Learning to learn: metacognition

Your path for most effective learning is through knowing

- yourself
- your capacity to learn
- the process you have successfully used in the past
- your interest in, and knowledge of, the subject you wish to learn

It may be easy for you to learn physics but difficult to learn tennis, or vice versa.
All learning, however, is a process which settles into certain steps.

LEARNING

MODULE : 1

Succeeding in continuing and higher education

Succeeding in continuing and higher education

A New Environment - Many Opportunities

Higher education can seem like a strange, new world and overwhelming challenge.
We invite you to spend some time thinking about how to get the most out of it.
This exercise assumes that you are exploring studies after secondary education.
If accepted at a school, your first-year orientation will also provide some answers.
You can help yourself work through the "big picture" by using this exercise.

Ready? Let's start with a few basic questions.

Part 1: Personal Goals

In this section, consider your personal educational goals.
Follow the English *SMART* acronym:
Specific - Measurable - Attainable - Rewarding - Timely
What are your goals?
Scan this list and select the most important to you, or think of your own.
Remember to be "SMART"!

Better earnings | More interesting career options | A liberal arts education | Learn more about the world
Greater critical thinking ability | Improved self confidence and interpersonal skills | Extracurricular activities/sports |
Progress toward advanced degrees

Add a personal, specific statement about one of these goals:

Part 2: Your experience in, and preparation for, learning

Let's build in some factors that will lead to your success.
What are three things you have done to prepare yourself for college?
What is one area of study you enjoyed the most?
When studying the most important,
what separated it from your other studies to make it easier?
How can you apply this successful strategy to other areas?

Part 3: Challenges
What will prevent you from succeeding?
Are the circumstances right for you to succeed in higher education?
What are three areas you will find yourself most challenged?
What one circumstance affects your dedication to completing your education?

Part 4: Aids to success
In this section, you will consider what will help you succeed.
Identify three resources or people at the school that could help you.
Identify three resources or people outside the school that could help you
What is one option, if necessary, that you can change if things become too difficult?

Part 5: Your plan
For each item below, enter a summary statement of a sentence or so:
From your experience, list three "steps" you think will help you succeed in school.
What is the first or most important?

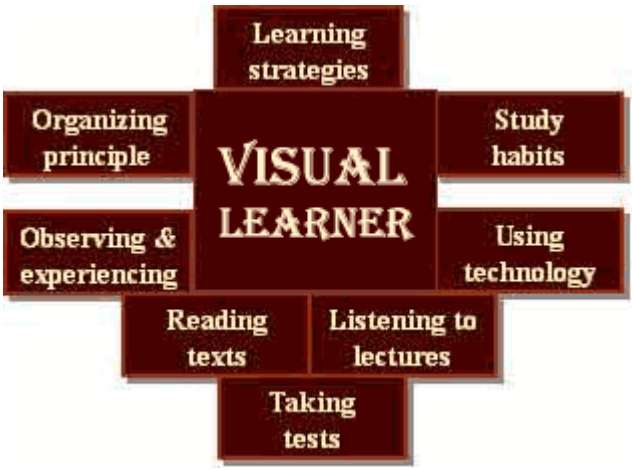
What one strategy can you use to allocate time to your studies?
What is one other control or self-discipline practice you can use to succeed?

Name one strategy you will use to deal with stress?
What is one type of reward you can reserve specifically for success in this process?

After you have listed out answers to this list,
print out a summary of your thoughts, ideas, and plans regarding your own higher education.

MODULE: 2

Visual/spatial learning



Learning,
for visual-spatial learners,
takes place all at once,
with large chunks of information grasped in intuitive leaps,
rather than in the gradual accretion of isolated facts,
small steps or habit patterns gained through practice.
For example, they can learn all of the multiplication facts as a related set in a chart much easier and faster than memorizing each fact independently."

Organizing:

- **The visual/spatial perspective is the organizing principle**
  Perfectionism for visual/spatial learners is a well-ordered and -designed space with each object in its place and appealingly so.
  They are uncomfortable, even restless, encountering incomplete or unsettled situations
- **With an instinctive sense of balance and completeness**
  they can tell when something is out of alignment, or not truly horizontal or vertical.
  They are adept at working with mirror images and rotating images in their minds, and strive to bring order by constructing, arranging, color coding, or fixing things

Observing/experiencing:

- **Visual/spatial learners are good at seeing the "big picture"**
  of both simple and complex systems. Overviews or summaries are their specialty, often at the expense of remembering details or constructing sequences
- **Personal presentation (dress, grooming, even gestures) is important**
  Their own presentation/dress is as important as what they notice about others. They establish eye contact when speaking, though can be distracted by their surroundings. So also background sounds can disrupt their listening skills, and they often doodle during lectures, at meetings, etc.
- **They prefer to read and work under subdued or natural lighting**
  and in comfortable conditions, and are uncomfortable with glare/harsh lighting, rough clothing, drafts, and temperature extremes

Learning strategies:

- **Focus on the learning objectives of the class**
  Meet with the teacher to understand and apply these to your situation
- **Request advanced organizers**
  to help you relate to new material with what you already know
- **Look for opportunities to work with, manipulate and/or engage new material**
  - Hands-on approach manipulating forms or objects
  - Using visual clues or landmarks rather than (verbal) sequential steps
- **Look for visual/spatial dimensions in your study:**
  Example: geometry has more visual components than algebra in mathematics;
  physics rather than chemistry in science;
  graphic applications in computer science and technology fields;
  studio arts in the creative arts, architecture, mechanics, aeronautics, engineering, urban planning
- **Seek out independent and open-ended studies,**
  problem-based learning, case studies, or ways you can be more active with the material to be learned and have alternative strategies of assessment or demonstrating learning

Study habits

- **Always have the "big picture" before you**
  especially when studying its parts or details
- **When trying to remember things,**
  close your eyes to get a picture or image of the information to facilitate recall or use flash cards with limited information so that you can picture details and concepts
- **Once a concept is grasped,**
  Practice applying the information to new situations or progressive stepped learning
  in place of routine drill and practice that will challenge your attention span

- **Use mind or concept maps (rather than outlines)**
  to organize writing assignments to visualize ideas, their connections, sequences, and conclusions
  Brainstorm using illustrations, mind maps and models
- **Look for alternative sources of visual material when you study**
  videos, overheads and PowerPoint demonstrations, graphs, maps, and media programs

Using technology:

- **Take advantage of the visual elements**
  of the computer in studying or locating information
- **Take advantage of stop/start/replay**
  in mediated programs
- **Produce your own mediated programs**
  in place of written reports
- **Develop and apply graphical and/or three dimensional models**
  to understand new material

For lectures

- **Avoid visual distractions**
  in classroom seating (windows, open doorways, etc.)
- **Look for opportunities to break up lectures**
  with reflective though active exercises (question-write-pair-share) and brain-storming sessions
- **Illustrate your notes**
  with images and graphs
- **Review and organize your notes after class**
  with **concept maps**
- **Keep and organize a file of handouts**
  and summary documents after lectures for review
- **Request "guided notes" or blanks in handouts**
  that provide you with cues for completion

Reading text books

- **Look through titles, charts, graphs, and pictures**
  to get an overall idea of the content before reading a chapter
- **Use color highlighters**
  to emphasize important material
- **Write or illustrate in the margins**
  to emphasize important material

