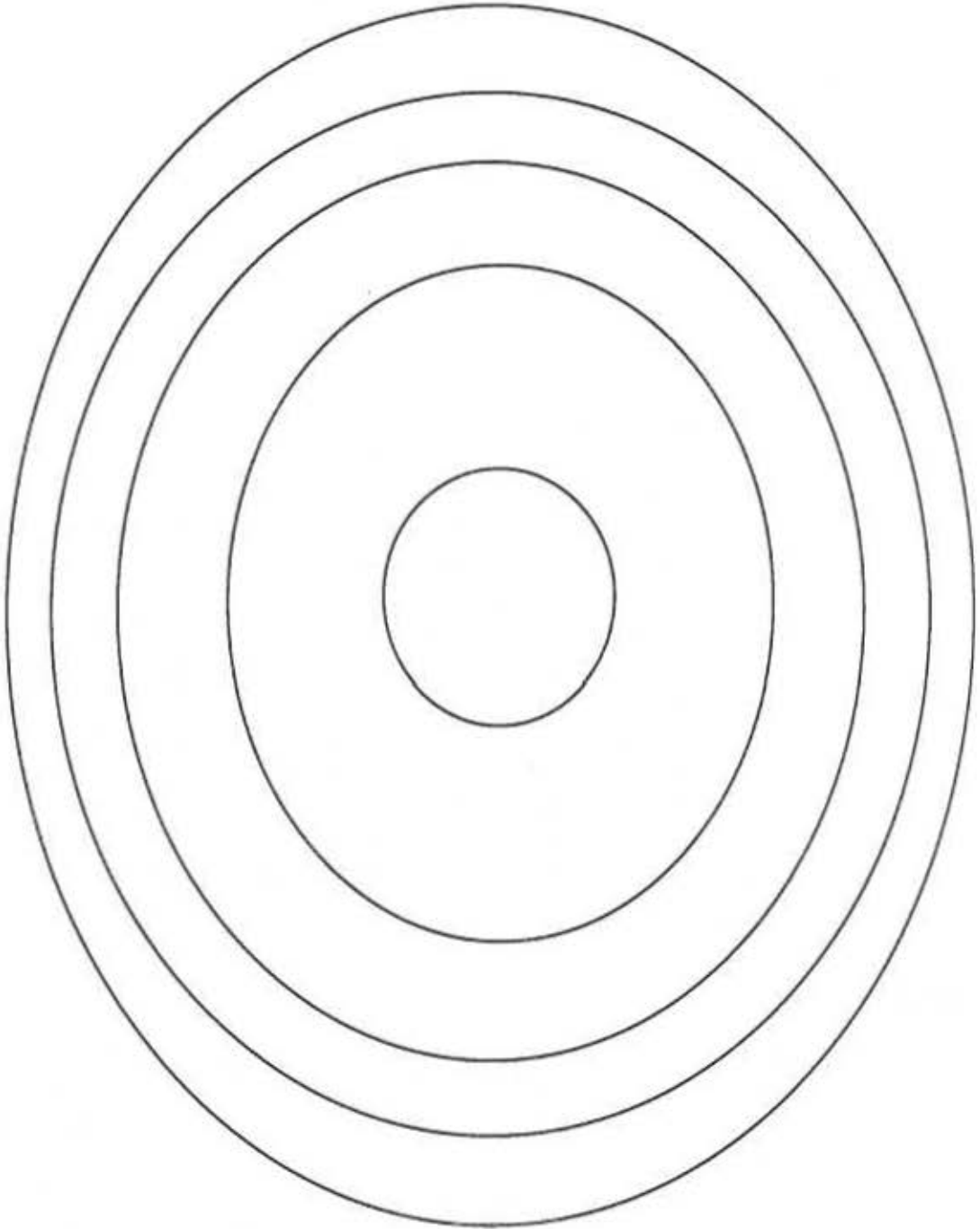
Delimit Their Knowledge

Product

o   A reader/knowledge matrix showing the limits of your most important readers' knowledge

Procedure

o   Draw a chart or matrix with 3-4 columns and 15-20 rows

o   Across the top, list your most important readers, left to right, in order of importance (from the Reader Chart)

o   Down the left side, list 15-20 key terms or concepts that will be included in your document (from the Explore step)

-    Think of the information for your document as a visual field, as you did in Explore
-    Chose terms or concepts, at random, from all over the space

o   Step back, mentally, and look for patterns

-    Is one group's knowledge a subset of another's?
-    Do they overlap and diverge in no apparent pattern?

Comments

The purpose of this procedure is to get a rough but tangible sense of the boundaries of knowledge held by your most important readers. Use this information to plan and present your material -- what to supply, what to reference, what to append, what terms to assume, what terms to explain, how to explain them.

You are once again making your latent knowledge explicit and putting it to use.

Audience/Knowledge Matrix

X = Know = could explain concept or
term as used in this document.

Term	Reader 1	Reader 2	Reader 3	Reader 4

Determine Change

Product

o   Knowledge/Attitude Scale showing starting and ending points for readers' knowledge of material and attitude toward what you propose

Procedure

o   Draw a horizontal line and a vertical line that cross in the middle

- Label the left and right ends of the horizontal line -10 and +10, respectively
- Label the bottom and top of the vertical line similarly
- Label their intersection, 0

o   Think of the horizontal line as representing readers' knowledge of the material

- +10 means they are experts in the area
- 0 means they have no specific knowledge but have general knowledge in the area
- -10 means they have no background knowledge in the area

o   Think of the vertical line as representing readers' attitudes toward the material or what you are proposing

- +10 means they are strongly in favor
- 0 means they are neutral
- -10 means they are strongly opposed, possibly with a vested interest in some other position

o   Estimate, roughly, the current knowledge of your most important reader(s)

o   Estimate, roughly, the current attitude of your most important reader(s)

o   Record that information as a point on the scale

o   Estimate, roughly, the final state of knowledge to which your document needs to take your most important reader(s) in order to succeed

o   Estimate, roughly, the final attitude position you need to achieve for your most important reader(s)

o   Record that information as a point on the scale

o   Draw a line between the two points

o   Repeat the process for each major reader or group of readers

Comments

The purpose of this procedure is to help you make realistic estimates of how much change you really need to make in your readers. Don't over-extend yourself.

If you can achieve your goal by persuading a reader to drop his or her opposition, then only try to move that reader to a position that is neutral or slightly positive. If you try to do more, you may end up doing less. That is, you may end up sounding like a cheerleader and turning that reader completely off. Similarly, for knowledge. Recognize when your document should only give a reader a general sense of your subject and when it should provide a detailed analysis, complete technical description, etc.

Look closely at the slopes of the lines. If they are more horizontal than vertical, your primary purpose is to inform. If they are more vertical than horizontal, then your main concern is to persuade. More often than not, your scales will show you that you are trying to do both.

You can use this awareness to help you plan your document. If persuasion is important for your key readers, include sections that point out the benefits of your approach, the rationale behind it, the time it will save. That is, identify what is important to your key readers -- efficiency, time, profits -- and then point out the benefits of your approach in those terms.

If knowledge is most important, your planning task is more straightforward. Just organize your document in a logical fashion that makes the information easy to find and understand. (Step 4 discusses this in more detail.)

If, as with most documents, your purpose is both to persuade and to inform, with varying emphasis for different readers, then mix the two approaches. That is, include brief discussions that explain the rationale behind your suggestions, the benefits, along with the structured presentation of the information. But be sure to use labels and headings that identify each subsection. That way, the reader who only wants to know why can go straight to those sections, read them, and skim the rest. And vice versa for readers mainly interested in what.

Final Comments

You are not likely to use all three of these techniques every time you write. But if you practice them on several documents, you will begin automatically to think about your readers -- who they are, what they know and what they need to be told, and how and by how much you want to change them. Then, when an important task comes along or when you want to explain your strategy to someone, you'll have the tools you need.

Knowledge/Attitude   Scale

Attitude
+10

- 10 ├─┼─┼─┼─┼─┼─┼─┼─┼─┼─┤ ├─┼─┼─┼─┼─┼─┼─┼─┼─┤ **+10**
Know.

