



**Strategies for Studying, Learning, and Researching**  
**By David Alderoty © 2014**

**Chapter 7) Thinking, Evaluating Ideas, and Strategies for**  
**Problem-Solving and Goal Attainment**  
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**If you want to go to the table of contents**  
**of this chapter left click on these words**

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After I complete a writing task, I create hyperlinks to websites from other authors, for additional information, alternative points of view, and to support the material I wrote. These websites contain articles, videos, and other useful material. The hyperlinks to access the websites are presented at the end of sections and subsections, and they are comprised of blue underlined words. If a link fails, use the blue underlined words as a search phrase, with [www.Google.com](http://www.Google.com) or [www.Bing.com](http://www.Bing.com)

**Introduction to Thinking, with Related Terminology**

**Education: Thinking, Evaluating Ideas, and Strategies for**  
**Problem Solving, and Goal Attainment**

A major part of the educational process involves thinking,

evaluating ideas, and problem solving. This is coupled with developing strategies and skills for academic and career goal attainment. This includes long-term planning focused on academic and career success. This chapter deals with all of the above, in a general and somewhat unusual way.

### **Concepts and Strategies for Thinking**

There are many types of thinking, such as logical, creative, and critical thinking, which is covered in the **next** chapter. **This chapter** deals with a set of concepts and strategies that are usually not included in the conventional discussions on thinking. These concepts and strategies are useful for evaluating ideas, solving problems, and attaining goals, especially when they are combined with other techniques.

### **What is Thinking?**

Thinking is a complex process, and it represents a very broad concept. We think with imagery and other sensations, which comprise the **ideas** that flow through our minds. These **ideas** can represent material we acquired from our studies, such as mathematical concepts, scientific principles, and historical facts. The **ideas** can also represent the steps, techniques, and equipment, we plan to use to solve a problem or obtain a goal. The **ideas** that flash through our mind can also represent our memories, emotions, values, religious beliefs, and fantasies.

To discuss the material in this chapter (thinking, evaluating ideas, and strategies for problem-solving and goal attainment) requires broad definitions. This is explained in the following subheading.

### **Broad Definitions for this Chapter**

In this chapter, I am using the word **idea** in a very general sense, and it means anything that can comprise one or more thoughts, including images, fantasies, values, beliefs, theories, hypotheses, concepts, techniques, procedures, methodologies, as well as plans and tools to solve a problem or obtain a goal. In this chapter the word **true** means correct, valid, it yields successful results, it works correctly, it works as predicted, it works as intended, as well as the conventional meaning of true. The word **false** means incorrect, invalid, it yields unsuccessful results, it does not work, it does not work as predicted, it does not work as intended, as well as the conventional meaning of false.

### **See the Following Websites From Other Authors for Additional Information, and Alternative Points of View on Introduction to Thinking, with Related Terminology**

["Temple Grandin on a New Approach for Thinking About Thinking"](#)

["Becoming a Critic Of Your Thinking"](#)

["Introduction to Critical Thinking"](#)

[Video "What is Thinking?"](#)

[Video "TEDxWilliamsport - Dr. Derek Cabrera - How Thinking Works"](#)

[Video "AP Psychology - Cognition - Part 1 - Thinking & Problems"](#)

## **Thinking and Evaluating Ideas and Information**

### **The Simplest Concept of True or False**

At the simplest level, **some** ideas can be evaluated as true or false. The validity of an idea can be checked with reference sources, by logical reasoning, by applying the idea, or by formal experimentation. This type of evaluation works well for ideas that can be placed into the category of true or false. The problem with this simple concept is many ideas cannot be evaluated in this way. Evaluating some ideas in terms of true or false may result in erroneous conclusions. This will be apparent, after you read this chapter.

### **Personal Desires, Values, and Emotional Responses**

Ideas that relate to our personal preferences, values, and emotional responses, cannot be evaluated in terms of true or false. However, the above can be evaluated in terms of functionality versus dysfunctionality. That is, an individual can have a set of personal desires, values, and emotional responses that facilitates constructive or destructive behaviors.

### **Religious Beliefs**

Religious beliefs represent another set of ideas that cannot be evaluated in terms of true or false. Many religious beliefs appear to be fantasies, or irrational in nature, but they can be **interpreted symbolically in a meaningful way**. Specifically these beliefs can be thought of as **symbolic concepts**. For example, with the Judeo-Christian religions, the **consequences** of good behaviors are **symbolized** by heaven, and the **consequences** of destructive behaviors are **symbolized** by hell. Most religious symbolic concepts, including the above, were probably created to facilitate the development of moral behavior patterns and values, in the general population.

