TEST 1

ACTIVE AND REFLECTIVE LEARNERS

- Active learners tend to retain and understand information best by doing something active with it--discussing or applying it or explaining it to others. Reflective learners prefer to think about it quietly first.
- "Let's try it out and see how it works" is an active learner's phrase; "Let's think it through first" is the reflective learner's response.
- Active learners tend to like group work more than reflective learners, who prefer working alone.
- Sitting through lectures without getting to do anything physical but take notes is hard for both learning types, but particularly hard for active learners.

Everybody is active sometimes and reflective sometimes. Your preference for one category or the other may be strong, moderate, or mild. A balance of the two is desirable. If you always act before reflecting you can jump into things prematurely and get into trouble, while if you spend too much time reflecting you may never get anything done.

How can active learners help themselves?

If you are an active learner in a class that allows little or no class time for discussion or problem-solving activities, you should try to compensate for these lacks when you study. Study in a group in which the members take turns explaining different topics to each other. Work with others to guess what you will be asked on the next test and figure out how you will answer. You will always retain information better if you find ways to do something with it.

How can reflective learners help themselves?

If you are a reflective learner in a class that allows little or no class time for thinking about new information, you should try to compensate for this lack when you study. Don't simply read or memorize the material; stop periodically to review what you have read and to think of possible questions or applications. You might find it helpful to write short summaries of readings or class notes in your own words. Doing so may take extra time but will enable you to retain the material more effectively.

SENSING AND INTUITIVE LEARNERS

- Sensing learners tend to like learning facts, intuitive learners often prefer discovering possibilities and relationships.
- Sensors often like solving problems by well-established methods and dislike complications and surprises; intuitors like innovation and dislike repetition. Sensors are more likely than intuitors to resent being tested on material that has not been explicitly covered in class.
- Sensors tend to be patient with details and good at memorizing facts and doing hands-on (laboratory) work; intuitors may be better at grasping new concepts and are often more comfortable than sensors with abstractions and mathematical formulations.
- Sensors tend to be more practical and careful than intuitors; intuitors tend to work faster and to be more innovative than sensors.
- Sensors don't like courses that have no apparent connection to the real world; intuitors don't like "plug-and-chug" courses that involve a lot of memorization and routine calculations.

Everybody is sensing sometimes and intuitive sometimes. Your preference for one or the other may be strong, moderate, or mild. To be effective as a learner and problem solver, you need to be able to function both ways. If you overemphasize intuition, you may miss important details or make careless mistakes in calculations or hands-on work; if you overemphasize sensing, you may rely too much on memorization and familiar methods and not concentrate enough on understanding and innovative thinking.

How can sensing learners help themselves?

Sensors remember and understand information best if they can see how it connects to the real world. If you are in a class where most of the material is abstract and theoretical, you may have difficulty. Ask your instructor for specific examples of concepts and procedures, and find out how the concepts apply in practice. If the teacher does not provide enough specifics, try to find some in your course text or other references or by brainstorming with friends or classmates.

How can intuitive learners help themselves?

Many college lecture classes are aimed at intuitors. However, if you are an intuitor and you happen to be in a class that deals primarily with memorization and rote substitution in formulas, you may have trouble with boredom. Ask your instructor for interpretations or theories that link the facts, or try to find the connections yourself. You may also be prone to careless mistakes on test because you are impatient with

details and don't like repetition (as in checking your completed solutions). Take time to read the entire question before you start answering and be sure to check your results

VISUAL AND VERBAL LEARNERS

Visual learners remember best what they see--pictures, diagrams, flow charts, time lines, films, and demonstrations. Verbal learners get more out of words--written and spoken explanations. Everyone learns more when information is presented both visually and verbally.

In most college classes very little visual information is presented: students mainly listen to lectures and read material written on chalkboards and in textbooks and handouts. Unfortunately, most people are visual learners, which means that most students do not get nearly as much as they would if more visual presentation were used in class. Good learners are capable of processing information presented either visually or verbally.

How can visual learners help themselves?

If you are a visual learner, try to find diagrams, sketches, schematics, photographs, flow charts, or any other visual representation of course material that is predominantly verbal. Ask your instructor, consult reference books, and see if any videotapes or CD-ROM displays of the course material are available. Prepare a concept map by listing key points, enclosing them in boxes or circles, and drawing lines with arrows between concepts to show connections. Color-code your notes with a highlighter so that everything relating to one topic is the same color.