- 10
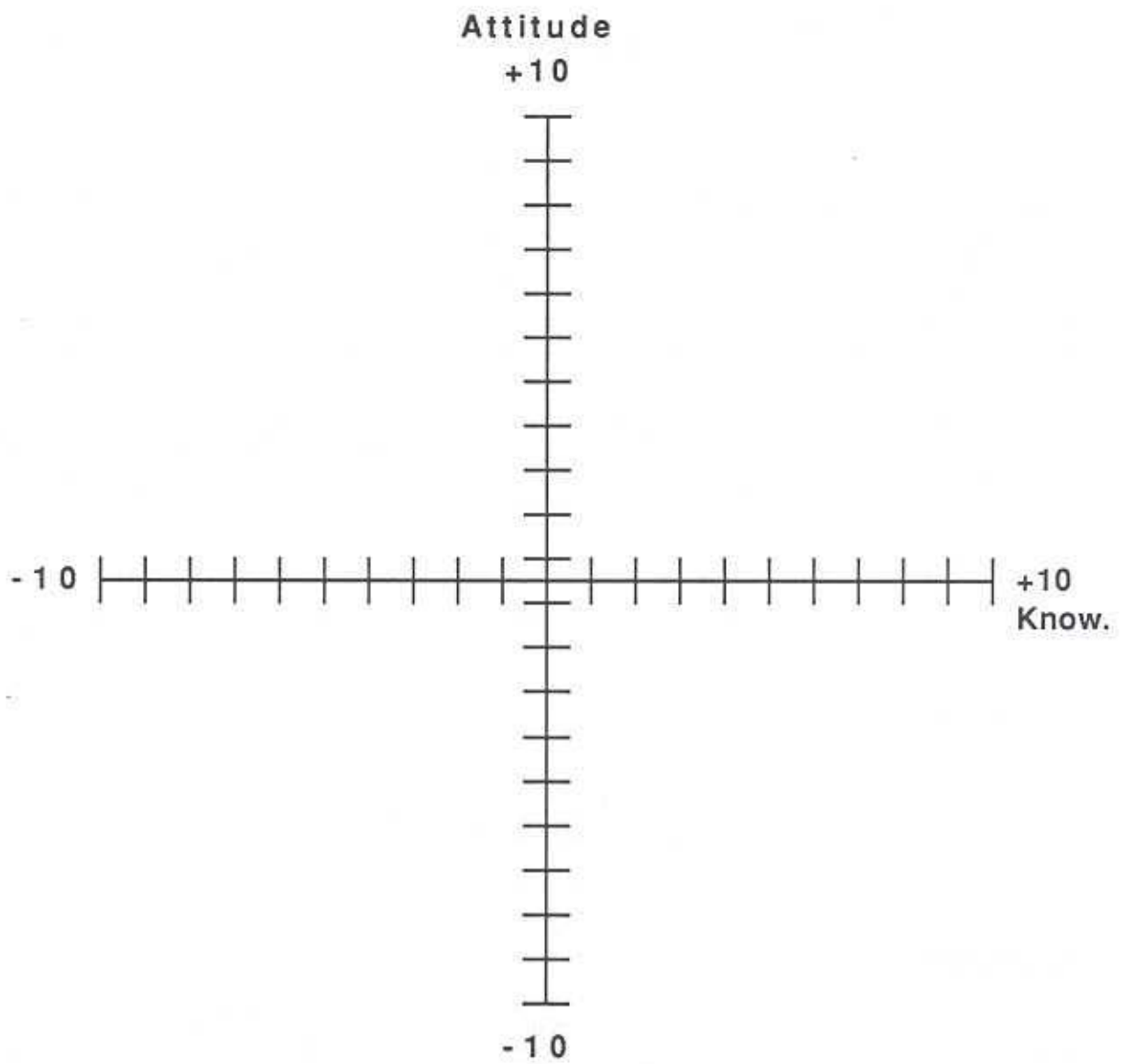
Focus

Goal

o   After exploring your subject and analyzing your readers, decide on the one document you will write out of all those documents you could write

Rationale

During Explore, you got your ideas out in the open, looked at them from different angles, thought about different possibilities. It was an expansive period where you consciously avoided closure in order to keep possibilities open. During the Analyze Readers step you went through a similarly expansive kind of thinking as you tried to identify who all might read your document, what they know and don't know, and how you want to change them. While it is important to keep you options open so that you can think creatively, at some point you have to commit to writing a particular document. Now is that time.

Commit by answering the four questions in the procedure. They will help you identify in very general terms some of the major characteristics of your document. The answers constitute a Focus Statement, a point of reference to keep your thinking on-track.

Product

o   A Focus Statement that identifies the main point, the major readers, the purpose, and the tone for the document you will write

Procedure

o   Answer each of the following questions in one sentence

    -    What is the one overriding point you want to make?
    -    Who are your most important readers?
    -    What changes do you want to make in them?
    -    How do you want to sound?

Comments

In answering the first question, you describe your subject matter in a single sentence, condensing it to its essence. That sentence is like a very brief, high-level summary of the content of your document.

The second question should be easy. To answer it, just compress the thinking you did in the Analyze Reader step into a brief description of each major reader or group of readers.

The third question gets at your purpose for writing the document. It's often hard to separate purpose from subject matter, but keep in mind that the first question is concerned with content and the third with what you want your readers to do with that content.   If you have different purposes for different readers, write brief purpose statements for each.

The fourth question is different from the other three. It gets at some of the more subjective aspects of writing. To answer it, imagine that you are reading your document

to your readers. How do you want to sound to them? Friendly. authoritative, funny, perhaps even angry? All documents have tone, since all words have connotations and associations as well as meanings. Be honest with yourself when you answer this question; you can use this information to guide you as you write and later as you revise your words and sentences.

In addition to helping you aim the document, this four-step procedure will also help you write more succinctly. Describing your main point in a paragraph is easy, but doing it in a sentence is hard. You have to step way back and think in a very general or abstract way. If you don't know precisely what you want to accomplish or how you want to sound, you will tend to wander around until you get your bearings. By forcing yourself to decide these things early, you eliminate a lot of that wandering. And the quicker you get to the point, the right point, the less time it will take you to write it and your reader to read it.

Organize Top-Down

Goal

o   To organize your content and ideas as a hierarchical structure

Rationale

Although some writers write first and organize later, it's a lot more efficient to think through the structure of your document before you start writing. That way, you don't spend time on a lot of loose paragraphs and sentences that you later throw away.

While documents can be organized in several different ways, one especially effective form is a hierarchical structure. Research has shown that hierarchically structured documents are easier to read and easier to comprehend than non-hierarchical ones. Consequently, the goal for this step is to organize your content and ideas into a hierarchical structure.

You can build a hierarchical structure in several ways. You started this process in the Explore step when you put ideas into clusters, then combined clusters to form more general points. You weren't encouraged to continue that "bottom-up" strategy because at that point you had not firmed up your intentions for the overall purpose and direction of your document. Having done that in the Focus step, you're now ready to structure your ideas and your document.

We recommend a "top-down" strategy to do this. It moves from general to specific, from your most general point to the individual ideas that will be expressed in a paragraph or two, each. The major advantage of a top-down strategy is that it insures that all the parts of your document support your largest intentions. It's made practical by the bottom-up thinking you did during Explore that gave you a comprehensive view of the material you have to work with.

To help you manage your thinking during this step, we suggest using a Tree diagram that looks like a family tree or an organization chart. This kind of Tree differs from its real world counterparts since it's drawn upside down, with its "root" at the top and its "leaves" at the bottom.

Product

o   A Tree diagram representing a hierarchical structure for your document, developed using a top-down strategy

Procedure

o   Start with the one overriding point you want to make, identified in the Focus step, and put it at the top (root) of the Tree

-     While working out your Tree, you may want to use post-its: one point per post-it
-     You may be able to transfer some post-its from the Explore step

o   Divide that concept into its three or four (or however many) largest, most important points

-     Place them under the top point
-     Left to right in some logical order

o   Focus on each one of these points, in turn

-     Divide it into its largest component points
-     Place them under that point
-     Left to right

o   Repeat the process, one level of the Tree at a time

o   Stop when the bottom points correspond to manageable blocks of ideas or information that you can easily write; i.e.,

-     A paragraph or so for unfamiliar material
-     A page or so for material you know well

Comments

This procedure has several advantages over more traditional outlining. First, because structure is represented visually, you see relations directly. You can see where a point fits in, see corresponding points on the same level, and see what points are logically above or below one another. You can also step back and see the document as a whole, your eye noting directly proportion and balance among its various parts..

With the outline, structure is invisible and has to be imagined. Relations are represented indirectly, in codes such as I.C.2.b or 1.3.2.2; consequently, you have to infer structure by interpreting the codes.

Second, the outline form encourages you to go to the deepest level of detail almost immediately: e.g., I.A.1.a. It's easy to get lost, to forget what larger point you are trying to make. By contrast, the top-down approach in which you fill out the Tree a level at a time helps you keep your sense of context and direction.