When people do **not** understand the **symbolic interpretation** of religious concepts, they may think that heaven and hell are physical entities, as opposed to a **set of circumstances or consequences** that resulted from constructive or destructive behaviors. This misunderstanding can result in **erroneous** arguments supporting or disputing the **physical** existence of symbolic religious concepts.

A religion and its concepts can be evaluated in terms of the values and behaviors they facilitate in their members. A religion can also be evaluated in terms of the culture, lifestyle, and long-term goals they facilitate in their followers.

**See the Following Websites From Other Authors for Additional Information, and Alternative Points of View on Religious Beliefs**

["Does Analytic Thinking Erode Religious Belief?"](#)

["The Impact of Religious Schema on Critical Thinking Skills"](#)

["Do Religious Life and Critical Thought Need Each Other?"](#)

[Video "Critical Thinking in Religion"](#)

[Video "Critical Thinking"](#)

[Video "Critical Thinking & Religion"](#)

[Video "Critical Thinking Part 1 Christian Belief"](#)

## **Rules and Laws**

The legal structure of society and its laws, to some extent serve the same function as religion. That is certain laws guide the development of specific values and guide behavior according to those values. Religion may use sermons, and concepts of heaven and the threat of hell to facilitate moral behaviors. The legal structure uses police, prisons, and sometimes executions to achieve the same objective.

Rules and laws cannot be evaluated as true or false. However, they can be evaluated based on moral values, utility, functionality, and dysfunctionality. Laws and rules can also be evaluated in terms of a desired goal, such as their effectiveness in reducing the crime rate, or in reducing destructive or unhealthy behaviors.

## **Fictional Ideas and Scenarios**

Fiction, in the form of literature, movies, and TV programs are comprised of ideas that cannot be evaluated in terms of true or false. However, they can be evaluated in terms of how they stimulate our thought processes, our interest in the scenario, and our aesthetic sense. Fictional scenarios can also be evaluated in terms of their likelihood of occurring in the real world, which can range from impossible to probable.

### **Thinking, EVALUATING Ideas & Information, with Strategies for Problem Solving and Goal Attainment**

#### **Ideas Can Be Partly True and Partly False**

Many **ideas**, including, predictions, techniques, and information can be partly true and partly false. Most problem solving and goal attainment techniques fall into this category. That is they sometimes work and sometimes fail. This includes self-help techniques, common sense strategies to obtain a goal, medications, and professional assistance.

Whether an **idea** succeeds or fails can be determined by the unique circumstances of the individual, as well as the way an **idea** is applied. There are two strategies, explain under the following two subheadings, which can be used to deal with this uncertainty.

#### **Testing or Experimenting, for the Individual Case**

The best strategy with **ideas** that comprise a course of action or methodology to obtain a goal or solve a problem is the trial and error process, to determine what works optimally for an individual, and the related set of circumstances. The general concept is what works for one person, in one situation, may or may not work for another. By experimenting or using the trial and error process, you can determine what strategies work best for your goals and problems.

The above can be coupled with (what I call) the feedback and correction process, which is described below.

### **Feedback and Correction Process**

Based on the way I am using the terminology, the feedback and correction process, involves the following three steps:

- 1) An ongoing series of trials, using a **specific idea**, such as a technique, methodology, strategy, or device to solve a problem or obtain a goal
  
- 2) Evaluating the relative degree of success or failure in each trial, and making related corrections, and improvements in the **idea**, suggested by the trial results
  
- 3) Ask yourself a series of questions after completing one or more trials, to determine what has to be improved or corrected. The following questions are examples:

I) What did I do right, and what did I do wrong, with the trials I just completed?

II) What are all the possible ways I can improve the technique I am using?

III) Is there a better method to achieve my objective?

IV) Is there any type of equipment that I can purchase to improve my score?

V) What type of professional services might be helpful in improving my score?

The repeated modifications that result with the feedback and correction process will improve the strategies, techniques, and methodologies you are using to obtain your goals. The repeated modifications can sometimes gradually change the technique you initially were using to the point where it becomes a new method.

The feedback and correction process works exceptionally well with goals that require ongoing practice. This is especially the case if the practice can be divided into a series of trials with an estimated or calculated score.