How can verbal learners help themselves?

Write summaries or outlines of course material in your own words. Working in groups can be particularly effective: you gain understanding of material by hearing classmates' explanations and you learn even more when you do the explaining.

SEQUENTIAL AND GLOBAL LEARNERS

- Sequential learners tend to gain understanding in linear steps, with each step following logically from the previous one. Global learners tend to learn in large jumps, absorbing material almost randomly without seeing connections, and then suddenly "getting it."

- Sequential learners tend to follow logical stepwise paths in finding solutions; global learners may be able to solve complex problems quickly or put things together in novel ways once they have grasped the big picture, but they may have difficulty explaining how they did it.

Many people who read this description may conclude incorrectly that they are global, since everyone has experienced bewilderment followed by a sudden flash of understanding. What makes you global or not is what happens before the light bulb goes on. Sequential learners may not fully understand the material but they can nevertheless do something with it (like solve the homework problems or pass the test) since the pieces they have absorbed are logically connected. Strongly global learners who lack good sequential thinking abilities, on the other hand, may have serious difficulties until they have the big picture. Even after they have it, they may be fuzzy about the details of the subject, while sequential learners may know a lot about specific aspects of a subject but may have trouble relating them to different aspects of the same subject or to different subjects.

How can sequential learners help themselves?

Most college courses are taught in a sequential manner. However, if you are a sequential learner and you have an instructor who jumps around from topic to topic or skips steps, you may have difficulty following and remembering. Ask the instructor to fill in the skipped steps, or fill them in yourself by consulting references. When you are studying, take the time to outline the lecture material for yourself in logical order. In the long run doing so will save you time. You might also try to strengthen your global thinking skills by relating each new topic you study to things you already know. The more you can do so, the deeper your understanding of the topic is likely to be.

How can global learners help themselves?

If you are a global learner, it can be helpful for you to realize that you need the big picture of a subject before you can master details. If your instructor plunges directly into new topics without bothering to explain how they relate to what you already know, it can cause problems for you. Fortunately, there are steps you can take that may help you get the big picture more rapidly. Before you begin to study the first section of a chapter in a text, skim through the entire chapter to get an overview. Doing so may be time-consuming initially but it may save you from going over and over individual parts later. Instead of spending a short time on every subject every night, you might find it more productive to immerse yourself in individual subjects

for large blocks. Try to relate the subject to things you already know, either by asking the instructor to help you see connections or by consulting references. Above all, don't lose faith in yourself; you will eventually understand the new material, and once you do your understanding of how it connects to other topics and disciplines may enable you to apply it in ways that most sequential thinkers would never dream of.

TEST 2

Visual Learner:
You have been identified as a Visual Learner. Follow these simple tips to assist you in learning more efficiently.

In Class You Should:

- Underline
- use different colors
- use symbols, charts, arrangements on a page

When Studying You Should:

- use the "In Class" method
- reconstruct images in different ways
- redraw pages from memory
- replace words with symbols and initials

During Exams You Should:

- recall the pictures of the pages
- draw, use diagrams where appropriate
- practice turning visuals back into words

Aural Learner
You have been identified as an Aural Learner. Follow these simple tips to assist you in learning more efficiently.

In Class You Should:

- attend lectures and tutorials
- discuss topics with students
- explain new ideas to other people
- use a tape recorder
- describe overheads, pictures, and visuals to somebody that was not there.
- leave space in notes for later recall

When Studying You Should:

- understand you may take poor notes because you prefer to listen
- expand your notes
- put summarized notes on tape and listen
- read summarized notes out load
- explain notes to another Aural person

During Exams You Should:

- listen to your voices and write them down
- speak your answers
- practice writing answers to old exam questions.

Raeding/Writing Learner:
You have been identified as a Reading/Writing Learner. Follow these simple tips to assist you in learning more efficiently.

In Class You Should:

- use list, heading
- use dictionary and definitions
- use handouts and textbooks
- read
- use lecture notes

When Studying You Should:

- write out the words again and again
- reread notes silently
- rewrite ideas into other words
- organize diagrams into statements

During Exams You Should:

- practice with multiple choice questions
- write out lists
- write paragraphs, beginnings, endings

Kinesthetic Learner:
You have been identified as a Kinesthetic Learner. Follow these simple tips to assist you in learning more efficiently.

