

## Learning to LEARN

“The illiterate of the future are not those who cannot read or write, but those who cannot learn, unlearn, and relearn.” Alvin Toffler

I've assembled these notes about self-learning from many sources, but primarily from Kathryn Alesandrini's book Survive Information Overload (Business One Irwin, Homewood, IL, 1992). No matter where you go, the ability to learn on your own is a valuable skill. Many of you already have at least part of the skill, some of you have all of it. My notes below are an outline of the skills you need to develop to learn for yourself. I'd like you to use this outline in two ways: First, use it to assess your current skill in learning. Are you applying these principles in your daily life? Remember, ultimately complaining that you don't have enough time is a cop out ... we make time for the things we really value. If you don't value learning, you won't make time for it. Second, use this outline as a test bed for developing learning skills for yourself. Start with the information here and apply it to Learning to Learn. Teach yourself these skills and you'll find yourself wondering how you could have ever lived without them.

Terry

## Learning to Learn

### Skill in assessing your individual differences

Learning to learn starts with understanding yourself. Each of us has a preferred learning style. Do you know what yours is? Do you respond best to written materials, or are you more visually oriented?

### **Cognitive learning skills**

Learning outcomes fall into three basic categories: First, there's cognitive outcomes which are what you think about something. Second, we have affective outcomes which are how you feel about something. Finally, there's psychomotor learning which is how you move. Learning methods differ depending on the outcome you're trying to produce. Most of what we need to develop are cognitive learning skills including:

- Organizing, relating and evaluating information
- Applying various learning strategies and tools
- Thinking in both an analytical-logical (left brained) and holistic-divergent (right brained) fashion
- Knowing how to mobilize your learning resources

### **Interpersonal learning skills**

While most of the learning we need to do is cognitive, interpersonal skills will still be important because our learning so often involves interacting with others. To be valuable, knowledge must be shared with others. A major problem we've faced here is that information hasn't been shared well. That makes learning difficult. The interpersonal skills you'll need to develop are:

- Giving and receiving feedback
- Learning collaboratively
- Drawing from others as learning resources

### Strengths to Develop

### **Chunking and Structured Thinking**

Chunking is a process of condensing the glut of information about something into manageable units. For example, if I told you that someone's phone number was 3104567608, you'd probably not remember it like that. More likely, you'd chunk it into

three groups and remember them as 310-456-7608. You'd find it even easier if there were a simpler way to tie the number to a phrase as in 1-800-AKA-BOOK.

Chunking is important because of the limits of short-term memory. The brain only has a limited ability to store information in short-term memory. This is where the old thumb rule about seven pieces of information comes in ... psychologists have found that only  $7 \pm 2$  pieces of information can be manipulated at one time. There's no restriction on how complex a single item can be.

Studies of experts in many fields have shown that experts usually chunk information easily. For example, chess masters store board patterns as chunks and can quickly recognize a board pattern from their studies. That's why a chess master can look at the board and tell how the game will play out. But if you put a board in front of a chess master where the pieces are positioned in random locations, an expert will do no better than a novice at recalling the layout.

## **Visualization and Concreteness**

Psychologists have found that there is truth in the old Chinese proverb that a picture is worth 10,000 words. Anything you can reduce to a diagram is more likely to be learned. In order, pictures are easiest to remember, concrete words next most easy, and abstract words are hardest of all. In fact, visual memory actually seems to improve over time. We need to develop our ability to use visual and concrete learning resources. The most effective learning comes from the use of:

Concrete words - It's easier to learn from written texts and instructional material which includes concrete examples, particularly those which are easily pictured. For example, referring to a desk is concrete, referring to a form is abstract.

Representational images - representational icons, whether realistic or not, help in learning. Having some sort of image to represent what we're learning about helps us to tie it to something concrete and employ our visual memory.

Analogical images - Analogies help learning, particularly in the early stages. In fact, the more abstract and complex the ideas we have to learn, the more important it is to have an analogical image to represent it. You know you really understand the idea when you can move beyond the analogy.

Abstract images - Graphs, flowcharts, maps, symbols and other abstract diagrams help understand the essence of a new concept.

### **Action Plan: Three steps to Learning to Learn**

#### **Step 1: What is your learning style?**

The first step is to understand your learning style. Once you know how you learn best, you can look for ways to optimize your learning.

## Step 2: Cognitive strategies to help you LEARN

- 1) Link details to the bigger picture - when you're new to a topic, it's important for you to grasp the 'big picture' and find out how a field is organized. Memorizing facts is particularly useless unless you already have a structure to place the facts within.
  - \* Determine the organizing structure of a new field first, then use it to guide your study of the field.
  - \* Thoroughly learn the structure before you learn the facts.
  - \* Find out how experts in the area structure information.
  