Test taking/assessment

- **Write out/illustrate steps in a sequence**
  as a checklist to keep on task
- **Think of visual cues and associations in remembering information**
  (You may also see the location of an answer rather than the answer itself!)
- **If you are challenged by standardized and/or timed tests,**
  meet with your teacher to discuss alternatives for assessment
- **Essay and/or short answer tests, or class presentations/demonstrations**
  may be optional assessment techniques

MODULE: 3

Learning to learn series

Learning as a student-athlete or student-performer

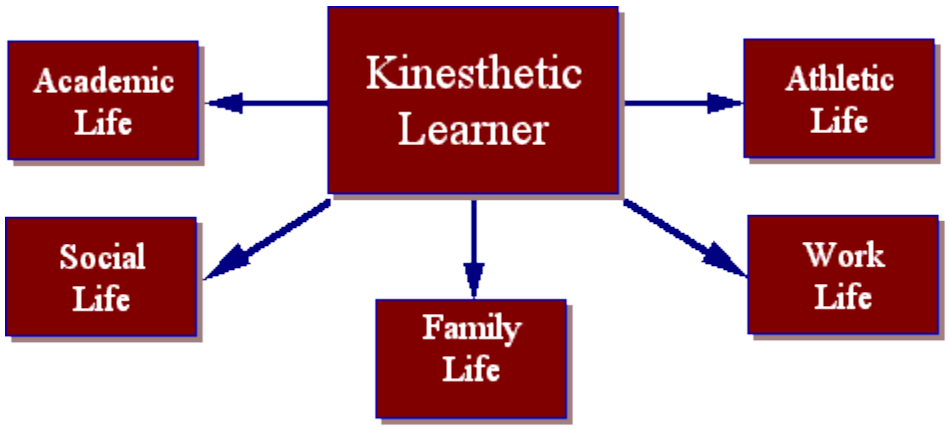
Indicators of a "kinesthetic intelligence" or body smarts:

- Talented or aptitude for moving your body or handling objects
- Well-developed and well-coordinated physical and motor skills
- Can be effectively used for communication and productivity
- Highly developed physical memory
  (Images in your thoughts can involve movement)

Besides in athletes and dancers, kinesthetic intelligence is found in
inventors, lab technicians, and architects;
physical therapists, chiropractors, surgeons, and dentists;
actors, sculptors, jewelers, and gardeners;
those in mechanical, construction and crafts trades;
and of course in do-it-yourselfers.

How can your kinesthetic aptitude, intelligence, and skills,
be applied to a successful academic life?

With time management:



There are strategies you can develop and use
to be a successful (kinesthetic) learner:

- **Develop routines and habits for learning**
  Schedule when you study, what you study (begin with easier subject matter to build confidence)
  Simplify instructions down to basics, and build up from there
  Practice and repeat basic elements to strengthen recall
- **Be directly engaged; move and act things out**
  Jump in and try things; learn by trial and error
  Ask for real-life examples, or for an idea to be demonstrated if you don't understand
  Seek out courses with labs and field trips
  Ask your teacher for printed summaries lectures, or alternative methods to get the same information
- **Involve all of your senses in learning.**
  Use a hands-on approach constructing or modeling things
  Use concrete objects as learning aids
  Use your hands to explain things; your body to act things out
- **Be proactive in writing things down**
  Put examples in note summaries
  Use pictures and photos to illustrate points
  Talk about notes with another Kinesthetic person
  Use community-based assignments in developing writing skills
- **Use concept mapping** to organize information
  in order to more actively engage with what you wish to learn

- **Use technology to take advantage of your hand-eye coordination**
  Multi-media technology can be used to gather and organize information from multiple sources
  Computer simulations and games can help you
  - see the big picture or system
  - work with parts of it and experiment with them
  - simulate, substitute for, and practice responses for situations that may come later in performance or the "real world"
- **Prepare yourself for exams:**
  Write test questions and compare with study mates or tutors
  Write practice answers
  Role-play the exam situation before the test
  Ask if your accomplishment can be assessed through building a model, delivering a presentation, or some optional activity other than a standardized or written test

The role of the coach

An academic counselor, a teacher, even a tutor can act as your coach, director, or trainer. Each can provide guidance, encouragement, and context for your progress:

Academic development

Seek out a single reliable coach or support "center" that

- Provides encouragement/motivation, monitors progress,
  and assesses achievement
  --Provides resources for general wellness
- Assists in developing a personal and individualized set
  of performance- and mastery-oriented academic goals that mesh with your skills and interests
  --Develop selected study skills as fundamentals of learning
- Assists you in developing your academic team
  for mutual support in achieving goals and progress
- Holds you accountable for academic performance
- Provides for positive feedback and celebration

MODULE: 4

LEARNING TO LEARN SERIES

Learning as an adult

Does higher education seem like a foreign culture to you?

You have expectations

as you register for and take classes,
as well as work through your program in higher education.

Higher education also has expectations of you!

It has its own rules, patterns, and culture. There are important differences between private and public schools, community colleges and universities, liberal arts and research institutions, graduate schools, etc.

Key concepts in higher education

include disciplines/departments, scholarship, research, verbal orientation, tenure, collegiality, academic freedom, etc. Take time to understand the culture of higher education.

Significant groups include faculty and students,

administrators and trustees, alumni, and even larger communities and legislators. They all are important resources. Staff also are there to help you, and wait for you to appear so that their services and centers can help you succeed.

Do you wonder about your skills
in finding your way around this strange land of higher education?
As an adult learner, you

- tend to be self-directed
- have a rich reservoir of experience that can serve as a resource for learning
- are frequently affected by your need to know or do something
- tend to have a life-, task-, or problem-centered orientation to learning
  as opposed to a subject-matter orientation
- are generally motivated to learn from within (internally/intrinsically)
  as opposed to being obligated, or subject to, external or extrinsic forces

As such, your learning will be more successful if you

- **Take an active role**
  in planning, monitoring, and evaluating your education
- **Discard preconceived notions**
  about what college is and isn't; open your mind to the experience
- **Choose subjects and courses that**
  are most relevant to your job/profession or personal life
  that fit into your academic program

Course descriptions important to adult learners

Outcomes	Process	Content
Shared responsibility for learning objectives; Continuous negotiation or openness to renegotiation; Non-prescriptive; Open to change; Value process; Intrinsically motivated	Integrates thinking and learning; Problem-centered rather than content oriented; Demand mutual respect & equality for learners; Incorporate, promote dialogue & openness; Recognizes the value of experience in contributing to learning; Includes projects and/or active learning (as opposed to lectures and/or passive learning); Built in monitor for feedback and evaluation	Applies learning to practical applications; Issue-centered curricula Multiple/diverse sources of information Variety of format

Your learning style defines how you acquire and process information (learn!)
and has nothing to do with being "smart." You could refer to it as to how your brain works, or the parts of your brain work. Each person has a very particular way of learning. Research has identified many "learner characteristics" and ways of typing them.
Your academic counseling center or study skills center
is a good place to begin. They not only have testing instruments to help you, but also the professionals who are able to interpret and apply the results.
Self-assessment web sites on learning styles:

- **Index of Learning Styles Questionnaire** (Felder/Silverman)
  introduction, learning preferences on four dimensions (active/reflective, sensing/intuitive, visual/verbal, and sequential/global); and a self-assessment instrumentself-scored. Results/scores are based upon 44 questions.
- **The SuccessTypes Learning Style Type Indicator** (Pelley)
  based on the Myers Briggs Type Indicators (Extraversion, Introversion, Sensing, Intuition, Thinking, Feeling,

Judging, Perceiving) Introduction and links to related Myers Briggs type indicators. Results/scores are based upon 28 questions.