In Class You Should:

- use all of your senses
- go to lab, take field trips
- use trial and error methods
- listen to real life examples
- use hands-on approach

When Studying You Should:

- understand you may take notes poorly due to topics not seeming relevant
- put examples in note summaries
- use pictures and photos to illustrate
- talk about notes with another Kinesthetic person

During Exams You Should:

- write practice answers
- role-play the exam situation in your room

Test 3

Left vs. Right

In general the left and right hemispheres of your brain process information in different ways. We tend to process information using our dominant side. However, the learning process is enhanced when all of our senses are used. This includes using your less dominate hemisphere. Listed below are information processing styles that are characteristically used by your right or left brain. Read the information below to help you understand how your brain processes information. Pay attention to your less dominant style so that you can learn how to improve it. If you want to jump through the list, click on the choice that you wish to examine.

Linear vs. Holistic Processing

The left side of the brain processes information in a linear manner. It process from part to whole. It takes pieces, lines them up, and arranges them in a logical order; then it draws conclusions. The right brain, however, processes from whole to part, holistically. It starts with the answer. It sees the big picture first, not the details. If you are right-brained, you may have difficulty following a lecture unless you are given the big picture first. Do you now see why it is absolutely necessary for a right-brained person to read an assigned chapter or background information before a lecture or to survey a chapter before reading? If an instructor doesn't consistently give an overview before he or she begins a lecture, you may need to ask at the end of class what the next lecture will be and how you can prepare for it. If you are predominantly right-brained, you may also have trouble outlining (you've probably written many papers first and outlined them latter because an outline was required). You're the student who needs to know why you are doing something. Left-brained students would do well to exercise their right-brain in such a manner. [top of list]

Sequential vs. Random Processing

In addition to thinking in a linear manner, the left brain processes in sequence -- in order. The left-brained person is a list maker. If you are left-brained, you would enjoy making a master schedule and doing daily planning. You complete tasks in order and take pleasure in checking them off when they are accomplished. Likewise, learning things in sequence is relatively easy for you. For example, spelling involves sequencing; if you are left-brained, you are probably a good speller. The left brain is also at work in the linear and sequential processing of math and in following directions.

By contrast, the approach of the right-brained student is random. If you are right-brained, you may flit from one task to another. You will get just as much done but perhaps without having addressed priorities. An assignment may be late or incomplete, not because you weren't working, but because you were working on something else. You were ready to rebel when asked to make study schedules for the week. But because of the random nature of your dominant side, you must make lists, and you must make schedules. This may be your only hope for survival in college. You should also make a special effort to read directions. Oh yes, the mention of spelling makes you cringe. Use the dictionary, carry a Franklin speller, or use the spell checker on your computer. Never turn in an assignment without proofing for spelling. Because the right side of the brain is color sensitive, you might try using colors to learn sequence, making the first step green, the second blue, the last red. Or you may want to "walk" a sequence, either by physically going from place to place or by imagining it. For the first step of the sequence, you might walk to the front door; for the second, to the kitchen; for the third, to the den, etc. Or make Step One a certain place or thing in your dorm room or study place and Step Two another. If you consistently use the same sequence, you will find that this strategy is transferable to many tasks involving sequence. [top of list]

Symbolic vs. Concrete Processing

The left brain has no trouble processing symbols. Many academic pursuits deal with symbols such as letters, words, and mathematical notations. The left-brained person tends to be comfortable with linguistic and mathematical endeavors. Left-brained students will probably just memorize vocabulary words or math formulas. The right brain, on the other hand, wants things to be concrete. The right-brained person wants to see, feel, or touch the real object. Right-brained students may have had trouble learning to read using phonics. They prefer to see words in context and to see how the formula works. To use your right brain, create opportunities for hands-on activities. Use something real whenever possible. You may also want to draw out a math problem or illustrate your notes. [top of list]

Logical vs. Intuitive Processing

The left brain processes in a linear, sequential, logical manner. When you process on the left side, you use information piece by piece to solve a math problem or work out a science experiment. When you read and listen, you look for the pieces so that you can draw logical conclusions. Your decisions are made on logic--proof. If you process primarily on the right side of the brain, you use intuition. You may know the right answer to a math problem but not be sure how you got it. You may have to start with the answer and work backwards. On a quiz, you have a gut feeling as to which answers are correct, and you are usually right. In writing, it is the left brain that pays attention to mechanics such as spelling, agreement, and punctuation. But the right side pays attention to coherence and meaning; that is, your right brain tells you it "feels" right. Your decisions will be based on feelings. [top of list]