- 2) Take notes as you read, listen to lectures, or work through instructional materials. Organize and relate your notes to the important categories. A good way to do this is to keep a notebook in which you take notes. A spiral or Lab notebook is good for recording information.
  - \* Outline the information as you learn it. Word has a good outlining tool built in, use it to build outlines of areas you're studying as you study them. Start with the organizing structure and then fill in facts as you find them.
  - \* Relate details to higher level concepts. List them in your notes by bulleting two- or three-word descriptions
  - \* Draw maps and charts to illustrate how the main ideas relate to one another.
  
- 3) Think about your learning objectives. "Why is this material important to me?" "What will I be able to do once I've learned this material?"
  
- 4) Enliven learning - we learn best when we're active learners. It also makes learning a lot more fun.
  - \* Ask yourself questions about the material and answer them as you go.
  - \* Organize your learning efforts around a sample test or study test. Make up your own if you have to.
  - \* Never go through the material from start to finish without stopping.
  - \* Restate information in your own words by summarizing, paraphrasing, and making concrete analogies.
  
- 5) Translate abstract ideas into concrete terms. What specific examples can you think of?
  - \* Apply the new information as soon as you can in some way that you can get feedback about how well you're doing.
  - \* Take brief notes to improve your active listening skills. Review these notes, don't just take them and file them away.
  - \* Visualize the ideas mentally, especially if two ideas have to be related.
  - \* Simulate or role-play situations in real life. This will help you to transfer the skills you learn into your work.
  
- 6) Analogize new ideas to something familiar - if you can create analogies for new information, you'll find that you understand them better.
  - \* Ask trainers to make analogies when they present new concepts.

- \* Literally translate the words you are reading into a visual image which is implied by the words.
- \* Match attributes or characteristics of a new concept with something you already know.
- \* Distort or invert the attributes of a concept.
- \* Look for cartoons associated with the key points you are trying to remember.
- \* Ask trainers to illustrate their messages with cartoons. They're a very efficient way to get concepts across.

7) Reduce information to a simple representation - make everything as simple as possible, but not so simple that you lose the essence of the concept.

- \* Create an abstract diagram to map the relationships. Mindmapping is a useful technique for doing this. Drop by my office and look at my walls for examples of mind maps.
- \* Make sure your visuals are relevant and appropriate.
- \* Extract the key ideas from information and use them to organize the details.
- \* Use formatting cues in text to pick out the main ideas at a glance.

8) Nest learning in a hierarchy of challenge - nesting your learning helps lock the information into your knowledge structure and helps motivate you to keep learning.

- \* Set multiple-level goals. Striving for new goals will help keep you motivated.
- \* Tackle increasingly difficult questions and problems as you learn.
- \* Keep an open mind and look for chance opportunities as you go along. Learning isn't a matter of learning cut-and-dried facts. Chance learning keeps things exciting.
- \* Hide some information and make yourself work to see it.

### **Step 3: Learn collaboratively**

If we're really going to be successful, we have to become successful as teams. Team learning is vital. Some ways you can help team learning are:

- \* Assess the needs and capabilities of your fellow team members and determine how each can best contribute to learning.
- \* Establish learning goals as a team and communicate the goals to everyone on the team. You might have each person elect to become an expert on a part of what you all need to know and have the 'expert' teach the others.
- \* Discuss ideas, ask questions, provide feedback, and ask others to give you feedback.

## **Learning to Read**

Reading is a skill we all think we learned in school. But for many people, reading consists of little more than recognizing the words and sentences. This linear, front-to-back reading is OK for a novel, but not of much use if we really want to learn something. Understanding the ideas contained in a book, even a book of fiction, will give you a whole new perspective on reading.

## ***How to read a book***

Many people treat books as something separate and apart. In some cases they display their books as show case items. In others, they throw them aside. In neither case do they treat books as friends. You've got to love books as friends to get the most out of them. You have to talk to them, work with them, and try to understand them as you would a good friend. When you put the effort in, they'll speak to you much more than you'd ever expect.

Always read a book with a pencil in hand and your notebook nearby. If it's your own book, don't be afraid to mark it with pencil or highlighter. The best loved books often are the ones we've written in the most, building a dialogue with the book. If you don't own it, obviously you can't write in it, but you can write about it in your notebook. Don't use scrap pieces of paper, keep a knowledge notebook, an intellectual journal where you put notes about the books you read. Looking back over this journal will help generate insights from all of your reading. Use the journal to take notes at lectures and seminars and sometimes just to write notes to yourself about things you're learning or that you want to learn. It's a good place to put the questions that come up from time to time which puzzle you.

Any comments about books should also be taken to apply to any other material you may read including articles, papers, or whatever. Apply your ability to read to everything which comes in front of you. Make it a habit.

## **The quick scan**

The first approach to a book should be a quick scan. Look at the front and back covers. What does the title tell you about the book? Are you familiar with the author? Do you know anything about the author which might help you understand his or her perspective? If there is a summary of the book on the back cover or on the leaves of the book cover, read it now along with any biographical information about the author. You'll often find the summary useful, but remember that it's usually not written by the author and may misinterpret the author's real objectives.