**Ideas, such as Predictions, Strategies, Methods, and Procedures, that Involve a Set of Possible Outcomes**

Ideas that involve, predictions, strategies, methods, or procedures, problem solving and goal attainment, can usually be evaluated in terms of a **set of possible outcomes**. Even some daily activities involve a degree of uncertainty, and a set of possible outcomes.

Making a list of the possibilities can be a useful strategy, when trying to solve a problem or obtain a goal. This ideally should be done on a computer screen, so you can easily rearrange the list, if necessary. Place the most likely probabilities on your list first, followed by progressively less likely possibilities. You should **exclude from your list** unlikely positive outcomes, and extremely unlikely adverse occurrences. It is usually best to divide the set of possibilities into two or more categories, such as **DESIRABLE** and **UNDESIRABLE**.

The set of possibilities can be compiled with common sense estimations, talking to individuals with appropriate experience and knowledge, and researching the Internet.

Optionally, you can estimate the chances of each item occurring on your list in terms of percentages, such as a 30% chance of developing a highly successful business, and a 20% chance of a business failure.

The above might be difficult to do accurately. It is extremely difficult to estimate our own chances of success or failure with most goals. Most people greatly overestimate their chances of success, and under estimate their chances of failure, when they lack experience in a specific type of goal attainment, such as starting a business. This should be kept in mind, when you are making the estimates.

However, if you are planning to carry out a goal attainment effort that you performed dozens of times, you will probably make accurate estimates.

The following example will clarify all of the above. This example is based on the assumption you want to start a business, which requires investing your entire bank account, and mortgaging your house to obtain a bank loan. The set of possibilities can be listed as follows:

#### DESIRABLE POSSIBILITIES

20% chance of Making a good income

20% chance of developing a highly successful business

10% chance of expanding the business, and becoming wealthy

#### UNDESIRABLE POSSIBILITIES

20% chance of making an income that is marginal.

30% chance of having to work excessively hard to maintain the business

30% chance of a business failure

40% chance of developing severe financial problems

40% chance of losing the house, because of inability to pay the mortgage.

10% chance of developing illness from the stress created by the business

20% chance of conflict and disruption in the family, because of the financial problems and stress from a business failure

The primary reason for creating a list of possibilities, such as the above, is to become aware of the risks and possible benefits associated with a goal attainment plan. When you have the items listed, you can reevaluate your plan. This might indicate the need to redesign your plan, to reduce the risks, and increase the possible benefits. For example, the risks in the plan presented above, can be greatly reduced by starting a business that involves a low investment. This would eliminate the need to mortgage the house to borrow money, and risk losing the house, if the business fails.

The technique described in this subsection seems to contradict the concept of positive thinking. This is explained below.

### **The Benefits and Hazards of Positive Thinking**

Some people believe that positive thinking determines success. However, if it obscures obstacles, problems or risks it is probably more likely to lead to failure and disappointment. To succeed at anything it is usually necessary to deal with problems and foresee difficulties before they are encountered. This is especially the

case for goals involving higher education, developing a successful career, or creating a profitable business.

However, it is beneficial to have a positive attitude, and to engage in positive and corrective actions to avoid or solve problems. An honest, compassionate, realistic, positive, and confident attitude is especially important when dealing with others.

From the above it should be apparent that there are two types of positive thinking, which I am calling DESTRUCTIVE and CONSTRUCTIVE. This is summarized below:

1) DESTRUCTIVE POSITIVE THINKING is a mental attitude or philosophy that involves focusing the mind on pleasant thoughts, and anticipating successful outcomes. This includes ignoring anything unpleasant, especially risks, problems, roadblocks, and the hard work needed to succeed. An individual with this attitude may believe that the positive thinking will automatically bring success.

2) CONSTRUCTIVE POSITIVE THINKING is a mental attitude or philosophy that involves a positive and realistic approach for goal attainment, for dealing with problems, and people. An individual with this philosophy is proactive, avoids or minimizes risks, and can identify and deal with potential difficulties, before they develop into serious problems. Individuals with this attitude

realize they could fail, which motivates them to work hard to succeed.