Third, the Tree helps you manage your thinking. Constructing a large, coherent conceptual structure is not a natural mental act. You can't hold all the details and relations in memory. You need to get them out in front of you so you can see them and work with them. This takes effort and the right tools. The Tree, particularly when done with post-its, provides a flexible, efficient medium in which to think and in which to organize your ideas.

Write

Goal

o   To produce a complete, usable draft that can be revised later as time permits and priorities determine

Rationale

Don't get it right; get it written. Writers who try both to write and revise at the same time often lose their sense of direction and purpose. They also lose time.

Try to write continuously. You can can do that since you have already thought the document through and recorded your plans in the Focus Statement and the Tree. Follow the Tree like a map, filling out each of the ideas. Since you will come back to the draft later to revise it, you don't have to get everything right. You just have to get it written. Of course, you will occasionally run into problems that cause you to stop and rethink; the procedure will suggest ways of handling them.

Product

o   A usable draft -- not a finished document

Procedure

o   Follow the Tree: 3 alternative ways
-    Start-to-finish
- -   Write an introductory overview for the whole document
- -   Do the same for the first major section
- -   Continue on down the leftmost branch of the Tree
- -   Fill out that branch
- -   Do the same for each of the other major sections/branches of the Tree
-    Top-down
- -   Write an introductory overview for the whole document
- -   Do the same for the each major section on the first level
- -   Work your way down the Tree, one level at a time
-    Random order
- -   Choose the section you want to write first
- -   Write an overview for that section
- -   Fill out the Tree under it
- -   Choose other sections until the whole draft is complete

o   Respond appropriately to problems
-    Problems with wording
- -   Three tries and you're out
- -   Mark for later
- -   Keep writing
-    Problems with structure
- -   If minor (e.g., a paragraph that should be two), keep writing
- -   If major (e.g., a Tree branch out of place, something just not working), STOP

- - - Rethink the structure
- - - Find highest node under which changes are needed
- - - Revise Tree from that point
- - - Review revised Tree
- - - Restart writing

o Think strategically: keep in mind your different purposes

- To persuade
  - - Point out benefits
  - - Explain why
  - - Anticipate and answer questions
- To inform
  - - Structure information for efficient reading/use
  - - Signal hierarchy
    - - - Use descriptive headings
    - - - Write overviews
    - - - State main point of each paragraph in a sentence
    - - - Frame and sequence information (first, second, ...; lists; etc.)

Comments

The Tree is your guide for the document. Use it. Put it up on the wall or on the desk in front of you so you can look up and see where you are in the document's conceptual structure and what's around you as you write.

Because you have thought the whole thing through, you can now write the sections in any order you wish. Writing from the start is the "normal" way to write -- from the introduction straight through to the conclusion. To follow this path through the Tree, you start at the top by writing an overview of the whole document. Then do the the left-most limb of the Tree by writing a brief introduction for the first section and then the section, itself. If the Tree is tall (for a long document), you may need to write similar introductions or overviews for the subsections. After you have completely filled out the first limb of your Tree, do the same for the next one, until you have written the whole document

Alternatively, writing top-down is not the way most people write. However, you may find it useful, particularly for large projects where you need to produce something early that shows your overall approach. To write this way, start at the top and write an overview for the whole document or project. Do the same for each of the major sections on the first level. At this point, you have a brief -- probably two or three page -- summary of the document. Then work your way down the Tree, one complete level at a time.

Another alternative is to write in random order. You may have fifteen minutes to work; you want to get something done, so write a short section in the middle of the Tree. Or you don't have all the data for the first part of the Tree but you do for the second, so write that section first. Since the Tree lets you see where any piece fits into the whole, you can easily see what comes before a section, what that section is about, and what will come after. Any problems caused by writing this way, such as transitions between sections, can be smoothed out during revision.

In responding to problems, the main thing is not to lose your momentum. If you have a problem with a word or sentence, give it two or three tries. If you're still not satisfied, mark it and come back later. You'll be amazed how the right word will just pop into your head or the words in a troublesome sentence will straighten themselves out.

However, for large structural problems, stop. Rethink. Don't try to write your way out. Go back to the Tree where you can see the whole context and work out a solution there. Since you have now broken your momentum, be sure you have gotten the Tree right before restarting to write.

As you write, think strategically . Keep in the back of your mind all the thinking you did earlier about your readers and your intentions. If you have to convince some readers, think about what they believe is important: time, costs, accuracy, quality. Then explain your reasons or point out the benefits of your proposal in those terms.

Where you are explaining or presenting data, put your information in context. Use descriptive headings to help readers know what to expect and to help them skim.

Write overviews or introductions for each section. That's the perfect place to point out benefits and to preview what is about to follow. For each paragraph, be sure to include in one sentence the paragraph's main point. Usually, this sentence will be the first, the second, or the last one in the paragraph.

Finally, format similar information -- definitions, equations, procedures -- similarly each time an instance appears. That way your reader can easily recognize the type of information being read. (For more on this, see Formatting in Part 2, below.)

Verify and Revise

Goal

o   To turn a first draft into a finished document that fulfills your intentions

Rationale

As the goal says, this step turns a first draft into a finished document. You wrote the first draft continuously, not stopping to revise as you went along, so that you could maintain your momentum and sense of the whole. This strategy was practical for two reasons. You were building on prior thinking about your intentions, your readers and the structure of your document; and, second, you anticipated re-working your draft during this step.

Before beginning to verify and revise, however, you must make a strategic decision. You have to decide how polished the document should be and how much time to spend on it. Some documents must go out the door in the next five minutes or they are worthless. So be it. Do the best you can in those five minutes.

Fortunately, this is not always the case. Look at your priorities. If this document is going outside the organization, if it will be read widely, if it puts forward an idea that will be strongly associated with you, then make the time to polish it.

The approach presented here will help you weigh priorities in two ways. First, it focuses on features of your document in decreasing order of importance. If you run out of time, you will have the consolation of knowing you used the time you had to greatest advantage. Second, with practice, it will help you get a better grip on how long it will take you to bring a document from first draft to final form. Knowing that, you you can manage your time more effectively.

You can't look at every feature of a document at once. Some, like spelling and word choice, are small and require you to focus on details. Others, like overall purpose and organization, require you to step back and look at the whole document. You can't do both at the same time. You can't take in the whole landscape while looking at a flower you're holding.

To get around this problem, make several passes through the document looking at a different set of features each time. First, look at the landscape, the large structural and intentional aspects. Then at paragraphs, then sentences, and, finally, words. With each pass you will be consciously ignoring some features in order to focus on others. Thus, you will be managing your attention and your thinking as you follow a top-down strategy of verifying large, more important features before smaller, less significant ones.

Practice the procedures in each pass until you know them well. They are your tools for revision. However, as they become familiar, they will also change the way you write first drafts. You will begin to see as you write a sentence that is vague or a paragraph that rambles. And you will will begin to write drafts that need less and less revision.

Structure

Goal

o   To produce a document with a clear purpose and organization

Rationale

The largest and most important features of any document are its purpose and structure. Be sure they are right before looking at paragraphs and sentences. If you haven't written the right document, clear sentences won't help. The same is true if the pieces don't fit together. Your Focus Statement and Tree are your tools for verifying and, if necessary, revising the purpose and structure of your document.

Procedure

o   Compare your draft with your Focus Statement

-       Does your document clearly state the main point?
    - -   if not, why not?
-       Does your document clearly state what action(s) you want to happen?
-       Does your document make clear who is responsible for carrying out each action?
-       Revise accordingly

o   Compare your draft with your Tree

-       Does your document have clear, descriptive headings?
-       Do the headings match the Tree?
-       if not, revise one or the other
-       confirm revisions
-       Are headings on the same level of the Tree similar?
    - -   all questions, all nouns, all verbs?
    - -   all same spacing?
    - -   all same typefont?
-       Does each section begin with an overview of that section?
    - -   if not, why not?
-       Does your document address the different needs of different readers?
    - -   background information
    - -   rationale
    - -   benefits

Comments

With this first pass, you insure that your document meets your largest intentions. If this is all you have time to do, you can send it off knowing it's well aimed right and coherent. You have not wasted time polishing sentences and paragraphs that make the wrong point. Thus, looking at large structural features first is optimal both for realizing your priorities and for using your time effectively.

Paragraphs

Goal

o   To produce working units, usually paragraphs,

-       that develop a main point
-       that make clear the logical relationships among the sentences or other elements that comprise them

Rationale

Having verified and perhaps revised the overall purpose and structure of the document, you are now ready to narrow your focus of attention in order to work on the basic building blocks of your document. These are usually paragraphs of prose, but not always. Some documents, particularly technical ones, may present basic units of information in other forms, such as bulletted lists, side-by-side comparisons, tables, or graphics. For convenience, we'll call all of them paragraphs except when we are explicitly talking about another form.

