

What did I learn from these two pages of trying to get clear on idea as in Idea Notebook?

1. Solving a problem is not a straight line. It is important that I have a plan and keep it in mind so that the tangents don't sidetrack me.
2. It is hard to follow another's thinking because of the gaps and tangents. But most thinking we see in books is a recasting into a logical sequence. But that isn't the way it usually happened.
3. Thinking can be supported by careful observation in our own environment. Sherlock Holmes was a master at observation. If you can catch one of his films, observe his observing. Holmes was out with Watson on a campus trip. They pitched their tent, ate summer by the fire, and then went to bed. Holmes says: "Watson, what you to conclude our seeing many stars in the heavens?" Holmes replied: "It is a stary night and I am ready to sleep." "Watson, it means someone has made off with our tent! "
4. Thinking can be supported by library research from your personal library, from a college library, and from the Internet.
5. Sources don't usually give us the answer. We have to think about what we have gotten. Most of our serious questions can't be looked up directly. We can find hints and help though.
6. Idea is not a solid term. It has many meanings. In thinking the meaning is not specific, nor easy to use.
7. Wandering through the Reference section of the library can produce unpredicted results. I found some sources I didn't know were there that turned out to be relevant.
8. Entries in Idea Notebook need to be more of your actual thinking as it happens rather than a cleaned up version if we are to reflect on and improve our own thinking.
9. Looking for one thing can bring something else into view. Shel Silverstein is not your usual reference on thinking.
10. There are a variety of places to look for answers, some not obvious.
11. Shel Silverstein can take the obvious and look at the not obvious.
12. Improved thinking depends on some psychological insights.
13. Thinking can mix the obvious with the fun and unusual.

III. Self Assessment

[A handout dealing with Answer Keys.]

Note to students: There are questions at the end of this section to be answered. Your answers are to be written to share with group members and then turned in.

In what ways can you become better at assessing your own learning? An important course goal is for you to develop the thinking skills and attitudes involved with assessing the quality of your own work, sometimes called self assessment. Self assessment means being able to stand back from your work and evaluating how good your work is by using specified standards (criteria). (Assessment = appraisal, evaluation, judgment, rating, weighing, discriminating)

One important goal for this course can be for you to better determine if the work you are turning in is of very high, high, medium, or low quality. And to know what must be done to move it to very high quality. A longer term personal goal can be for you to turn in work which meets a higher standard than that used by college teachers or later by bosses. Knowing what is quality work allows you to decide how good your work is and then to take steps to improve it. Developing accurate self assessment is one of the most important goals of college.

List here blocks to accurate self assessment.

Example: lack of feedback from others

Accurate self assessment involves improving your thinking as applied to the things you produce. Here are four ways I use to help you improve your thinking. Increasingly I have been designing assignments which involve thinking skills. In addition, for some assignments I provide detailed instructions on how to go about answering the assigned question. Other assignments have hints. For some assignments I suggest you work with a classmate.

In what ways can I help you improve your thinking and your self assessment? In this course I have developed with the help of previous students both **Example Answers** and **Answer Keys**. Example Answers and Answer Keys are important to you when you are learning more than recall of information. When you have to problem solve, critically evaluate, analyze, synthesize, or apply, examples can be very helpful in understanding what is desired. In general, example answer are very good answers to a related question, but not exactly the question assigned. Answer Keys are very good answers on the actual assignment.

Example Answers provide a model for you to use before doing your own answers. Example answers are concrete indications of what you are to learn. Example answers can also be used later to compare your answer to the example answer to be sure you have learned.

An **Answer Key** is not

the only right answer	the only way to answer the question
the only way to look at the question	the best answer
the most creative	the longest answer
the most thoughtful answer	

What is an **Answer Key**? An Answer Key is

- a good or very good answer (often written by previous students with peer help), conformation of your thinking,
- a way to promote additional thinking by immediate feedback,
- feedback on additional ways to think about the problem,
- a way to get an idea of how to set up an answer or how detailed you might make your answer,
- a way to improve the quality of your answers and thinking.

Mastery Learning is another way to improve the quality of your work by getting a second chance to improve. However, even when written homework is returned the next class after it has been turned in, this feedback is some time after the completion of the assignment.