Verbal vs. Non-verbal Processing

Left-brained students have little trouble expressing themselves in words. Right-brained students may know what they mean but often have trouble finding the right words. The best illustration of this is to listen to people give directions. The left-brained person will say something like "From here, go west three blocks and turn north on Vine Street. Go three or four miles and then turn east onto Broad Street." The right-brained person will sound something like this: "Turn right (pointing right) by the church over there (pointing again). Then you will pass a McDonalds and a Walmart. At the next light, turn right toward the BP station." So how is this relevant to planning study strategies? Right-brained students need to back up everything visually. If it's not written down, they probably won't remember it. And it would be even better for right-brained students to illustrate it. They need to get into the habit of making a mental video of things as they hear or read them. Right-brained students need to know that it may take them longer to write a paper, and the paper may need more revision before it says what they want it to say. This means allowing extra time when a writing assignment is due.

Reality-Based vs. Fantasy-Oriented Processing

The left side of the brain deals with things the way they are--with reality. When left-brained students are affected by the environment, they usually adjust to it. Not so with right-brained students; they try to change the environment! Left-brained people want to know the rules and follow them. In fact, if there are no rules for situations, they will probably make up rules to follow! Left-brained students know the consequences of not turning in papers on time or of failing a test, but right-brained students are sometimes not aware that there is anything wrong. So, if you are right-brained, make sure you constantly ask for feedback and reality checks. It's too late the day before finals to ask if you can do extra credit. Keep a careful record of your assignments and tests. Visit with your professor routinely. While this fantasy orientation may seem a disadvantage, in some cases it is an advantage. The right-brained student is creative. In order to learn about the digestive system, you may decide to become a piece of food! And since emotion is processed on the right side of the brain, you will probably remember well anything you become emotionally involved in as you are trying to learn.

These are just some of the differences that exist between the left and right hemispheres, but you can see a pattern. Because left-brained strategies are the ones

used most often in the classroom, right-brained students sometimes feel inadequate. However, you now know that you can be flexible and adapt material to the right side of your brain. Likewise, those of you who are predominantly left-brained know that it would be wise to use both sides of the brain and employ some right-brained strategies.

Test 4

VISUAL

If you are a visual learner, you learn by reading or seeing pictures. You understand and remember things by sight. You can picture what you are learning in your head, and you learn best by using methods that are primarily visual. You like to see what you are learning.

As a visual learner, you are usually neat and clean. You often close your eyes to visualize or remember something, and you will find something to watch if you become bored. You may have difficulty with spoken directions and may be easily distracted by sounds. You are attracted to color and to spoken language (like stories) that is rich in imagery.

Here are some things that visual learners like you can do to learn better:

- Sit near the front of the classroom. (It won't mean you're the teacher's pet!)
- Have your eyesight checked on a regular basis.
- Use flashcards to learn new words.
- Try to visualize things that you hear or things that are read to you.
- Write down key words, ideas, or instructions.
- Draw pictures to help explain new concepts and then explain the pictures.
- Color code things.
- Avoid distractions during study times.

Remember that you need to **see** things, not just hear things, to learn well.

AUDITORY

If you are an auditory learner, you learn by hearing and listening. You understand and remember things you have heard. You store information by the way it sounds, and you have an easier time understanding spoken instructions than written ones. You often learn by reading out loud because you have to hear it or speak it in order to know it.

As an auditory learner, you probably hum or talk to yourself or others if you become bored. People may think you are not paying attention, even though you may be hearing and understanding everything being said.

Here are some things that auditory learners like you can do to learn better.

- Sit where you can hear.
- Have your hearing checked on a regular basis.
- Use flashcards to learn new words; read them out loud.
- Read stories, assignments, or directions out loud.
- Record yourself spelling words and then listen to the recording.
- Have test questions read to you out loud.
- Study new material by reading it out loud.

Remember that you need to **hear** things, not just see things, in order to learn well.