In this pass through your document, focus on these small structural units. Your task is to verify and revise two features: clarity of the main point and logical relationships among the sentences or other elements. Don't do extensive sentence editing now. You'll look at sentences in the next pass. For now, treat them largely as components you can order and reorder.

Think of the paragraph as a displacement in content. Readers begin the paragraph in one state of knowledge; they should finish it in a different state of knowledge. (If they don't, you have wasted your time writing the paragraph and their time reading it.) The sentences are the logical steps across that displacement. Thus, each paragraph has an input knowledge state, a sequence of logical steps, and an output knowledge state.

Think of a paragraph as a small pond, such as those in a Japanese garden. The input and output states are large stones on opposite shores. The sentences are stepping stones that form a logical path between them. Now look at the sequence of sentences in the paragraph. Is the path straight? Does it wander off to the side or into a dead end? Are the sentences/stones appropriately spaced, or are there gaps that may cause your readers difficulties?

If the stones are out of order, reorder them. You can, of course, revise them lightly to make them fit together in their new, logical order. But don't do heavy stylistic editing. Save that for the next pass. If you find gaps, fill in the missing sentences.

Product

o   A visual representation of paragraphs that lets you see the relationships among sentences

Procedure

o   Verify that each paragraph or logical unit has a main point

-       is there a sentence that states the main point?
-       if not, why not?

o   Think of the paragraph as a pond

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- think of the knowledge your readers have when they begin reading the paragraph as a large stone on the shore
- think of the knowledge your readers have when they finish reading the paragraph as a large stone on the opposite shore
- think of the sentences as stepping stones across the pond

o Draw a pond

- for a sample paragraph
- for a troublesome paragraph

o Draw two large stones on opposite shores

- these are the input and output knowledge states

o Draw a stone for each sentence

- space them according to the appropriate logical 'distance' from one sentence to the next
- direct them to indicate, intuitively, the logical 'direction' they take
 - - straight ahead, logically
 - - off to the side, logically

o Look for gaps

o Look for side paths that dead end

o Revise the paragraph so that the path is straight or has a logical 'bend' in it for a reason

- move sentences around
- add missing sentences to close gaps

Comments

This procedure is highly intuitive. But it will help you visualize the logical structure of your paragraphs, the 'shape' and 'direction' of your thinking. You will see, literally, paragraphs that ramble or that leave out an important step in your reasoning. For now, treat the sentences largely as stones that you can pick up and move, whole. After you are satisfied that the logical flow of ideas is clear and even, then make it smooth in the next pass when you focus on sentences.

Paragraph Revision: Key Maps

Before

We have given suggestions in the workbook on how to use the   1
key maps provided in this course. One side of the key maps
displays the default key functions for display manager. The   2
reverse side of each map is blank and can be used if the key   3
functions at your site have been set to something other than
the default values. If such is the case, you will need to inform   4
students of this information and assist them in customizing
their key maps. A list of the default values may be accessed   5
by keying in the command KEYS on the command line of the
program editor screen. Enter the command END on the   6
command line to return to display manager.
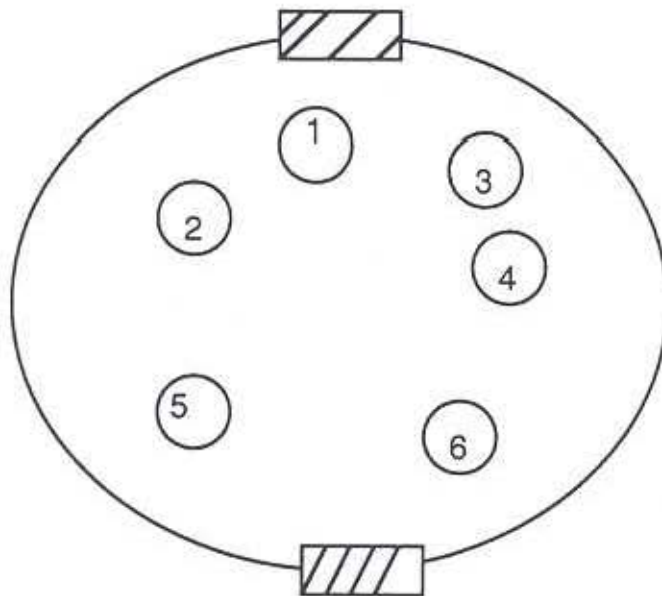
Paragraph Revision: Key Maps

After

The key maps provided in this course can be used in two ways: 1
one side of the map shows the default key structures for the
display manager; the reverse side is blank and can be used
to show key functions set by your local site to values different
from default values. A list of the default values may be displayed   2
by entering KEYS on the command line of the program editor screen.
(To return to the display manager, enter END on the command line.)   3
If these default values values have been changed, you will need to
tell students and help them customize their key maps.   4
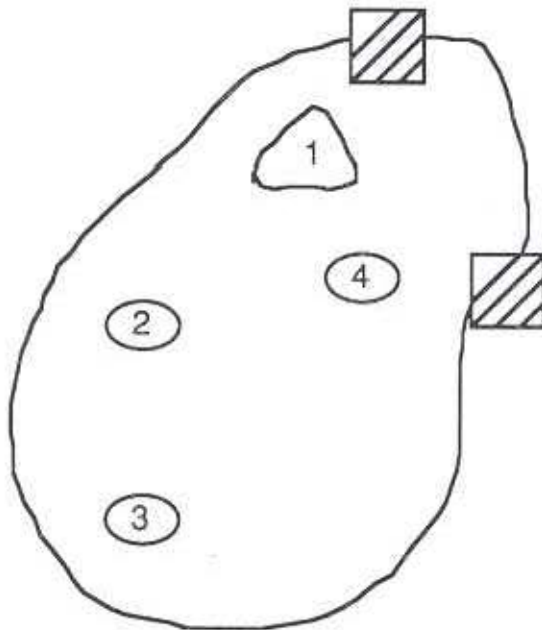
Sentences

Goal

- o To produce sentences that are
  - clear and emphatic
  - concise
  - action-oriented

Rationale

If the organizational structure of a document is its skeleton , the sentences are its flesh. The procedure in this step will help make your writing lean and emphatic.

There are many things that can be wrong with a sentence and as many ways to fix them. We suggest three procedures that will take care of most problems with individual sentences. The first will help you line up key ideas with key structural positions in your sentences. The second helps get rid of unnecessary words that dilute your meaning. The third will make your sentences more action-oriented.

Product

- o Sentences with key words occupying key structural positions

Procedure

- o Select a sample run of sentences

- o Circle the words that occupy the key positions in each sentence
  - subject (agent or doer)
  - verb (action or doing)
  - object (receiver of action)
    or
    complement (equivalent of agent)
  - if you have trouble, ask
    - - Who (agent) is doing what (action) to whom (object)?
    - - Who or what (complement) is the same as the agent?

- o Underscore the key concept words
  - if you have trouble, look at the sentence and ask 'What words are essential to my meaning?'

- o Do key concept words occupy the key structural positions
  - the subject/verb/object or complement slots?

- o Rewrite the sentences as needed so that the subject, verb, and object or complement words are the most important concept words

Examples

- o *It is the successful leader who knows how to create a vision and lead a company toward it.*

- o *The successful leader creates a vision and leads a company toward it.*

Comments

By aligning the structure and content of a sentence, you assure that it states your main idea clearly and emphatically . A sentence with key ideas in other positions is likely to be indirect and, perhaps, unclear. A sentence with key concepts in key positions can hardly help from being direct.

In moving key words into key positions, you often remove unnecessary words that may also have been obscuring your meaning. Sometimes, that's all your sentences need. However, sometimes you need to trim them down to still fewer words, for clarity, for grace, or to meet a word limit. The next two procedures will help.