**See the Following Websites From Other Authors for Additional Information, and Alternative Points of View on The Benefits and Hazards of Positive Thinking**

["The Dangers of Optimism"](#)

["THE HIDDEN DANGERS IN POSITIVE THINKING"](#)

["What Is Positive Thinking?"](#)

["The Dangers of Positive Thinking! "](#)

[Video "The Dangers of Positive Thinking Willie Horton"](#)

[Video "The Dangers Of Positive Thinking Ultra Self Help "](#)

[Video "Become Positive - Benefits of a Positive Attitude"](#)

**Intuition for Evaluating Ideas, Problems, and Goals**

Some people use intuition to evaluate ideas, and potential outcomes. This does not sound very scientific, and it could lead to **erroneous** conclusions, as well as dysfunctional decisions and actions. However, if you **check out your intuitions** with experimentation, and/or the trial and error process, you will have an effective strategy, for making evaluations, problem solving and goal attainment.

If your intuition suggests risks or hazards, you should check out your assessment with logical reasoning, reference sources, and expert opinions, before attempting an actual trial.

Relying solely on intuition for **ALL** your complex decisions, problem solving, and goal attainment efforts is likely to be dysfunctional. This will be the case even if you check out your intuitions with experimentation or the trial and error process.

When you deal with any type of new endeavor, where you lack experience, using intuition may be counterproductive. However, if you are dealing with goals and tasks that you successfully completed **many** times in the past, using your intuition, to guide your actions and decisions might be the most effective strategy. This is especially the case if the tasks are relatively simple for you.

**See the Following Websites From Other Authors for Additional Information, and Alternative Points of View on Intuition for Evaluating Ideas, Problems, and Goals**

["Problem Solving and Decision Making: Consideration of Individual Differences "](#)

["The power of intuition in decision making"](#)

["What Is Intuition, And How Do We Use It?"](#)

["Intuition \(knowledge\) "](#)

["Intuitive Learning Style"](#)

["Explainer: what is intuition? "](#)

[Video "Trading Psychology: Emotions, Intuition and Gut Feeling"](#)

[Video "Definition of Intuition"](#)

[Video "Intuition vs. Thinking: how to tell the difference. Dr. Laura Koniver, MD"](#)

[Video "Learned Intuition: Patrick Schwerdtfeger at TEDxSacramentoSalon"](#)

### **Validity: Determined By The Way An Idea Is Applied**

Sometimes the validity of a general principle or theory is determined by how it is applied, and related circumstances. In this sense, truth can be a relative concept. A good example **is in arithmetic**  $2+2 = 4$ . This is obviously true, **but only when you are adding certain types of items**. If you are **adding vectors**,  $2+2$  can equal  $2\sqrt{2}$ , or any number from 0 to 4. The correct answer will depend on the angle of the vectors. Another example is 2 cups of sugar and 2 cups of water will equal less than 4 cups. In general, when two chemicals are combined, the results can be more, less or the same as the arithmetic sum.

Even in physics the validity of theories and formulas are not absolute. For example, many theories and formulas of classical physics fail when they are applied to **extreme** velocities that approach the speed of light.

**The idea to keep in mind is unusual or extreme circumstances can negate validity or utility of an idea, including theories, techniques, methodologies, equipment, and tools.** The solution here is to test the **idea** by experimentation under the unusual or extreme circumstances.

This will indicate if the **idea** holds true, or works under the extreme conditions. When this is done, the results may indicate that the **idea** fails entirely, or slight modifications in the **idea** are required, for the unusual or extreme circumstances. For

example, most of the ideas and formulas in classical physics can be modified slightly, so that they can be used for velocities that approach the speed of light.

**See the Following Websites From Other Authors for Additional Information, and Alternative Points of View on Validity: Determined By The Way An Idea Is Applied**

["Einstein's Theory of Relativity versus Classical Mechanics"](#)

["Vectors - Motion and Forces"](#)

[Video "Adding vectors- a beginners guide"](#)

[Video "Einstein's Relativity and Classical Mechanics"](#)

**Aligning Your Values, with Your Goals**

Based on the way I am using the terminology, values are the relative degree of importance an individual or social group places on an entity. For example, what is the relative degree of importance that you place on the following: honesty, compassion, moral integrity, tranquility, education, money, career success, physical fitness, family life, friends, etc. The concept of values can also be applied to physical entities, such as the relative degree of importance an individual places on: a house, a car, a stereo, a computer, and furniture.

Your goals should be aligned with your values. However, sometimes people inadvertently set goals that contradict their values. Goals that contradict our values might be difficult to reach, because we may find the required effort quite unpleasant.

However, people often reach goals that contradict their values, which usually result in dissatisfaction. If it is a major life goal, such as an occupation, the dissatisfaction may have an impact on every aspect of the individual's life.