- **Learning Disabilities Resource Community**'s self-assessment instrument is based upon Howard Gardner's work on multiple intelligences (linguistic, mathematic, visual/spatial, body/kinesthetic, naturalistic, music, interpersonal, intra-personal). Results/scores are based upon 80 questions.

Resources for learners in higher education:
Academic counseling centers
Learning Centers
Writing centers
Reading and/or study skills centers
Multicultural/cultural centers
Women's study centers
Academic dean's offices and services
Dean of students offices and services
Department chairs
Instructor/professor of a course you are taking!

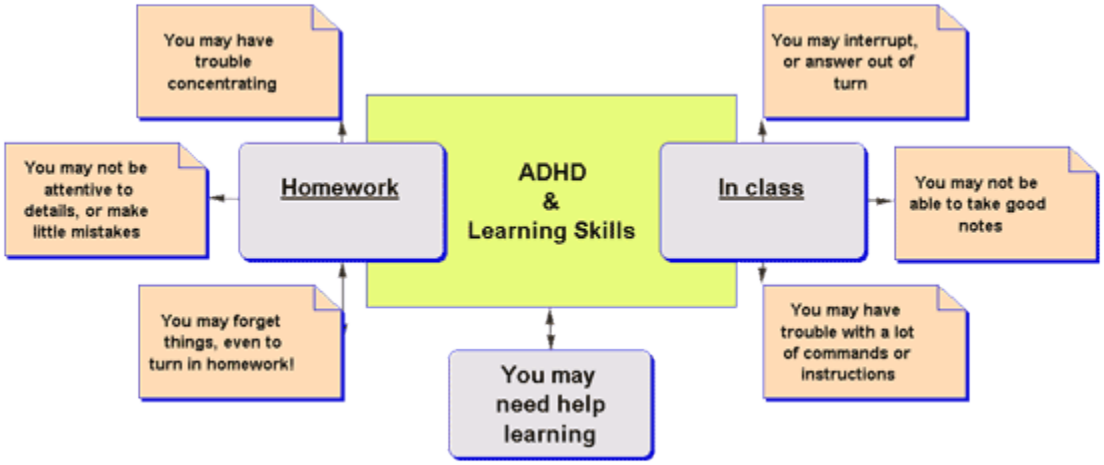
MODULE: 5

Learning to learn series

Studying with ADHD

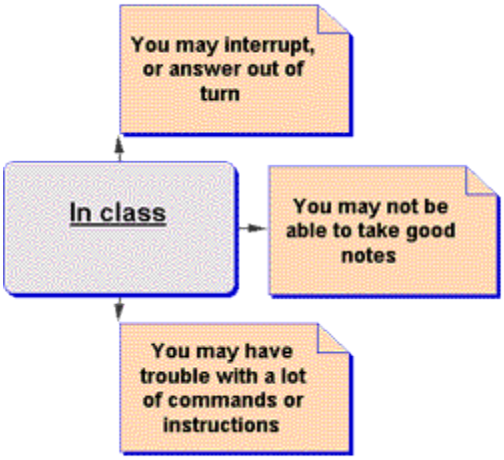
Hyperactivity and attention deficit disorder

You are not alone if you have attention-deficit hyperactivity disorder.
About 4% of school age children are also affected.
In addition, other students have one or a few of the characteristics of ADHD.



These strategies are suggested as part of a professionally organized program of assistance. They are derived from the American description of ADHD[1]. However, as a student, you also have your own personal learning style, including "intelligences" (c.f. Kolb), personality types (c.f. Myers-Briggs), etc. These will be helpful to know and develop in overcoming ADHD

In class:



To help you follow instructions:

- Simplify instructions down to a basic one or two, and build from there. Verify these with your teacher, or
- Ask your teacher to break down assignments into steps for you to follow

Answering out of turn, or interrupting the class or teachers is normal for ADHD, but it is best to remember that you are trying to learn

- Write your question or comment down on paper before speaking
- Practice raising your hand before volunteering
- Refer to our Guide on *Classroom Learning*

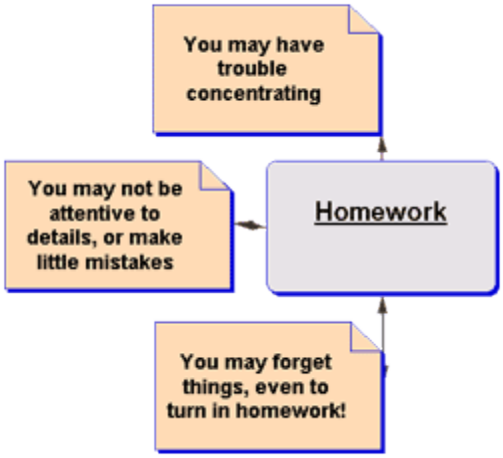
To take good notes is task for all students. These techniques may give you an advantage:

- Bring a tape recorder to class
- Study with a classmate taking the same class
- Refer to our Guide on *Taking Notes in Lectures*
- With ADHD, lecture is not the best form of learning. Ask your teacher for a printed summary of the lecture, or alternative methods to get the same information

Homework:

To help you concentrate:

- Find a quiet place in your home, to avoid distraction such as movement and noise of your family, pets, TV, telephones, music, etc.
- If space in your home is limited, your parents or tutor may find space in a library, religious center, neighbor's house, or other sympathetic place
- Special "headsets" can block out noise and help you focus
- get into a routine, a consistent time you study
- Refer to our Guide on *Concentration*



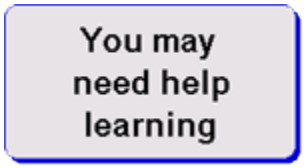
To help you remember:

- Develop routines/habits!
  For example, before going to school, organize your schoolwork in the same way each day. Have some one help you begin to establish this pattern
- Keep your assignments in the same pocket of your backpack. Tell your teacher about it
- Keep a list of things to remember in a pocket of your backpack.

To help with details

- Review your homework
  with your parents, a classmate, a tutor
- use grammar and spell checkers regularly for computer work

Remember that making mistakes, or overlooking details, is not for lack of intelligence, but rather a characteristic of this condition.



Help with learning
Take care of yourself; get the help you need:

Patience is a challenge for those with ADHD.
If you are feeling angry, discouraged, or frustrated over your progress, find some support. Our learning involves family, teachers, professionals, as well as ourselves. We all need patience. Their messages should be steady and consistent, but try to understand if they aren't always so.

According to the American Surgeon General "Inattention or attention deficit may not become apparent until the child enters the challenging environment of elementary school. Such children then have difficulty paying attention to details and are easily distracted by other events that are occurring at the same time; they find it difficult and unpleasant to finish their schoolwork; they put off anything that requires a sustained mental effort; they are prone to make careless mistakes, and are disorganized, losing their school books and assignments; they appear not to listen when spoken to and often fail to follow through on tasks.