Product

o   Sentences free of unnecessary words

Procedure

o   Select a sample run of sentences

o   Look for words or phrases that don't add meaning to your sentences

- Prepositional phrase *industry*
instead of
adjective *industrial*

- unnecessary abstraction *for the purposes of this study*
instead of
simple noun *this study*

- phrase *due to the fact that*
instead of
word *because*

- two words *if and when*
instead of
one *if*

o   Cross out words that provide unnecessary scaffolding, instead of content, to your sentences

o   Rewrite sentence as needed

- For Example

- - *For the purposes of this study, a broad definition of biotechnology in terms of the processes utilized in these industries will be adopted. All industrial production processes in these industries that utilize microorganisms or enzymes for producing a desired material will be considered as biotechnological processes.(46 words)*

- - *This study broadly defines biotechnology as any industrial process that uses microorganisms or enzymes.(15 words)*

Product

o   Sentences with strong, active verbs

Procedure

o   Select a sample run of sentences

o   Circle the passive verbs

    -    is, are, was, were, be + another verb
      - -   For example: *was seen*

o   Ask yourself whether the action or the actor is most important

    -    if the action or the receiver of the action is most important, leave the sentence alone
      - -   For example, *The President was shot by John Hinkley.*
         Emphasis on the President (and the action received) rather than Hinkley
    -    if the actor is most important (as it usually is), rewrite the sentence so that the actor is the subject
      - -   For example, *Jim presented the paper.*
         Emphasis on Jim rather than the paper

Examples

o   *Hopefully, the format is simple enough so that a header can be created by a human if he desires.*

o   *Users can create headers easily with this simple format.*

Comments

These procedures train your eye to spot the clear sentence buried within the unclear one and help you bring it to light. Practice these procedures during revision. Soon you'll notice that your writing has changed. As you write, you will begin to put your main point in the subject/verb/object or complement positions. You will be aware of extra words that clutter your meaning. And you will become conscious of *is* verbs that emphasize the wrong words or concepts in your sentences. As your awareness grows, you will write sentences that need less and less revision.

Words

Goal

o   To use the right word

Rationale

In this final pass, look at words.   After you have gotten your structure, paragraphs, and sentences right, be sure your words are also right.

Product

o   A document that uses words accurately and gracefully

Procedure

o   Verify words

-        Check technical terms against the Readers Chart and the Readers/Knowledge Matrix
-        Check for *he* and *him* used as general references for people
-        Check connotations and associations
-        Check spelling with a spellchecker, a dictionary, and/or a friend
 - -   Don't rely only on spellchecker
 - -   It won't find *sea* for *see*, for example

o   Revise words

-        Explain or replace technical terms not known by important readers
-        Use appropriate words, analogies, metaphors
-        Use gender-free or inclusive words
 - -   Reword as plural
 - -   Reword as noun (*manager*) instead of pronoun (*she*)
-        Correct spelling

o   Read your document aloud

-        Listen for sentences you stumble over
-        Listen for repeated words or phrases
-        Listen for repeated rhythms
-        Listen for "too much" or "too little"
-        Listen
-        Revise accordingly

Comments

In this final pass, check technical terms first.   Use the Readers Chart and Readers/Knowledge Matrix as guides. Be sure your most important readers know the terms you use. If not, work brief explanations -- a phrase or sentence, at most -- into the text, usually the sentence before the term occurs.

Consider the connotations of your words. A word with the right literal meaning but the wrong association can undercut a point. But words that subtly underscore the importance of a point or its link with something your readers value can help. Don't be

afraid to use metaphors and analogies. Relating something unfamiliar to something familiar is always a good idea. This is particularly true for technical details; for example, relating a computer network addressing scheme to the postal addressing scheme. If you use an analogy, be sure to fill it in completely and be sure the concept is complex enough to justify the analogy. Don't overdo it.

Next check for gender-free nouns and pronouns. Many people are offended by references to *he* or *him* that are intended to include women as well as men. The most graceful way around this issue is to reword the reference as a plural. Refer to *managers* and *engineers* so you can use *they* and *them*. If this won't work, try to stick with noun- rather than pronoun-forms, such as *the programmer's file* rather than *his file*. If this still won't do, use double pronouns, *his and her* or *his/her* Your sentence may sound awkward, but you will probably offend fewer people.

Don't forget to check spelling. A misspelled word shouldn't matter all that much, but it does. It's like wearing a polka-dotted tie or having a spot of catsup on your jacket -- more a matter of manners or personal hygiene than substance. But readers' reactions to spelling errors are often very strong and very real. Spellcheckers help, but don't rely on them completely. We know a college student who turned in a paper on Melville's use of *sinister calms* without proofreading it. The typist had changed all the *calms* to *clams*. It got a strong reaction from the professor, but not the one intended. No checker will find such errors, so be sure to read the document through yourself and, if it's an important one, get a friend to read it through, as well.

Finally, read the paper aloud. Listen for words that you may have unconsciously repeated. Listen for unfortunate associations. Listen for awkward sentences. But above all, just listen. Be sure your document sounds like you want it to. Imagine your readers' faces and reactions as you read aloud. If your document doesn't sound like you would want to sound talking to them, then revise it.

Part 2:
Three Additional Steps

Overview

Part 1 described six fundamental steps for writing, each addressing a different part of the overall process. Part 2 includes three additional steps. Although not as fundamental as the first six, each step will provide an important additional tool for working with your ideas and presenting them effectively.

The first step is a procedure for Reviewing your Focus Statement and Tree. It will give you early warning if your project is off-target, before you invest time in writing the actual document.

The second step, Format, shows how to include cues in your document to signal its structure. These cues will help your readers understand your intended message and locate information more quickly. This step also discusses formatting to highlight important points and to differentiate categories of information.

The third step, Graphics, presents guidelines for deciding when a graphic is cost-effective and when it is not. It also includes suggestions for getting the most out of your graphics.

Review

Goal

o To test your plans before you write

Rationale

Whether you're the writer, a co-writer on a team, a manager directing a group producing a document, or an executive responsible for documents written by others, you need to know whether or not a writing project is headed in the right direction. And you need to know this as soon as possible.

The Review should be conducted after the Focus Statement and the Tree have been completed but before the First Draft is written. Its main purpose is to review the thinking you and/or others did in planning the document. To be sure that it addresses the right problem and the right people and to confirm that it is well-structured. You do this by reviewing the main planning products: the Focus Statement, the Tree, and, perhaps, the Reader Analysis charts. But you also want to look for what is not there, to anticipate that bolt from the blue.

The method for early warning Review presented here is called a Structured Walk-through. It is humane, efficient, and effective. Writers are treated as intelligent human beings, expert knowledge is used productively, and everyone's time is saved.

Product

o Reviewed document plans that have been checked for what is missing as well as what is included

Procedure

o Writer invites four or five colleagues to review the planning products

o Writer assigns roles

- Moderator to keep Review on course and moving
- Reviewers (2-3) to listen and comment
- Scribe to record comments

o Writer 'walks' reviewers through the graphic records of planning

- Reader Chart, Matrix, Scales
- Focus Statement
- Tree

o Reviewers note problems only

- Solutions are left to the writer

o Scribe records all problems noted

o Moderator keeps Review moving and on target

- Limits time to one hour
- Keeps reviewers' comments focused on problems, not solutions
- Makes sure scribe has accurate record of comments

o   All sign record of Review

o   Writer uses record and own judgment to revise document plans

Comments

Most reviews take too long and are unpleasant, if not damaging, to the writer being reviewed. Colleagues can always see alternative ways to do anything. They also quickly develop emotional interests in one possibility or another. If the discussion is not controlled, the writer is often put on the defensive. It all goes down hill from there. And it takes time!

A Structured Review avoids both problems by limiting the time spent and by keeping the discussion focused on problems, not solutions. The group, thus, acknowledges that the writer is responsible for correcting the problems noted. In doing so, they acknowledge the intelligence of the writer, as well. The writer feels that he or she has received useful commentary, not suffered a personal attack. And everyone saves time.

Format

Goal

o   To produce an easy to use, attractive document

Rationale

Documents contain two kinds of information: content and structure. The content is, of course, the substance. Structural information is the relations among content units. You invested a lot of time and effort working out these structural aspects during the planning steps. Now you want to capitalize on that work.

Research has shown that readers use structural information to read more efficiently and effectively. If the document includes cues, such as headings, to signal structural relations, readers use them to advantage. If they are not present, readers must mentally construct analogous relations to understand what they are reading. But this takes time and the relations readers infer are often not those intended by the writer. So it serves everyone's purpose to include in the text explicit cues that provide important structural information.

Consider also the general appearance of your pages. Recall pages you have seen that were filled with dense prose. Did they seem more like a barrier than a channel of communication? Make the appearance of your page inviting. You also want to lead your reader's eye to the most important information on the page, just as a skillful artist draws the viewer's eye to the most important image in a picture.

All of these issues are aspects of formatting. Don't think of formatting as just the finishing touches. Think of formatting as an integral part of your document that provides important structural information. Plan for it from the beginning.