Psychologists have found that immediate feedback is important when learning new skills and knowledge. For example, let's assume you just listened to a lecture on the topic of problem solving. How do you know if you learned everything you were supposed to learn? Usually, you won't know until the next quiz, test, or exam. These assessments may be days or weeks or months later.

How can you get immediate feedback for your learning? Let's assume that you have read the objectives, looked over the instructions for the assignment, read the assignment, thought, written a rough draft, and then revised your answer. Do you now have a high quality answer (equal to an "A", to 95%, to a very good answer)?

If you carefully assess what you have produced, you probably would find ways to improve your answer. Often students allow a day before going back to improve their work. If you took it immediately to a classmate, you could get some feedback. If you took it to the instructor, you could get additional feedback. Sometimes the classmate is not available and sometimes you may not be able to get to the instructor.

Using an **Answer Key** is another solution. You could then get immediate feedback on your answer, if you know how to compare and contrast. How is your answer like the Answer Key? What is your answer lacking? Is there something that the Answer Key is lacking? After comparing and contrasting your answer to the Answer Key, you can then revise your answer to improve it.

How can **you** use the **Answer Keys** in this course? You might look at them before doing the homework to get an idea of the format for the answer. You could use them if you get stuck to jar your thinking out of a rut or out of neutral. You could use them after doing your work to note how to improve your future homework. Or you could use it to improve the current homework.

I want to particularly recommend that in most cases you use the last suggestion: use the Answer Key to improve your answer. After comparing and contrasting your answer, make notes for ways to improve your answer. Then put away the Answer Key and revise your answer. Label the answer as **Revised with Answer Key** and attach it to your original answer. Check again with the Answer Key by comparing and contrasting. If you don't think your answer is yet a good answer, take notes again and revise your answer. Label this answer as **Second Revision with Answer Key**.

The writing and **revision process** can take a lot of time unless you do your work with a computer. I STRONGLY RECOMMEND THAT YOU DO YOUR HOMEWORK ON A COMPUTER ALONG WITH THE REVISIONS. Computer generated work is being expected at four year colleges as well as in business. The longer you take to make the change to writing on a computer the more time you will be wasting on less essential learning.

If you have an Answer Key for an assignment ahead of time, I expect only good and very good answers. Your goal is to learn how to self assess your work so that you have high quality answers. Answer Keys are used throughout the course. However, to determine how well you self assess Answer Keys are used less often near the end of the course.

What do you see as the advantages of Answer Keys to you? List your answers here.

What do you see as the disadvantages of Answer Keys to you? List your answers here.

Others assess what we have accomplished. Sometimes you get assessment not only on the outcome but also on how you accomplished something. You are used to others assessing your performance, although few of us feel comfortable when others assess us. Your parents assessed your progress as you matured. Throughout your formal education teachers assess your learning.

Coaches (consultants) assess your sports performance. Bosses assess your work. And you have been developing your ability to assess your work and that of others. This course is designed to further help you develop the thinking skills needed to self assess and to assess others work.

When you bring your homework to class, you may be asked to state how you would improve your answer, or you may be asked to get feedback from others on your work, or you may be asked to think about the process you used to learn and reflect on it to see if that process can become more effective and efficient.

general, I use “Credit” when you have gotten feedback from others or from an Answer Key.

- (2) I spot check your work and write either a VGW (very good work), GW (good work), OK (needs minor improving), or Redo (needs major improving). (1) and (2) are used primarily during the first 75% of the course. I expect consistent high quality work. Therefore, I expect you to develop your skills of self assessment and provide classmates the benefits of your assessing skills. A basketball coach does not check every free throw practiced by a basketball player. The coach periodically checks but expects the player to practice and make self corrections on their own and to use feedback from other players.

Sometimes the basketball player asks the coach how to do something. The coach may give an answer. At other **times** the coach may want the student to think further and solve the problem alone. In general, we learn more when we solve our own problems. Coaches are there to provide and structure a supportive environment for learning and practice to take place.

Most individual learning takes place away from the coach. The coach focuses on group activities (the fast break) which are more difficult to learn because several things are going on at the same time, not just one thing when one player is working on free throws. I will give feedback primarily on the process of self assessment and group assessment so you learn to self assess.

List here other examples besides sports where the “coach” does not give continuous feedback.