MODULE: 6

LEARNING TO LEARN SERIES

Active Learning

What is active learning?
Active learning is experiential, mindful, and engaging.
Through it you can explore a set of learning experiences that can be more effective and interesting, and you can take more responsibility for your education. This is especially critical in an online environment where you may not even meet your teacher or fellow students.
Begin by defining content (what to study) and establishing your objectives (what to learn). Next read! Do your research. Then build a foundation of activities that can help you learn, and communicate what you have learned. Some may not be interesting to you; some a nice fit with your preferred learning style(s).

You can engage in these first activities as an individual:

Active listening:

Active listening intentionally focuses on who you are listening to, whether in a lecture, in a conversation, or a group, in order to understand what is said. As the listener, you should then be able to "replay" or repeat back in your own words what they have said to their satisfaction. This does not mean you agree with, but rather understand, what they are saying. See our guide on active listening.

Looking/seeing

Look at images, such as pictures and graphs and maps (for example, the *Cone of Learning*below). Try to understand the use and importance of each image: enter key words that come to mind. Verbal cues, such as titles and authors, and visual cues such as line, color, visual organization, etc. will help you interpret information and understand its story without the words. Often the context of the image is vital to understanding it, as illustrations in a text book, examples in a catalogue, graphs in a financial statement. So also a painting can be better understood by its time, art movement, etc.

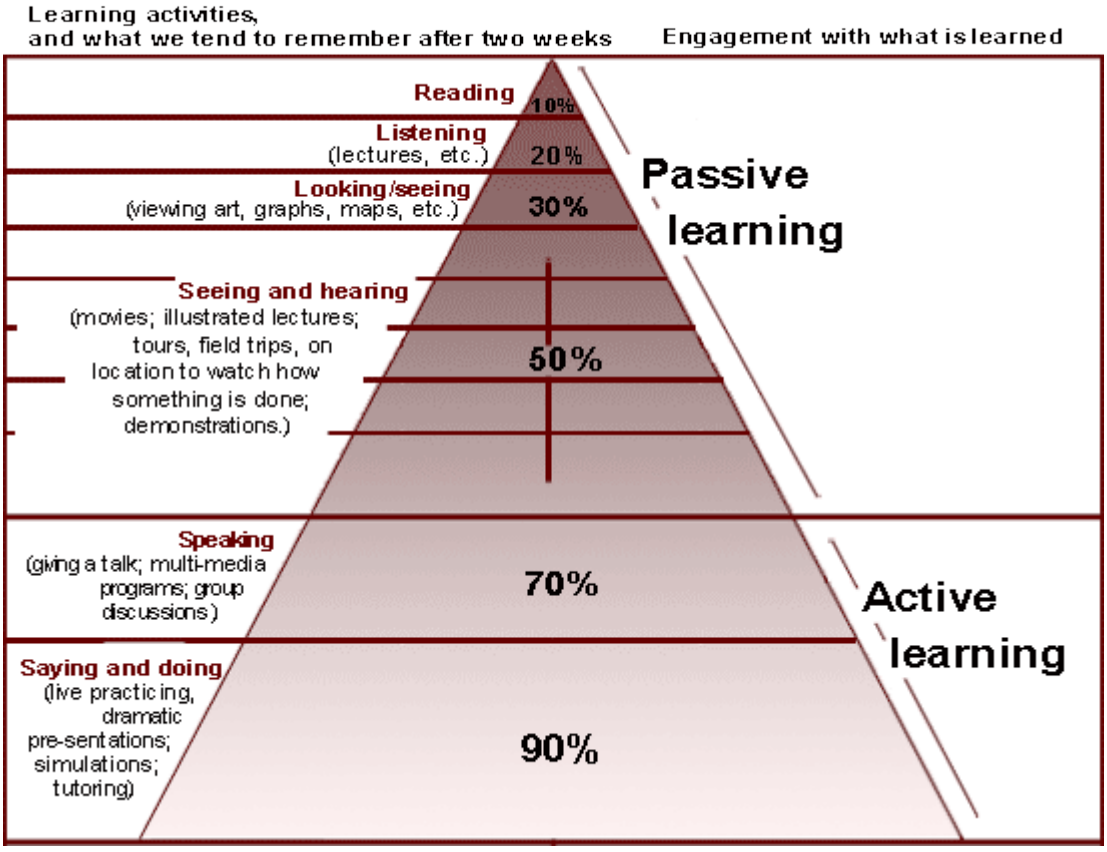
Seeing and hearing:

In addition to PowerPoint lectures, multimedia and movies have the advantage of illustrating reading and lecture content in new (engaging) formats.

Demonstrations and field trips build on classroom experiences and can provide you as an individual with a shared learning experience on a topic

They also enable you as learner to witness how concepts are practiced or exemplified in real life processes or situations

Remember: you don't need a classroom trip to visit locations that will help you understand your studies! Brainstorm organizations, factories, etc. and send an email or phone to set up a visit. Don't just go and expect professionals to stop their work.



Cone of Learning adapted from Edgar Dale (1946)

As we progress into "active" learning , a group can make the task more effective.

Within the group, you share responsibility to participate and collaborate, take advantage of each participant's strengths, and rely on each other for good project management and effective learning.

Classroom, online and public presentations:

Develop, produce, practice and deliver speeches and presentations;
multi-media and interactive programs; newsletters, Websites and blogs, etc.

Stages to develop these include:

- Defining objectives
- Developing your "voice" and point of view
- Identifying and writing for an audience
- Mapping out program content
- Identifying presentation tools/resources and communication technologies
- Scripting/developing the piece; practicing and presenting it
- Documenting your message
- Evaluating how you could have done better.

As an exercise, this is not static but rather a dynamic learning process.
Build on, apply and reinforce what you have learned, not only what its content it, but also the process in developing it.
In the process of translating content into message, you refine what you think you know, and uncover more that you will need to understand since communicating relies on developing your message for a specific audience.
If in a collaborative project, you have the advantage of sharing perspectives as well as skills;
each should be open to personalized feedback that includes questioning, listening and evaluating answers.

Saying and doing:

The more you work with the content of what is learned,
the more confidently you will recall it.

Examples include interviewing and developing oral histories;
role playing, performing, debating through opposing points of view;
case studies and problem-based learning, gaming and simulations;
research projects and symposiums; developing models;
student teaching including developing evaluation instruments (test questions);
leading discussions and review sessions. There is no better way to learn a language than to live in its environment.

Where's writing?

Writing is communicating/expressing what you learned, a method of evaluating what you know, as well as an active learning exercise

In pairs or a group, online or in person, you can read and react to what other learners post/write, and respond to and provide feedback in a collaborative environment, even collaborate on the development of an exercise.

Understand writing as a process
rather than a simple exercise of drafting and editing.
The goal is to refine its *message* value for an audience, and for that you need an audience!

- Learn how to exchange feedback on an assignment.
  Learn to listen to comments about content as if peers
  are the audience of the piece:
  How they understand it, or expect to understand it:
  What are the strengths and weaknesses, point of view, etc.
  What is the role of grammar and vocabulary you are using?
- Collaborating on the writing of an assignment, either in groups or online,
  can be practice for employment situations!