Product

o   A document whose visual format

-        signals hierarchical structure
-        marks similar information the same
-        controls the reader's attention
-        pleases the reader's eye

Procedure

o   Design and use formatting conventions to signal the document's hierarchical structure

-        Format headings on the same level of the Tree the same
-        For example
  - -   First level headings: bold, centered, large space above and below heading
  - -   Second level headings: bold, left margin, medium space above and below
  - -   Third level headings: Roman, paragraph indent, medium space above and below
  - -   etc.

o   Design and use formatting conventions to mark the same kind of information the same each time an instance occurs

- Definitions
  - - Bold, in context
- Human-computer dialogue
  - - Dialogue indented left and right
  - - Computer portion in Italics
  - - Human portion in typewriter font
- Equations
  - - Centered
  - - Small space above and below
  - - Italics
- Etc.

o   Look at each page like a picture

- Does the layout draw the reader's eye to the most important information on the page?
- Is the page inviting or does it look like a barrier of words?
- Is the page aesthetically pleasing?
- Do any pages end with a heading or widow?

o   Revise formatting for any page that needs it

Comments

Think about formatting as you plan your document. From the start, setup conventions to mark descriptive headings according to the levels of your Tree. If you write with a computer, you might use conventions such HEAD1, HEAD2, HEAD3 to mark each such label. Later you can replace those marks with explicit formatting instructions, macros, or, perhaps, system-defined codes. The important point is to mark all headings on the same level of the tree the same each time one appears.

Use spacing, font size, and font type to signal visually the level of the heading. You can include 1.3.2.4.7 or I.C.2.d.vii along with the heading to indicate its precise position in the hierarchy, but don't rely on the code to indicate structure. Readers must decode such markings linguistically to infer hierarchical position and relations with other sections. With formatted headings, on the other hand, readers see structural relations directly and respond to them intuitively. Perceiving and inferring are very different mental process. To assist direct recognition of structure, work out a system of conventions in which higher level heads appear more prominent than lower level ones.

Next, identify the logical types of information that your document will include. Perhaps most will be prose description or argument, but you may also have examples, definitions, equations. Mark each distinct type with its own format conventions. For example, you might center equations and display them in Italics or print a computer/human dialogue by setting it off from both left and right margins, print the computer's portion in bold, and the human's in typewriter script. Again, these convention will help your reader pick up distinctions intuitively while reading. It may also help later when your reader scans for some particular piece of information.

Third, direct your reader's attention. In a page that is mostly prose, a bulletted list or a dialogue set off and marked with different fonts will draw your reader's eye to them.

Finally, pay attention to the appearance of your document. Don't become so concerned with content and structure that you ignore the aesthetics of the page. Black, uninterrupted prose will hit your readers like a brick wall when they turn the page. A clean, clear, open page will invite them in to read what you have to say.

Graphics

Goal

o   To use graphics deliberately

Rationale

A picture is worth a thousand words. Or so the saying goes. Complex relationships, such as those found in a computer program, an industrial process, or almost any system, are usually easier to comprehend if displayed visually. The same is true for statistical information and other numeric data.

Graphics often make a stronger impact on readers than words. Readers stop reading, look at the illustration, and frequently remember it better than the accompanying text. Consequently, any document that presents complex or technical information should utilize graphics.

Nevertheless, you need to ask: if a picture is worth a thousand words, is the tradeoff a bargain? True, graphics are much easier to produce today than they were just a few years ago. Even microcomputers offer graphics packages that can produce images acceptable for most publications. However, graphics don't come for free. They still cost dollars to produce and print, and they cost time for readers to look at them and figure out what they represent. And if you use too many, they lose their impact.

So, use graphics, but use them carefully and deliberately.

Product

o   A document that combines text and graphics effectively

Procedure

o   Plan graphics as you plan your document

o   For each node in your Tree, ask
    -       Can the concept best be expressed in words?
    -       Graphics?
    -       Combination of the two?

o   Consider benefits and costs for prospective graphics
    -       Benefits
        - -   Easier comprehension of complex information
        - -   Easier comprehension of size, proportion, and other statistical/numeric relations
        - -   Greater impact on readers
    -       Costs
        - -   Dollars in equipment, services, printing
        - -   Your time and effort
        - -   Readers' time and effort
    -       Considerations
        - -   Is the concept sufficiently complex to warrant a graphic?
        - -   Can a number of different concepts/relations be seen?

- - if the graphic illustrates a single point, is that point sufficiently important to warrant a graphic?

o Describe, briefly, the graphics to be produced for each node in the Tree

o Produce graphics and review for effectiveness

- Main concept(s) presented clearly and honestly?
- Includes necessary labels?
- Includes brief explanation or description?
- Includes a title?
- Includes a number for reference?

o Place graphics appropriately

- Referenced in text?
- Placed on same page as reference or on facing page?
- Text includes main points you want readers to infer?

o Match graphic style with document style

- Don't include hand-drawn figures in formal report, except for specific reason
- Think of the graphics as a group
  - - Consistent appearance?
- Similar titles, labels, explanations?
  - - Similar placement and spacing?
  - - Similar references in text?

Comments

As you plan your document, particularly while developing your Tree, think about how best to convey the information or idea associated with each node. Can it best be understood when explained in words? Or could a picture or graphic do a better job? Or perhaps a combination of the two?

Also think about the strength of impression you want to make. A graphic image can often be recalled long after the associated explanation has been forgotten. For a point you want to make especially memorable, consider using a graphic.

A key issue, then, is how to decide when to use words and when to use graphics. We know no hard and fast rule, but we suggest this guideline: use a graphic when it is cost-effective.

Graphics have three kinds of costs associated with them. The first, and in most cases the least important, is the dollar costs of producing and printing them. They often require artwork by a skilled technician and/or special computer graphic equipment. They require layout, either manual or electronic, and they often extend the page count for printing. So, weigh these actual costs against the benefits they offer.

The second cost is your time and effort. Whether you have access to a graphics art department or a graphic system, you will spend time sketching the graphic, explaining it, reviewing proofs, or perhaps you will produce the graphic yourself using computer tools. Either approach will require your involvement in the process.

But the most important costs are your readers' time and attention. When readers encounter a graphic or reference to a graphic in your document, they must interrupt their reading and the flow of ideas you are presenting to look at the graphic. They must orient themselves to it to see what it is all about, what the symbols represent, how they

are related to one another. They must then draw the inferences you intend. When they are through looking at the graphic, they must find their place in the document, re-establish the context of ideas, and resume reading. All of which takes time and effort.

These costs -- dollars, your time, and your readers' time -- should not suggest that you avoid graphics or even necessarily reduce the number you include. They simply suggest that you think about whether the idea is sufficiently complex and/or important for the investment. In most cases, the answer will probably be yes. But ask the question and don't waste your time or your readers' with graphical presentations of simple ideas that could be expressed more efficiently in words.

Part 3:
Adaptations

Overview

In Parts 1 and 2 we presented a general model for writing. If you applied that model step-by-step to your own work as you read, then you've seen how it works for a document that requires your best efforts. We also hope you gained a new awareness of planning, writing, and revising as a multi-step process that you can apply to many different kinds of documents.

The reality of writing at work is that you write all kinds of documents-- some long, some short, some that have to be polished, some that have to go out in the next five minutes. Perhaps even more important, writing often isn't the end of it. Frequently, writing must become speaking. You have to discuss an issue orally, to report, propose, answer questions, perhaps even testify in regard to documents you or people who work with you have produced.

The method you have practiced can be applied to all these situations and formats. In Part 3, we suggest adaptations for some of the more common "special circumstances":

o   Letters, memos, and other short documents

o   Collaborative and delegated writing

o   Oral presentations

o   Telephone calls

o   Projects

As you read Part 3, you'll probably see other ways these techniques can be adapted to fit your particular situation. They are, after all, basic tools for thinking. The goals provide direction and guidance, the procedures provide method. But you control them. So, once you have learned the method, adapt it, extend it, make whatever changes you need to get maximum leverage for you.

Letters and Memos

Goal

- o   To adapt the model for short documents

Rationale

Many professionals spend more time on letters and memos than on any other writing task. While most correspondence may seem routine at the time, a particular letter or memo may turn out later to be crucial. So don't underestimate their importance. They, too, need your focused attention.

For short or routine documents, trim the steps down to essentials. The procedure described below does this. You can also use it for dictating as well as for writing.