TACTILE

If you are a tactile learner, you learn by touching and doing. You understand and remember things through physical movement. You are a "hands-on" learner who prefers to touch, move, build, or draw what you learn, and you tend to learn better when some type of physical activity is involved. You need to be active and take frequent breaks, you often speak with your hands and with gestures, and you may have difficulty sitting still.

As a tactile learner, you like to take things apart and put things together, and you tend to find reasons to tinker or move around when you become bored. You may be very well coordinated and have good athletic ability. You can easily remember things that were done but may have difficulty remembering what you saw or heard in the process. You often communicate by touching, and you appreciate physically expressed forms of encouragement, such as a pat on the back.

Here are some things that tactile learners like you can do to learn better:

- Participate in activities that involve touching, building, moving, or drawing.
- Do lots of hands-on activities like completing art projects, taking walks, or acting out stories.
- It's OK to chew gum, walk around, or rock in a chair while reading or studying.

- Use flashcards and arrange them in groups to show relationships between ideas.
- Trace words with your finger to learn spelling (finger spelling).
- Take frequent breaks during reading or studying periods (frequent, but not long).
- It's OK to tap a pencil, shake your foot, or hold on to something while learning.
- Use a computer to reinforce learning through the sense of touch.

Remember that you learn best by **doing**, not just by reading, seeing, or hearing.

Test 5

According to Carl G. Jung's theory of psychological types, human consciousness is characterized by its preference of the general attitude:

- Extraverted (E) vs. Introverted (I)

It is also characterized by its preferences within the two pairs of its mental functions:

- Sensing (S) - Intuition (N)
- Thinking (T) - Feeling (F)

The three parameters introduced by Jung are dichotomies (i.e. bipolar dimensions where each pole represents an opposite preference). Jung proposed that in a person one of the mental functions is dominant.

Isabel Briggs Myers proposed that a fourth dichotomy, with the opposite poles of judging and perceiving, also influences the characteristics of personality type:

- Judging (J) – Perceiving (P)

All possible permutations of the 4 criteria above yield 16 different combinations representing which of the opposite poles in each of the four dichotomies dominates in a person, thus defining 16 different personality types.

The 16 personality types can be assigned a combination of 4 letters (an acronym) corresponding to the opposite poles in each of the four dichotomies.

The 16 personality types			
ESTJ	ISTJ	ENTJ	INTJ
ESTP	ISTP	ENTP	INTP
ESFJ	ISFJ	ENFJ	INFJ
ESFP	ISFP	ENFP	INFP

The first letter in a personality type name corresponds to the first letter of the attitude preference (“E” for extraversion and “I” for introversion).

The second letter in a personality type name corresponds to the preference within sensing-intuition pair: “S” stands for sensing and “N” stands for intuition (to distinguish from “I” for introverted attitude).

The third letter in a personality type name corresponds to preference within the thinking-feeling pair: “T” stands for thinking and “F” stands for feeling.

The forth letter in a personality type name corresponds to a person’s preference within the judging-perceiving pair: “J” for judging and “P” for perception.

For example:

- ISTJ stands for an Introvert, Sensing, Thinking, Judging
- ENFP stands for an Extravert, iNtuitive, Feeling, Perceiving

And so on.

What do the percentages next to the personality type letters mean?

Humanmetrics Jung Typology Test™ (JTT™) and Jung Typology Profiler for Workplace™ (JTPW™) instrument determine the expressiveness of each of the four personality type dimensions (Extraversion vs. Introversion, Sensing vs. Intuition, Thinking vs. Feeling, and Judging vs. Perceiving.

In JTT™ and JTPW™, the scales of these four dimensions represent a continuum between two opposite poles, from 100 at one pole to 100 at another pole. I.e. Extravert-Introvert dimension is a continuum from 100 on Extraversion (i.e. a respondent is a 100% extravert) to 100 on Introversion (i.e. a respondent is a 100% introvert). In other words the scale is 200 units long:

Extravert [100% - - - 0% - - - 100%] Introvert

People may reveal features of both poles but typically have a preference of one way over the other. The letter indicates the preference and the percentage indicates the extent of it.

The E-I score of 0% means the respondent is at the borderline between being an extravert and an introvert. Having Extraversion score of greater than 0 - e.g. 20% - means being 20% more slanted toward Extraversion over Introversion. Having Introversion score of greater than 0 - e.g. 20% - means being 20% more slanted toward Introversion over Extraversion.

The same pertains to the S-N, T-F, and J-P dichotomies.