MODULE: 7

Learning to learn series

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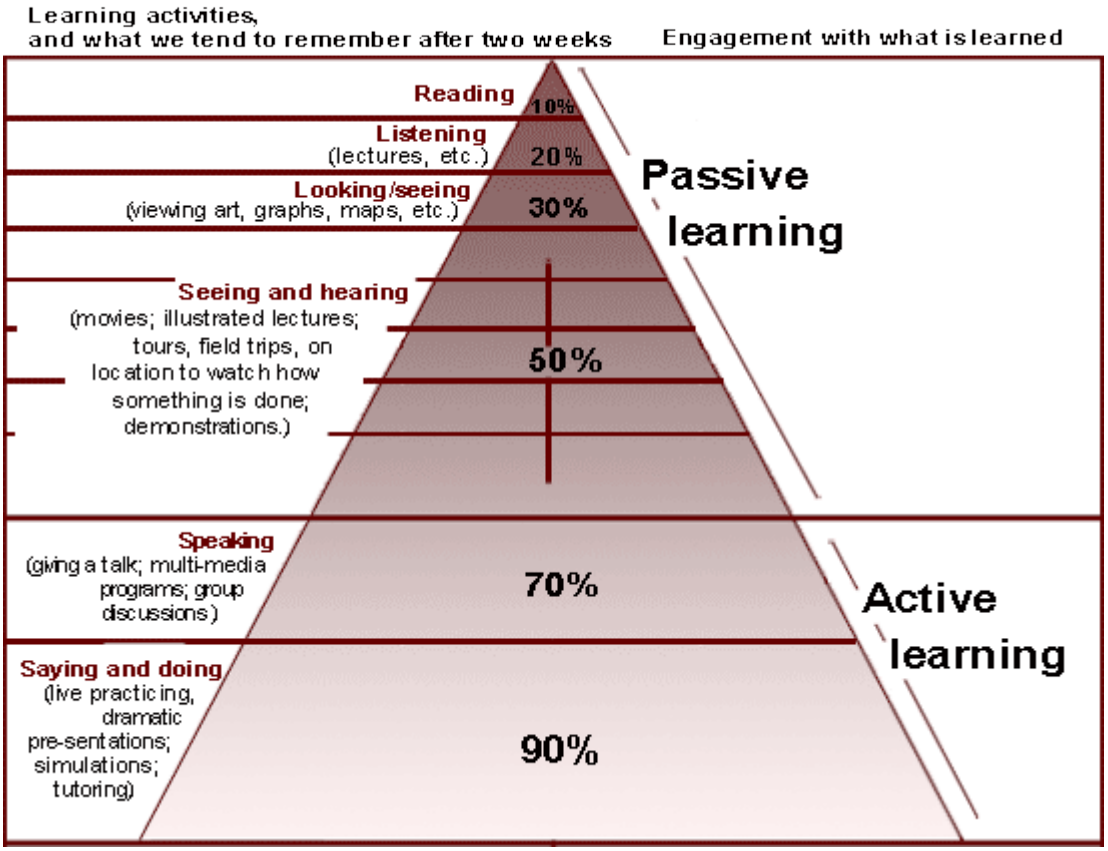

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  What are the strengths and weaknesses, point of view, etc.
  What is the role of grammar and vocabulary you are using?
- Collaborating on the writing of an assignment, either in groups or online,
  can be practice for employment situations!

MODULE : 8

LEARNING TO LEARN SERIES

Action Learning

Action learning is a learning and problem-solving strategy for organizations, whether commercial, government or non-profit.

The focus is to increase employees learning capacity within an organization
while responding to a real world challenge in a cross-departmental team.
Reflection is an important part of the experience. Your small, mutually supportive group

- Takes advantage of its members' own actions and experience
  The experience of "exchange" can generate fresh approaches across departmental lines (networking), and help build systemic innovation and learning capacity within the organization.
- Begins with a period of strategic questioning of the problem
- Sets action items and goals
- Regroups to analyze progress
  Reflects upon, and documents, the process

Groups are formed to solve real problems, not to make recommendations.
They are empowered and trusted with the necessary resources to take on the issue,
and as a derivative can present the organization with new procedures
that build the productive power of the organization

- **The context:**
  Organizations, whether commercial, government, or non-profit.
  Since action learning is intended first to increase the learning capacity of employees,
  then to resolve a real problem in an organizational context,
  it is not intended as classroom learning experience, or academic exercise.

- **The situation:**
  Action learning begins with a clearly defined organizational opportunity or problem.
  Its objective, set by the administration, should be clear and significant.
  The team is fully empowered to bring the challenge to a successful conclusion.
- **The team:**
  An ad hoc action team of four to eight people, voluntary or appointed,
  with diverse backgrounds, skills and experience. Team members
  - Are expected to first understand the objective,
    then commit their energy and expertise to the team process
  - Participate as equals, empowered and encouraged to contribute,
    no matter what their rank or role within the organization.
  - Share with, and learn about, fellow team members early in the experience.
    What are our backgrounds, range of expertise and skills?
    How can these contribute to resolving the situation?
    (Diversity ensures that team members will discuss and contribute out of their strengths, and in so doing teach each other on various points)
  - Establish procedures common to group learning and process, i.e.
    Active listening; accessible communication and meeting times; assigned administrative tasks, recognize emerging leadership
- **Insightful questioning and reflective listening.**
  The key is to start with fresh questions, not with constructs from the past.[1]
  Focus first on the right questions rather than the "right answers";
  clarify the exact nature of the problem, explore what is known and unknown.
  The more challenging the questions, the better the learning experiences and strategies.
  The more potential resources are identified, either relevant/irrelevant, available or needed,
  the more comprehensive the strategy set.
  The questioning phase also builds dialogue within the team, and generates an innovative and cross-disciplinary approach to strategic resolution.
  After this phase of questioning and reflection, action items are identified.
- **Journaling**
  Keeping journals and logs facilitates later documentation for the organization,
  as well as personal progress.
  Lessons are recorded throughout the process of active learning, and at its conclusion, to benefit
  - team members in documenting responsibilities and timelines, as well as reviewing actions. for what is going right and what not-so-right, self-awareness
    learning both situational and holistic
  - individuals in reviewing their own experience and growth in the problem-solving process
  - organizations in documenting the processes for future reference, as well as building a program of implementation throughout the organization, whether for organizational review, entrepreneurial activities, …
- **Action items**
  Strategies of resolution frame action items; action items promote learning.
  Group members divide tasks, set timelines,
  and individuals or sub-groups return to their respective work environments to implement them.
  Individuals are challenged both to use their range of expertise
  as well as stretch their approaches to implementation.
- **Team mid-course reviews**
  At scheduled points in time, the team reconvenes to process individuals' feedback,
  discuss progress, encounter problems, set next steps.
  If assumptions are proven wrong, a period of re-questioning is implemented, taking care to view the situation fresh; objectives and timelines are re-set if necessary.
  Progress and lessons are journaled for future analysis.
  There is no penalty for reconsidering the process and action items until the problem is resolved, or team refers the issue back to administration for further analysis.

- **Team concluding reviews; institutional review**
  With reflection on the concluding process, individuals should gain from self-awareness within the process of experiential learning
  Organizations should realize an immediate benefit in resolving the issue, as well as multiplier effects in enhancing employees' learning/problem solving skills, cross-departmental communications, and alternative processes of engaging with problems.
- **Coaching**
  Reg Revan, founder of action learning, believed that team members are their best coaches, facilitators or leaders.
  If the team does not have either the experience with reflective or group processes, experiences problematic participants, or needs outside direction, an outside facilitator can be sought to assist the team, much as any resource can be accessed.
  A coach again uses a "questioning" approach to facilitate reflection and focus on the issues. Coaching can also be a task assigned within the group.