Product

- o   Efficient, effective letters, memos, and other short documents

Procedure

- o   Identify the context for the communication
    - What prompted the letter or memo?
    - What do you want to happen as a result of your communication?
- o   Identify the reader(s)
    - What do you know about the person(s) you are writing to?
    - How will they react?
    - Can they do what you want done?
        - - If not, how can you get to the people who can?
- o   Identify the points you want to make
    - Jot them down (on Post-its)
    - Identify the main point
    - Arrange the others under the main point to form a small Tree
- o   Write a structured letter or memo
    - Brief, cordial introduction and ending (optional)
    - Overview
        - - Event(s) that prompted communication
        - - Main points that will be discussed
        - - Main actions or recommendations
        - - Persons or departments responsible for actions
    - Body
        - - Separate paragraph for each point in your (abbreviated) Tree
- o   Format the letter or memo
    - Use headings (e.g., underscore at left margin)
    - Set-off actions or recommendations
- o   Verify and revise

- Structure
- Format
- Writing
  - - Each paragraph focuses on one important point
  - - Sentences are crisp and clear
  - - Words are accurate, known to reader(s), spelled correctly

Comments

The procedure described above will help you focus on what is important.

First, focus on the situation. Letters and memos have a history. Be sure you are aware of that history, what events may have prompted your readers to have written to you, how they are likely to react to what you are telling them.

Keep your focus on the actions that you want to happen. All communications are ultimately action-oriented, even a memo to the file that puts your information or position on record. Be sure you know exactly what you are trying to facilitate and state that action clearly and directly. If directness makes you uncomfortable, either live with it or change your position on the issue. But don't beat around the bush. Ambiguity does not lessen the blow; it just confuses the matter.

Structure your communication. An overview at the beginning puts the letter or memo into context, tells your reader(s) what points will be discussed, and outlines the major actions or recommendations. Some readers will stop reading at this point and pass the document to someone else for action. Others who read the entire letter or memo will read more efficiently if they're given an overview. Use brief headings, even if the letter or memo consists of just an overview and two or three main points. And don't forget to set off the actions or recommendations visually so that the reader's eye is naturally drawn to them. Bulletted lists work well. So does underscoring within paragraphs.

This procedure will work for dictated as well as written correspondence. Follow all the steps down to the writing stage. At that point, dictate as you normally do, but with with your notes and Tree in front of you. As you dictate, indicate headings and other formatting you want included. While most dictated communication gains in informality and naturalness, it also tends to be wordy and inconsistent. So, don't scrimp on Verification and Revision. Take an extra few minutes to make sure your letter or memo is well-structured and your sentences crisp and clear.

Collaborative Documents

Goal

o   To integrate the efforts of two or more people for a writing project

Rationale

Writing methods generally presume that the writer works alone. In most working contexts, however, professionals frequently work together to produce a report, a proposal, a set of specifications, and other kinds of documents. They may work as a team with one member selected to coordinate their efforts. They may delegate a writing task to someone they supervise. Or they may, themselves, be asked to write something for a manager or executive to whom they report. The approach we have described adapts easily and naturally to all three situations.

The procedure below is for team writing. In the comments that follow, we suggest several variations that adapt it further for delegated writing.

Product

o   A "seamless" document that integrates efficiently the work of a team of writers

Procedure

o   Explore content together

- Agree on a period of time in which no decisions about the document will be made
- Freely discuss ideas and approaches
  - - List ideas on a whiteboard or somewhere all participants can see them
- Build small, tentative conceptual clusters

o   Explore readers together

- Multiple readers
- Limits of their knowledge
- Starting points and goals for changes in their knowledge and their attitudes

o   Close, after the appropriate and agreed upon time for Exploration

o   Write a Focus Statement together

o   Produce the top three, or so, levels of a Tree using a top-down strategy together

o   Assign branches to different individuals, or possibly small subteams, for full development

o   Integrate the branches developed separately into a single Tree

o   Review the full Tree using the Structured Walkthrough procedure

- - Team leader walks through the Focus Statement and the top levels of the Tree
  - - Team members walk through the branches for which they are responsible
- o Revise Tree as needed
  - - Done by team leader
  - - Significant changes verified by branch developers
- o Assign writing responsibilities for different portions of the document
  - - To the team member who developed that portion of the Tree
  - - To someone else, inside or outside the team, who is better qualified to write a given section and/or who is available
  - - Indicate in Tree person responsible for each branch or node
- o Distribute complete Tree to each team member and possible outside writers responsible for sections
- o Integrate the drafts for the various sections
- o Verify and Revise the complete document
  - - Done by the team leader or another individual team member, to provide consistency
- o Review the complete edited document
  - - Each member of the team reviews for accuracy
  - - Team leader integrates final suggestions
  - - Team leader verifies final version for consistency

Comments

The key to working collaboratively is to develop in the team a single conceptual understanding of the overall intentions for the project and an overview of the document's structure. With that understanding, team members can work on their own individual portions within a sense of the whole.

Exploring both the concept space and the potential readers helps provide team members with a sense of context. However, multiple impressions are forged into a single view when the team jointly writes the Focus Statement and develops the first few levels of the Tree. Further integration takes place when the team as a whole reviews the completed Tree.

Since team members have copies of the complete Tree, they have the information they need to write their sections to fit into the whole and to be consistent with other portions.

Verifying and Revising are best done by one person, preferably the team leader. If the document is too long or if the deadline is too near, editing may have to be distributed. If so, one person -- again, the team leader, if possible -- should make a final pass through the completed document to correct any inconsistencies introduced by the different editors.

Delegated writing, where one person is responsible for the document and another does most or all of the detailed planning, writing, and editing, can follow a similar procedure. Supervisor and writer should begin by setting a schedule both can accept. They should next Explore the content and readers together, if only briefly. The writer

then goes off to write the Focus Statement and develop the Tree alone. Before writing the document, however, the two review the Focus Statement and the Tree to be sure the project is on target. The writer then writes the draft and does as much Verifying and Revising as the document warrants and the schedule permits. This should be done before giving a copy of the document to the supervisor since handing over a first draft wastes everyone's time and can create negative impressions. After the draft is edited or commented on by the supervisor, the writer normally makes the changes called for, and the document review process is iterated as many times as needed.

Oral Presentations

Goal

    o   To give lively, effective oral presentations

Rationale

The methods you learned earlier for writing documents can easily be adapted for oral presentations. But the differences are crucial. The most important one is to plan your talk thoroughly, but don't write it out. By giving it extemporaneously, but following a well thought-out plan, you put life into it. Second, as you plan your talk and as you give it, keep in mind the nature of the listening experience. Listeners need much more help than readers to follow what you are saying. You have to give them structural cues, point out what is important, and emphasize the action you want them to take.

Product

    o   Effective, well-organized oral presentation

Procedure

- o   Explore content for presentation

- o   Analyze listeners
  - What are the different kinds of listeners?
  - How much do they know about your topic?
  - What actions do you want them to take as a result of your presentation?

- o   Write a Focus Statement

- o   Consider the parts of your presentation
  - Ice-breaker (optional)
    - - Local comment(positive)
    - - Anecdote
    - - Joke (in good taste and only if you tell jokes well)
  - Overview of presentation
    - - Main point you want to make
    - - Major topics/issues you will discuss
    - - Actions you want listeners to take
  - Body
    - - Discuss each major topic/issue
    - - Include structural cues
  - Conclusion
    - - Review major points
    - - Restate actions you want listeners to take

- o   Organize the presentation
  - Use a Tree
  - Follow a top-down strategy
  - Develop Tree several levels deeper than you intend to present

- Include visual aids in plan

o   Prepare visual aids

- Slides, transparencies. etc.
- Handouts

o   Practice presentation with small, frank audience

- Time yourself
- Use visual aids
- Ask audience for observations
  - Interesting?
  - Convincing?
  - Recall major points and intended actions?
  - Distractions?

o   Give an effective presentation

- Reach out and encompass your audience, psychologically
- Concentrate on actually communicating with them, not just talking at them
- Relax
- Try to do a good, honest job, not a great one

Comments

Many highly competent professionals fear giving oral presentations. The best way to get over this fear is to prepare your talk thoroughly and practice it, if possible, before a real audience.

Begin your preparation by exploring your content and analyzing your listeners. These steps are important, particularly the second. Readers can be expected to re-read a difficult portion of a document, but listeners only get one shot at what you are saying. So you need a clear image of who they are, what they know, and how they are likely to react to what you will tell them.

Bring your early thinking to a close by writing a brief Focus Statement that identifies, precisely, the main point you want to make, the actions you want your listeners to take, and the impression you want to make on them.

To organize your ideas, use a Tree and follow a top-down strategy. However, develop the tree several levels lower than you intend to actually present to your listeners. You do this for several reasons. First, it will help you make conscious, realistic decisions about how much material to actually include in the presentation. Second, having thought through your topic in greater detail, you will be well prepared to respond to questions or requests for more information.