The problems mentioned above can be avoided by setting your goals based on your values. However, to do this, you must become aware of the values that are most important to you. This can be done by making a list of your values. Your most important values should be placed on the top of your list, followed by progressively less important values. This ideally should be done on a computer screen, because the items can easily be rearranged, if necessary.

Most people have a number of values that relate to goals that are partly, or totally unattainable, such as fame, and competitive athletic skills. You might want to exclude values that relate to unrealistic goals from your list.

When you have your list of values completed, you should initially focus on the most important values. This can involve thinking, evaluating, and exploring possibilities that are based on the values. Then you may be ready for setting plans and goals that relate to the most important values on your list. After completing the above, you may want to repeat the steps with some of your less important values.

**See the Following Websites From Other Authors for Additional Information, and Alternative Points of View on**

## **Aligning Your Values, with Your Goals**

["Using Your Values to Make Decisions"](#)

["Living Your Values, Part I"](#)

["What Are Your Values?"](#)

["Aligning Your Values"](#)

["Align Your Goals With Your Values"](#)

[Video "Justina Vail talks about ~ Aligning Your Goals!"](#)

[Video "How to Align Your Values With Your Business Goals"](#)

[Video "Give Your Goals a Chance –  
Link Them to Your Values and Vice Vers"](#)

**To go to the first page of this  
chapter left click on these words.**

### **HYPERLINK TABLE OF CONTENTS**

Below is the hyperlink table of contents of this chapter. If you left click on a section, or subsection, it will appear on your computer screen. Note the chapter heading, the yellow highlighted sections, and the blue subheadings are **all active links**.

<b><u>Introduction to Thinking, with Related Terminology</u></b> .....	<b>1</b>
<b><u>Education: Thinking, Evaluating Ideas, and Strategies for Problem Solving, and Goal Attainment</u></b> .....	<b>1</b>
<b><u>Concepts and Strategies for Thinking</u></b> .....	<b>2</b>
<b><u>What is Thinking?</u></b> .....	<b>2</b>
<b><u>Broad Definitions for this Chapter</u></b> .....	<b>3</b>

<u>See the Following Websites From Other Authors for Additional Information, and Alternative Points of View on Introduction to Thinking, with Related Terminology .....</u>	<u>3</u>
<b><u>Thinking and Evaluating Ideas and Information.....</u></b>	<b><u>4</u></b>
<u>The Simplest Concept of True or False .....</u>	<u>4</u>
<u>Personal Desires, Values, and Emotional Responses .....</u>	<u>4</u>
<u>Religious Beliefs.....</u>	<u>4</u>
<u>See the Following Websites From Other Authors for Additional Information, and Alternative Points of View on Religious Beliefs.....</u>	<u>5</u>
<u>Rules and Laws .....</u>	<u>6</u>
<u>Fictional Ideas and Scenarios .....</u>	<u>6</u>
<b><u>Thinking, EVALUATING Ideas &amp; Information, with Strategies for Problem Solving and Goal Attainment.....</u></b>	<b><u>7</u></b>
<u>Ideas Can Be Partly True and Partly False .....</u>	<u>7</u>
<u>Testing or Experimenting, for the Individual Case .....</u>	<u>7</u>
<u>Feedback and Correction Process .....</u>	<u>8</u>
<u>Ideas, such as Predictions, Strategies, Methods, and Procedures, that Involve a Set of Possible Outcomes.....</u>	<u>9</u>
<u>The Benefits and Hazards of Positive Thinking.....</u>	<u>12</u>
<u>See the Following Websites From Other Authors for Additional Information, and Alternative Points of View on The Benefits and Hazards of Positive Thinking.....</u>	<u>14</u>
<u>Intuition for Evaluating Ideas, Problems, and Goals .....</u>	<u>14</u>
<u>See the Following Websites From Other Authors for Additional Information, and Alternative Points of View on Intuition for Evaluating Ideas, Problems, and Goals .....</u>	<u>15</u>
<u>Validity: Determined By The Way An Idea Is Applied .....</u>	<u>16</u>
<u>See the Following Websites From Other Authors for Additional Information, and Alternative Points of View on.....</u>	<u>17</u>

**[Validity: Determined By The Way An Idea Is Applied ..... 17](#)**

**[Aligning Your Values, with Your Goals..... 17](#)**

**[See the Following Websites From Other Authors for Additional Information, and Alternative Points of View on Aligning Your Values, with Your Goals..... 18](#)**

**[To go to the first page of this Chapter, left click on these words.](#)**

**[If you want to go to the next chapter left click on the link below](#)**  
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