Language learning strategies

In learning a language, we follow the advice that practice makes perfect, and patience is a helpful virtue.

The world can be your classroom—through home or school.
Explore these options to find strategies of learning and using a language that match your interests, strengths and challenges. Use the Internet and technology as an environment to make your tasks fun and interesting.

Skills include listening, speaking, memorization, reading, writing, and test taking. At the beginning memorization and repetition are important, but do not be discouraged if you seem to go too slowly.

Listening and understanding

- **Practice listening!**
  Infants "listen" for more than a year before they can say anything close to "mom" or "dad".
  Watch videos and listen to music in your language, download Internet files with "speech" in the language. Try to recognize words, even sounds. Don't bother trying to understand, just get used to the sound of the language.
- **Use the language lab.**
  Prepare yourself by reading exercises, then put them aside and listen.
  Only speak or write when asked to.
- **When others in class speak,**
  listen for what they say and mentally build images of their answers—in the language itself.
- **Listen while a tutor or friend reads to you**—
  maybe even something as simple as a children's book.
- **Make friend with a native speaker and practice!**

Practicing listening when learning a language
an essential component to both understanding and reproducing sounds,
as well as the rhythm, accent and inflections of speech.
Not everyone has access to a native speaker, class or lab--
but your desktop, laptop and handheld technologies can help.

Listening practice

Download a media program that has the text of what is said.

- Review the text one sentence at a time and familiarize yourself with the vocabulary.
  (Study the grammar as a separate exercise and focus now on the listening/speech)
- Follow a sentence several times while listening until you are comfortable with its pronunciation in the context of the sentences.
- Without looking into the transcript,
  repeat the sentence (say it aloud) exactly as you heard it.
  Record your best effort and compare.

- Listen to the text in short paragraphs or chunks.
  Look away and try to summarize in your words the content.
  Record and listen to your summary for review.
- Listen to the whole conversation or story without interruption.
  Summarize this "whole" and record, listen and compare.

Speaking

- **Reading silently is not productive:**
  use your voice! Read aloud: think of it as training your mouth to make the new sounds!
- **Drills:**
  Learn a short standard sentence, then substitute vocabulary, even words you look up for fun.
  Subject and verbs can change (I am going; you are going; etc.)
  Objects can change (I buy a car; I buy a CD; etc.)
- **In class, if your "answer" does not come to mind**
  repeat the question in the language, or use your new language to say that you don't know, or need help! For this last, prepare a standard response that you can fall back on, but be prepared to respond to a question that follows your response! Stay in the mind set of the language, giving your brain time to work in the new language.

Vocabulary

- **Be inventive in acquiring new words**
  Post note cards around your room to learn and identify what is in the room, refrigerator, computer, car, etc.
  Speak the list, and if the word has gender, or is singular/plural, make sure you use the article!
- **Create a visual thesaurus.**
  Draw an image of a new vocabulary word
  Create a concept map of a word with synonyms, opposites, images, scenes, etc.
- **Look up new words**
  and their definitions in the new language's dictionary or online, not in language pairs (for example, French-English). Write out the definition.
  Add one synonym or antonym.
- **Memorizing:**
  acronym, acrostic, rhymes, loci, keywords, image-naming, chaining

Reading

- **Do not read word-by-word, or translate word-by-word.**
  Prepare yourself for a reading:
  study its vocabulary first; review the advance questions.
  Then put aside everything and just read, even twice.
  Do not look up vocabulary while reading.
  Read a phrase or sentence as a thought to get its sense or meaning.
- **Do not write in your text book or reading.**
  Separately develop a vocabulary list as above.
- **Go beyond your textbook!**
  Children's books are illustrated and easy to read!
  Websites are rich opportunities to explore your hobbies in other languages,
  and have common vocabulary that gives you a sense of what is written.
  (Google advance search will let you enter key words and choose a language for results!)
- **Read/sing song lyrics of the language!**
- **As your skills advance, read novels,**
  but read for the story, not vocabulary.
  Read a chapter, then if you see repetitive vocabulary, look it up and then read again.
  As you advance through the novel, you will forget about vocabulary for the most part.

Writing

- **Some languages have unfamiliar alphabets and ways of writing.**
  Practice writing these alphabets to both learn correct orthography (correct writing), and vocabulary!
- **Develop writing assignments** with the seven stages in your language
- **Write out sentences you have practiced orally.**
  Carefully construct patterns and then write out the sentences with substitute words--multiple times. If you have spell check and the "autocorrect" grammar feature in your word processing, use it!
- **When you get corrections, re-write them.**
  Correct what you got wrong, even repeating in order to embed it in your mind.

Grammar

- Read a short clear easily understandable explanation of a grammar rule.
- Find several examples of the rule
  Check whether you have mastered the examples
- Create your own examples drawn from your daily life,
  or in conversations you could have with a friend, classmate, or even a family member.
  If you know how to categorize the grammar rule, search the Web for more examples in dialogues, essays, stories. Create variations or your own examples.

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- **Create flash cards**
  whether digital or on paper
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  in your car, and at moments when you are waiting or walking or biking, etc.
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- **Learn the words to popular songs and sing along!**

Environment

- **Immersion!**
  Think of creating an environment in your room where you can be in contact with your language.
- **Visit centers and organizations that cater to foreign nationals and immigrants**
  International student centers, neighborhood and education centers, language and bi-lingual associations, national halls, consular offices, library, etc.
- **Study daily—develop a foreign language habit**
  Think of studying as you would for a sport or music: a series of skills that need practice!
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  And get to know at least one other student to study with.
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  Basics lead to more complicated variations:
  for example, use "old" vocabulary to practice new grammar
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Tests

- **Testing in language learning often expects you to write, speak, etc.**
  Ask the teacher which skill (listening, speaking, writing, grammar, vocabulary, etc.) is tested! Prepare specifically for that skill.

Study abroad

- **One of the biggest mistakes students make in study abroad programs**
  is to hang out with those from their school in the new country. Don't.
  Get the most out of your trip by living with a family (home stay), asking for a dorm with local students, meeting students in the country, exploring (shopping!) by yourself or a companion who does not speak your language.
  But be safe: ask advice about where to go and what to do.

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  Get the most out of your trip by living with a family (home stay), asking for a dorm with local students, meeting students in the country, exploring (shopping!) by yourself or a companion who does not speak your language.
  But be safe: ask advice about where to go and what to do.

MODULE : 9

STUDYING

Exploring your personallearning style

Research has shown that the more we become aware of our own learning styles, the better we learn.

These web sites are offered in that spirit, but we cannot account for their validity. We recommend that any "profiles" offered should be taken to a professional academic counselor for validation.

Index of Learning Styles Questionnaire: (Felder/Silverman) introduction, learning preferences on four dimensions (active/reflective, sensing/intuitive, visual/verbal, and sequential/global); and a self-assessment instrument self-scored. Results/scores are based upon 44 questions.

The Success Types Learning Style Type Indicator (Pelley) based on the Myers Briggs Type Indicators (Extraversion, Introversion, Sensing, Intuition, Thinking, Feeling, Judging, Perceiving) Introduction and links to related Myers Briggs type indicators. Results/scores are based upon 28 questions.
Learning Disabilities Resource Community's self-assessment instrument is based upon Howard Gardner's work on multiple intelligences (linguistic, mathematic, visual/spatial, body/kinesthetic, naturalistic, music, interpersonal, intrapersonal). Results/scores are based upon 80 questions.
Edutopia's Learning Style Survey
24 questions scored on intelligences of Howard GardnerLearning Style Questionnaire: ten questions that rate you on "thinking, doing, feeling, innovating" in response to your answers on the questionnaire. Produced by "Cengage Learning...a leading provider of innovative teaching, learning and research solutions for the academic, professional and library markets worldwide." This is an exercise in Flash that will not work on Apple computers/devises.