As you give your talk, think strategically. It is very hard for listeners to understand complex ideas presented orally. Give your listeners structural cues throughout your presentation. Start out with an overview in which you preview the main point you want to make, the major topics or issues you will discuss, and the action(s) you want them to take as a result. Each time you move from one major point to the next, mark the change explicitly. At the end, restate the major topics/issues, the main point, and the action(s) you intend.

Put issues into perspective. Point out what is important. Draw conclusions and connections. Don't leave it up to them to guess what is important or where your talk is headed. If your talk is more than ten minutes long, put in "resting spots", places where

you talk about something less technical or less critical to your message. This gives listeners a chance to relax, collect their thoughts, and relate what you are saying to their own experiences. A good place for these is at the transitions between major points, as you sum up what you just said and introduce the next idea.

Visual aids are particularly important for oral presentations. Diagrams are virtually mandatory if the topic is technical. Aids that list major points, but not details, can also be helpful for focusing the attention of your listeners. But don't overdo them. If you use transparencies, don't have so many that you are constantly slapping them on and off the projector. A good rule of thumb is to plan to talk for 2-3 minutes for each visual aid.

Practice your presentation. Try to get a small sympathetic, but frank, group to listen to you. Do the presentation straight, just as if you were giving it for real. Don't stop and restart or talk to your audience "off the record". Pay particular attention to time. Be sure you can comfortably give the talk within your time constraints. Giving an oral presentation is different from stuffing sausage. The idea is not to pack in the maximum number of details. Rather, aim for effectiveness. In most instances, less is probably better.

When you actually give your presentation, try to relax. That's a lot easier said than done. Try to shift your focus from the details of your talk toward the concept of actual, real communication with your listeners. Reach out, psychologically, and encompass them. Imagine what has been going on with them that day. Are they tired at the end of a long day? Or are they fresh, all gassed up on coffee, and ready to get into something exciting and technical? Be prepared to adjust your opening remarks to fit the situation.

Some speakers are born, but most of us have to work at it. The procedures outlined above will help you with the basics. Seek out opportunities to practice them and keep notes on what works for you. Good luck!

Telephone Calls

Goal

o   To use the telephone efficiently and effectively

Rationale

Most professionals use the telephone a lot, often an hour or more a day. Few think much about it. They get their work done, but most could make better, more efficient use of the phone with a little thought about what, exactly, they want to accomplish in their calls.

Product

o   Organized, productive telephone calls

Procedure

o   Clear your head for a few seconds before you make the call

o   Ask yourself

- What is the main thing I want to accomplish in this call?
- What are the things we need to discuss to accomplish that goal?
- Who am I calling?
  - - Why am I calling this person, rather than someone else?
  - - What does he/she know about the subject?
  - - How will this person react to my request?

o   Sketch a small Tree

- Main point of the call
- Topics to be discussed, left to right in order you want to discuss them

o   Place the call

o   Introduce yourself, if necessary

- Who you are
- Why you are calling this person
- Who referred you
- What event prompted this call

o   Give person overview of call

- Main point
- Topics you want to talk about

o   Get down to business

- Discuss topics, in turn
- Resolve main point
- Make any other decisions needed

o   Say goodbye and hang-up

Comments

Before you make a working telephone call, take a few moments -- 10-15 seconds -- to clear your mind, distancing yourself slightly from what you were doing. Ask yourself why you are calling this person. Do they have the information you want or are you asking for a referral? Can they make the decision you want or will they have to get back to you? How are they likely to react to your request or statement? You may decide to call someone else.

Clarify for yourself exactly what you want to accomplish in the call. Focus on the main point you want to make or the main thing you want to happen. What other topics have to be discussed to accomplish your main goal? Sketch your thinking as a small Tree, main point at the top and the other topics below. Order them left to right in the order you want to talk about them.

When you place the call, take a moment to give the person a context for the call: who you are (if he/she doesn't know you well), who referred you, the event that prompted your call.

Then give your listener a brief overview of your purpose: the main thing you want to accomplish in the call and the things you need to talk about to make that happen. This lets the person know you want to get down to business. It alerts him or her to what the call is all about. And it makes clear the issues you want to discuss.

After you conclude your business, exchange pleasantries, if you wish, but then say goodbye and hang-up.

Projects

Goal

o   To manage other communication and non-communication projects

Rationale

The approach to writing and speaking we have described is really an approach to thinking. Creatively exploring a content domain. Considering the people you will be dealing with, who they are, what they know, how you want to change them. Clarifying your intentions and then organizing your ideas into a visual form in which you can see your project whole. Encoding your ideas and then following a structured, top-down approach to verifying and revising your document. These steps represent different kinds of thinking -- using your mind in a variety of ways to accomplish meaningful work.

In this step, we will point out how these same basic procedures for writing and speaking can be further generalized. We'll do this by describing a modified procedure for planning and carrying out projects. Almost any professional task can be viewed as a project. With a little imagination and further adaptation to your own special circumstances, you can use these methods across the whole spectrum of your work-related activities.

Product

o   A coherent, organized approach for any professional task

Procedure

o   Give yourself room to think

-    Carve out some time in which you can think about the task in a relaxed, nongoal-oriented way

o   Think about who you will be dealing with

-    Who will be involved?
-    What do they know?
-    What are their vested interests?

o   Think about the situation

-    What parts of the organization, or how many organizations or individuals, will be involved?
-    What is the history or background of the project?
-    What event(s) are relevant?

o   Clarify your intentions

-    What, exactly, do you want to do?
-    Who will be affected most directly?
-    How do you want to be perceived?

o   Bring other people in

-    People who can get a job done
-    Experts
-    Staff and support

- People whose political support matters
o Develop a plan
- Use a Tree, following a top-down strategy, if appropriate
- - Break the project into large tasks
- - Break large tasks into subtasks
- - Repeat the division until you have small, manageable tasks
- Define products that mark completion of tasks
- Order and schedule the tasks
- Assign responsibilities

o Monitor progress
- Task product complete?
- Time when product is available?
- Appropriate people informed of whether or not you are on schedule?

o Prepare reports, presentations, other final products

Comments

With any project, there are always five things to consider: a plan of action, the situation, the problem or issue you are addressing, the people you are working with, and your own intentions. Let's look at them in reverse order.

Before you do anything else, clarify in your own mind exactly what you want to accomplish. In many cases, you will inherit your charge, leaving you with responsibility for implementation. But you must also be prepared to identify objectives. To do that well, you have to step back, mentally, and sort out what is important. Go to the heart of the issue and pull out a simple, clear statement of the goal or problem. That statement usually makes the solution obvious.

To do this, you have to think about who you will be dealing with. Who will be affected by the project? How will they react? Will your work help or hinder them? Do they have a vested interest in your success? Your failure?

You also need to analyze the situation. What event(s) led to your task? What parts of the organization will be affected. Again, do these units have an interest? Is the issue routine, sensitive, potentially explosive?

Once you have thought the situation through and have anticipated as much as you can the most important consequences, then bring other people in and devise a plan. The most important people to include are doers. People who are not just competent, but people you can rely on to do their share of the work, do it right, and do it in a predictable amount of time. For many tasks, you will also need people with specialized skills. Assemble them or gain access to their expertise like you would assemble a jigsaw puzzle. If it's a large project, you will need staff support. Be sure you have commitments before you begin. If your organization is unwilling or unable to provide adequate support, either drop the project or decide in your own mind that the project is sufficiently important for you to invest the additional time that will be required. Finally, consider the politics of the situation. Are there people who must be included to get the support the project needs to succeed? A beautiful solution that is never put in place doesn't do anyone much good.

Finally, develop a plan. Follow the same basic steps as those used for collaborative writing, just substitute the project objectives for the document

objectives. Have your team explore the issues together, consider who will be affected, and either write or analyze the overall project goal. Then use a Tree and a top-down strategy to lay out the tasks. For each task, identify the product that will mark completion of that task. That way you can tell when each is completed. Otherwise, the project may spend months, if it is a large one, 90% complete.

Next schedule the tasks and divide up the responsibilities. When you do this, make clear that you will monitor the project and expect to talk with team members about how their tasks are coming. During those subsequent conversations, keep your focus on the products that mark the completion of each task and be clear about whether that product, in fact, exists or not. Mark actual progress against the schedule. If you fall behind, be sure to let the appropriate people know. Don't wait until the due date to announce that you will not be through for another three months.

Finally, prepare the necessary reports, presentations, or other final products, using the by-now familiar methods. Good luck, and let us know how they work for you.