Look next at the front matter in the book. What is the copyright date? Dates or additional printings if any? What does this tell you about how current the information is? Is there anything you know about the subject which has taken place since the copyright? Is the publisher known for anything in particular?

Look through the table of contents and any lists of figures or tables. Look for clues to the structure of the book. How does the author structure the topic? Does this imply anything about what the author is saying? Read through the preface or forward if there is any. The author will often tell you what his or her intention is in the preface while the forward may give you additional insight from another expert in the field. Look in the back of the book for the index and any key term definitions. They will help you recognize the key concepts in the book.

Next, page through the book, looking for figures, diagrams and tables and how they fit into the structure. In many books, you can tell almost as much from the selection of the figures as you can from reading the text. It's often useful to do this scan from back-to-

front since, at least for me, it tends to keep me from being too linear in my approach to the book. I find I'm more open to new insights when I take an unusual approach.

In a final scan of the book from front to back, look for the key ideas in each chapter. They're often expressed in the first paragraph of each chapter and the last paragraph or summary of the chapter. Try to grasp the key concepts the author is trying to get across.

After you've done a scan of the book, you've actually got a pretty good grasp of the subject matter. Writing some basic summary notes in your journal can be helpful to later recall of the information. If you're more visually oriented, draw some diagrams or mind-map the key ideas. I always record the pertinent publication information (Author, Title, Publisher, Place, Date) at the top of my journal page for a book I'm working on. You may find that you don't need to do anything more with the book.

## **Outlining**

When I really want to take another step into a book, I build an outline of the book. But I don't use the standard procedure we all learned in school. I used to do this by hand in my notebook, but now I find it more convenient to do it using a word processor in my computer.

For me, the key is starting with the Table of Contents. If I'm using the computer, I go into outline mode and simply enter the table of contents into the outline using outline structure for headings, sub-headings, etc. If I'm using my journal, I write major headings leaving 4-5 lines between each heading for notes. This can take a lot of pages which is why I find the computer more useful.

Once I've got the outline together, I page through the book to see if there are any headings which are not listed in the table of contents. In many books, there are significant headings which don't appear in the table of contents. In the computer, I add these at the appropriate depth. When I print the outline, it is now a fairly comprehensive view of the structure of the book. In some cases, it also serves as a good view of the structure of an area of knowledge.

## **The in-depth read**

For me, the in-depth read requires a pencil or highlighter. My objective is to understand the book so well I can rewrite it in my own words. With my outline available, I take the book one section at a time and do the following:

1. Read carefully through the section
2. Move quickly through (generally from back to front) noting significant ideas and thoughts with the highlighter or the pencil.
3. If the book or article is making an argument, I try to identify with a pencil the structure of the argument. What are the conclusions? What are the premises?
4. After a final scan of the notes and marks in the book, I try to paraphrase the section into my outline. I may use bullet points or I may write a few sentences. But the point is to capture the key ideas that the section is presenting in my own words.

While I sometimes work a book from front-to-back, just as often I will go back-to-front or just jump in where I want to because it interests me. I may simply go exploring and fill in

my outline with the notes from the places I visited. My intention is not necessarily to complete the outline, or cover every page of the book, but rather to get what I came to the book for and learn what I can from it.

### ***The Intellectual Journal***

An intellectual journal is a necessity for me. It's a place where I can take notes at lectures, record my thoughts when I read, ask questions which I'll answer later, and so much more. It's a history of my intellectual journey. I've found that I have to do some things to make it really workable for me though:

1. I either buy notebooks with numbered pages or number them myself. This lets me find things more easily. In my day planner, I will often refer to page numbers in my journal when I want to refer back to particular notes.
2. I reserve a page or two at the beginning of the notebook as a table of contents. I don't list everything in the table, but at least the major events. For example, if I attend 5 seminars over a 3 day workshop, I will list the starting page for each. I also list the date and a summary of the topic for each entry.
3. I always record the basic reference information for books or articles when I'm working on them at the top of the first page of my notes. It helps me find references again.
4. I always date the first page on any given date so that I can trace my intellectual journey or, more practically, so that I can make it easier for me to search for something I think I remember hearing about at some time in the past.
5. Shortly after taking notes, I go back through with a highlighter or colored pen or pencil and emphasize important points. I may draw additional diagrams or make additional notes at this time.
6. For particularly important notes, I treat my journal like any other book and do an in-depth reading, creating an outline in the computer and rephrasing the notes into a coherent document.
7. Sometimes I will develop an outline of a topic or article in my journal and use it later as a starting point for research or for writing.

Since I do a lot of interviews in my consulting work, my journal is also the place I take notes in. These are integrated into my intellectual journey with everything else I've learned.

### ***Bibliographies***

I am constantly adding books to one or more bibliographies which I keep on subjects of interest to me or that I'm working on. I find a bibliography helpful in recording what I've read. It also helps me see the extent of coverage I have on any given topic. Everything doesn't go into a bibliography, but certainly anything where I've gained significant knowledge does.