Effective Habits for Effective Study

You can prepare yourself to succeed in your studies.
Try to develop and appreciate the following habits:

- **Take responsibility for yourself**
  Recognize that in order to succeed you need to make decisions about your priorities, your time, and your resources
- **Center yourself around your values and principles**
  Don't let friends and acquaintances dictate what you consider important
- **Put first things first**
  Follow up on the priorities you have set for yourself, and don't let others, or other interests, distract you from your goals
- **Discover your key productivity periods and places**
  Morning, afternoon, or evening?
  Find spaces where you can be the most focused and productive.
  Prioritize these for your most difficult study challenges
- **Consider yourself in a win-win situation**
  When you contribute your best to a class, you, your fellow students, and even your teacher will benefit.
  Your MODULE can then be one additional check on your performance
- **First understand others, then attempt to be understood**
  When you have an issue with an instructor (a questionable MODULE, an assignment deadline, etc.) put yourself in the instructor's place.
  Now ask yourself how you can best make your argument given his/her situation
- **Look for better solutions to problems**
  For example, if you don't understand the course material, don't just re-read it.
  Try something else! Consult with the professor, a tutor, an academic advisor, a classmate, a study group, or your school's study skills center
- **Look to continually challenge yourself**

Partially adapted from the audio cassette by Steven Covey, ***Seven Habits of Highly Effective People***

MODULE : 10

"A.S.P.I.R.E." A Study System

Text of the *A.S.P.I.R.E.* exercise:

A: Approach/attitude/arrange

- Approach your studies with a positive attitude
- Arrange your schedule to eliminate distractions

S: Select/survey/scan

- Select a reasonable chunk of material to study
- Survey the headings, graphics, pre- and post questions to get an overview
- Scan the text for keywords and vocabulary: mark what you don't understand

P: Piece together the parts:

- Put aside your books and notes
- Piece together what you've studied, either alone, with a study pal or group: summarize what you understand.

I: Investigate/inquire/inspect:

- Investigate alternative sources of information you can refer to: other text books, websites, experts, tutors, etc.
- Inquire from support professionals (academic support, librarians, tutors, teachers, experts,) and other resources for assistance
- Inspect what you did not understand.

R: Reexamine/reflect/relay

Reexamine the content | Reflect on the material | Relay understanding

- Reexamine:
  What questions are there yet to ask? Is there something I am missing?
- Reflect:
  How can I apply this to my project? Is there a new application for it?
- Relay:
  Can I explain this to my fellow students? Will they understand it better if I do?

E: Evaluate/examine/explore:

- Evaluate your MODULEs on tests and tasks: look for a pattern
- Examine your progress: toward achieving your goals
- Explore options: with a teacher, support professional, tutor, parent if you are not satisfied.

Index study system

Here is a method of studying that gives you
an accurate perception of how well you know the material,
and forces you to think about it, rather than just look over it.

Review your notes and readings frequently, so the material is "fresh"

As you're reading your text or reviewing your notes,
write down questions about the material.
Imagine you're teaching the course. What questions would you ask on the exam?

Keep track of any terms you need to know

Try the index card system:

1. **Write each question or term on the back of an index card**
2. On the front of each index card, **write an answer**
   or an explanation for the question or term on the back.
   Use your notes and text for a reference, but put the answer or explanation in your own words whenever possible

3. **Shuffle the index cards**
   so you can't figure out any answers based on their location in the deck

4. **Look at the card on the top of the deck:**
   Try to answer the question or explain the term.
   If you know it, great! Put it on the bottom of the deck.
   If you don't know it, look at the answer, and put it a few cards down in the deck (so you'll come back to it soon)

5. **Proceed through the deck of cards until you know all of the information*Some Tips:***

- **Carry your cards with you everywhere.**
  Take advantage of little pockets of time.
  Test yourself while you're waiting on line, riding the bus, etc.
- **If you think you know an answer**,
  but can't put it into words, you probably don't know it well enough.
  Explaining the information is a good way to be sure that you know it.
  It's also a good way to prevent test anxiety
- **Test yourself someplace where nobody can see you**
  and recite the answers out loud.
  That's the best way to be sure that you can explain them
- **Study with a friend from your class.**
  You can share ideas and help each other out with concepts.
  You can use each other to make sure that you're explaining your answers adequately

Create, and study with, flashcards

This simple study technique has proved to be one of the most effective study strategies for memorizing
Using flash cards is a very effective strategy for studying.
Flash cards are two-sided study aids that have
a cue, a question, a concept on one side, and
the "answer" on the other or opposite side:

- Effective in quick or brief periods of time and cost-effective in terms of time and money
- "Chunked" in small packs (Rule of 7-9 items) and convenient study tool at bus stops, on walks, in a line, etc.
- Use individually, paired, or in a group
- Alternatively as a simple 3 x 5 card or a computerized program
- ...as a handy note-taking strategy
- ...as a matching game
- Increase the difficultyby putting easy ones aside and focusing on the more difficult
- Useful for a quick review
- Instead of words, use pictures, illustrations, etc.
- Take advantage of alternate learning styles and use whenwalking or pacing, talking out loud, etc.
- Scatter about a room for visualized identityor the "Method of places"

MODULE : 11

Studying with multiple sources

Course information can be deliveredthrough a variety of formats:

Lectures by teacher or guests	**Textbooks**	**Fictional story/novels**
Interviews and biographies eyewitness accounts or commentaries	**Duplicates/hand-outs** of (text) chapters, magazine articles	
Electronic media such as videos, radio programs	**Internet** web site pages, discussion groups	**Original source material** as diaries, government documents, proceedings, minutes

Stahl, et al (1998) found that using multiple-text sources can only be effective if we are taught to use them properly. As beginners, we tend to be more consistent in what information we select from short, well-constructed texts. Longer, less structured documents tend to be more confusing.

Text books

- provide a foundation of facts and viewpoints to provide an overview
- sequence information and facts to understand issues
- create a context for comparing and understanding other sources
- are written in a neutral, objective tone

Problems with a single text
for a subject or course include:

- information is often "academic"
  lacking the drama of real life experience, adventure, and experimentation
- bias is hidden or concealed
  ignoring competing facts, priorities, minority viewpoints
- a single interpretation limits how reported facts are prioritized/sequenced
  restricting viewpoint (Euro/Caucasian) or subject testing (white male)
- original/eyewitness sources of information are secondary to interpretative accounts

Additional readings and alternative sources
of information can assist you to

- **create a richer understanding**
  with additional information and perspective
- **interact or engage with facts, actors, circumstances**
  of the material
- **practice and familiarize**
  yourself with new subject vocabulary and concepts
- **process opposing, even conflicting**,
  points of view in order to assess, evaluate, defend

Conflicting information however can impede your learning,
unless you can

- **analyze it** for commonalties
- **reorganize or synthesize**
  your model for understanding it
- **consider the impact of, and evaluate, conflicts**
- **filter it with a context presented in the basic text**

Some Recommendations:

- **Read your text**
  to provide the factual framework from which to begin
  (see also Taking notes from a text book)
- **Proceed to shorter, more focused sources**
  of information especially if you are inexperienced in the subject
- **Practice with multiple texts** to improve your evaluative skills:
  - compare and contrast your sources
  - analyze them for bias or viewpoint
  - note when and where they were written, and how that affects the viewpoint
- **Understand the connections**
  between events, actors, and circumstances rather than learn a series of "facts" which can be easily be forgotten
- **Use in-class or on-line discussion time**
  to test your understanding and ask questions!