- (3) I carefully read your work and use the feedback system described in (2) above. I do this assessing when the assignment is usually a jump from the previous assignment.
- (4) I critically evaluate your work and award a grade of A, B, C, or redo. This type of assessment is usually done only at the end of the course. If you have a redo, the redone assignment is regraded and then dropped one letter grade because redos at the end of the course are not expected and indicate you have not learned some important skills that were studied in the course.

When are **redos** given? Redo are given when work is not of high quality. Our goal is for you to become aware and able to determine when work is not of high quality: your own and that of your classmates. Once this happens then redos will be rare. When Answer Keys are given, always use them to improve your work because you have available to you immediate feedback. In general, I am more likely to give a redo to medium or low quality work on those assignments when there are Answer Keys.

NOTE::: Get a folder to keep your returned homework and class written work. Date each assignment, label it, and keep them in order. You will be turning in your folder at mid-semester and at the end.

WRITE for use in group discussion:

1. List the 6 most important ideas from Self Assessment.
2. List the advantages of Answer Keys. List the disadvantages of Answer Keys.
3. List any questions you have about self assessment, assessing the work of others, Example Answers, and Answer Keys.

IV. You will find a variety of video guides, Example Answers, and Answer Keys. Contact me if you have questions.

Example Answer - Poor,
Good & Very Good

Example Answer: I use
a very good Idea Notebook.

Example Answers: F
(What makes for a good Idea Notebo

of an Idea Notebook

A Poor Idea Notebook #6

Today in class we counted 1
we talked about why we counted **rect**
good points came out. We viewed so
Lastly, we counted balls on a string a

Good Idea Notebook #6

In the beginning of class we counted rectangles, I **find** this really hard, and I never seem to get any of them right. My group helped me carefully think through counting squares. A square is a rectangle. That was mistake number one. I did not have a systematic method. I decided to number each little box to help me keep track of the rectangles. I also need to be more patient when it comes to counting rectangles, squares, and triangles. I rush in, count a bunch, and then get stuck. I can't remember what I have counted.

Why do we count rectangles, squares, and triangles? My thought is to improve my problem solving skills and to be a more focused thinkers. The Nugget of Wisdom: Look at things as a challenge, not as a problem. We talked about our groups and how important it is to stay on task. I feel like my group works well together and stays on task really well. We viewed a few cartoons. One of them was on why we are here. I am here to improve my thinking. Another cartoon we looked at stressed that sometimes the easy solution works, and sometimes it doesn't. We played a question game where we had to ask Dr. Bell questions to come up with the answer. I like this kind of problem solving. It is fun as well as challenging. Lastly, we counted balls on a string again. This time I did much better than compared to the last time we did this activity.

A Very Good Idea Notebook #6

This class was the most frustrating class so far. We started out by counting rectangles, not exactly my most favorite thing to do. I couldn't do it and immediately and became frustrated with myself. After our pair got the correct answer, I realized that if I would have come up with a method in counting the rectangles, I would have saved myself a lot of grief. What I learned with the help of my group members from this assignment was 1) I definitely need a method next time 2) I should have numbered the rectangles by numbers 3) squares are rectangles 4) two heads are better than one.

Next, we went over the homework, that went really smoothly. The question of the day was: Why do we count rectangles, squares, and triangles? My conclusion is to improve 1) our problem solving skills 2) to be able to use more focused thinking 3) to improve our thinking process. The nugget of wisdom for this class came in handy when **counting** the rectangles. The NOW was to look at things as a challenge and not as a problem. I have told this to two people since the last class and they agreed it was a good idea, but hard to put into practice. We talked a little bit about our groups. It's up to us to make our groups as good as we can and that we need to make sure our group stays on task. Thus far, my group is working **fine** together. I once got us back on track.

We viewed a cartoon about why we are here. I am here to improve my thinking. I am learning how to think, not what to think. Another cartoon stressed that sometimes the easy solution works, and sometimes you need to try another method. The mystery was fun. I had no idea what the answer was the entire time. This showed me that I put limits on my thinking. We also counted balls on a string again. This time I had a much better idea on how to do it because of the previous exercise we did with counting balls on a string. The previous solution did not work but some of the creative solutions could be used in this situation. I applied what I had learned previously.

Lastly, this class made me realize that there are habits I need to break. First, I need to stop putting myself down. When I don't pick something up right away, I feel dumb. I need to start looking at things as a challenge and not as a problem. Also, I have to stop being so close minded and need to be more patient with myself.