MODULE : 12

LEARNING TO LEARNING SERIES

Finding the right study space

As you click through the exercise,
mouse-over the shaded area for a suggestion.

It may be that changing where you study will bring better results.
What area works best for you for effective studying?

- A coffee shop can provide a stimulating community,
  background noise, relaxed atmosphere, wifi, and coffee! It can be convenient for small groups, studying with a partner or alone. You can also be unknown and unbothered, and easily turn off your cell phone to avoid that distraction!
- Your school's study lounge can also be convenient
  for studying alone or in small groups. However, if the noise, movement or distractions of friends or students are too distracting, then relocate to where your studying will become more effective.
- Your bedroom/personal space can be convenient
  to fit your schedule, as well as have all your study materials at hand. Its comfort can be a mixed blessing if you take too many naps!
- Kitchens are conducive to studying,
  with good lighting and open space for all your materials. You also have nourishment at hand, but snack with fruit and vegetables to avoid heavy foods.
- If you focus better in your basement, great!
  Music can make for good background noise, but make sure it stays in the background: don't lose track of what you are studying.
- Your living room is a great place to study
  with comfortable seating and enough space, but avoid the distractions or projects around the house. If you love watching the television, it may not be the best option for a study space.
- The library offers professional services,
  a quiet environment, Wi-Fi, and even windows with a view! An empty classroom provides an even quieter, even secluded space.

Reading assignments in science

First, get a perspective

- **Review the assignment in the syllabus and any handouts (1-2 minutes)**
  Maybe you are not required to read some sections
- **Survey the chapter (5-10 minutes)**
  for how the content is organized; get the "big picture"
  This is not to fully understand, rather develop preliminary associations of bits of information that later will help you understand
  Quickly page through the introduction, the summary, vocabulary list, self-test questions, headings, boldfaced material, major graphics, etc.
  Notice the major concepts, definitions, descriptions, causes, effects and arguments.
- **Check out the media, the CD and website (if available)**
  to see what they contain
- **Take no notes, and mark no text in this phase**

First reading

Make the main purpose of your first reading simply to read and get a good idea of the material: what you understand, and what you do not

A science text presents new and complex material which may be difficult to understand. One piece builds on another to help you build your understanding.

The text can provide the foundation for understanding, and bring together information in lectures, labs and hands-on experiments, field trips, and media.

- **Read sentences, paragraphs and short passages with 1-second pauses**.
  Read and pause, read and pause. Let your mind assemble the parts you just read to give you the meaning of the whole unit. This assembly of meaning happens fairly automatically as long as you are intentionally looking for meaning and paying attention to the meanings
- **Look back and forth between words and related graphics**
  until you can see/tell yourself how they are showing/saying similar things.
  A set of text passages that is related to graphics is very useful to understanding. There are many kinds of graphics: pictures, diagrams, maps, charts, tables, graphs
- **From time to time, ask yourself if you are "on track" to understanding**
  If you find yourself reading without understanding, stop and ask why.
  Is it a question of complexity or distraction? of preparation or terminology?
  If you think it is serious, ask your tutor, teacher or academic advisor for help
- **When you notice that the author is using comparisons and examples,**
  link them to their descriptions and explanations
- **If you are tired and meanings come very slowly into your mind, take a beak**
  If a break is not possible, vary your study activity. For example, draw a picture rather than write, walk instead of sit, read aloud rather than silently
- **If you return to reading after an absence,**
  scan the text and your notes again before reading to cue associations

Review of first reading

Return to what you do not understand, or want to reinforce

This is not the stage for memorization, but understanding

- **Mark or highlight what you think is important**
  In the margin, use or develop a system; use letters as
  "D" for a definition, "F" for a descriptive fact,
  "C" for a cause-and-effect statement, "A" for a scientific argument
  "?" for what you do not understand
  Other codes you invent for yourself.

- **New vocabulary**
  Write new vocabulary and concepts down
  along with a short meanings and/or cues
  Keep a list close by or in your notebook
- **Create your own visual pictures or images, or concept maps**
- **Create sensory cues**
  as heat, brightness, movements
- **Read a passage aloud** to yourself with normal conversational intonation. Your translation of printed text into spoken words may activate meanings.
  If you can't read aloud, imagine reading aloud and hearing your own voice
- **Work out your own explanations of hard-to-understand passages**
  Go in short units (a few words at a time), translate their meaning, think of associations, relate them to other parts of the passage, make inferences and try to make your mental model of the meaning match the writer's mental model.
- **Mark passages** with a question mark that you still do not understand

A second reading

- **Only read the material again to understand it.**
  If you are comfortable with what you understand, proceed to other tasks, like solving problems, exercises, material on the CD or website, and so on
- **In this second reading, if you find you are still having difficulty try**
  The CD, video, or website
  The library and find other texts that may explain it better
  Ask the tutoring service or teacher for help
  Ask a study group about the material and their experience with it

Review your notes for what you:

- Need to review before any test
- Must memorize
- Need to complete exercises or solve problems
- Need for labs, experiments, future lectures, etc

Cooperative learning series

MODULE : 13

Learning with others:

Cooperative and Collaborative Learning

Cooperative or collaborative learning is a team process
where members support and rely on each other to achieve an agreed-upon goal. The classroom is an excellent place to develop team-building skills you will need later in life.
Cooperative/collaborative learning is interactive;
as a team member, you:

- develop and share a common goal
- contribute your understanding of the problem:
  questions, insights and solutions
- respond to, and work to understand, others' questions, insights and solutions.
  Each member empowers the other to speak and contribute,
  and to consider their contributions
- are accountable to others, and they are accountable to you
- are dependent on others, and they depend on you

What makes for a good learning team?

- Team activities begin with training in, and understanding group processes.
  An instructor begins by facilitating discussion and suggesting alternatives
  but does not impose solutions on the team, especially those having difficulty working together
- Three to five people
  Larger teams have difficulty in keeping everyone involved
- Teacher-assigned groups
  They function better than self-assigned groups
- Diverse skill levels, backgrounds, experience

    1. Each individual brings strengths to a group
    2. Each member of the group is responsible to not only contribute his/her strengths, but also to help others understand the source of their strengths
    3. Any member who is at a disadvantage or not comfortable with the majority should be encouraged and proactively empowered to contribute
    4. Learning is positively influenced with a diversity of perspective and experience increasing options for problem solving, and expanding the range of details to consider
- Commitment of each member to a goal
  that is defined and understood by the group
    1. Confidential peer ratings are a good way to assess who is and who is not contributing
    2. Groups have the right to fire a non-cooperative or non-participating member if all remedies have failed. (The person fired then has to find another group to accept him/her)
    3. Individuals can quit if they believe they are doing most of the work with little assistance from the others. (This person can often easily find another group to welcome his/her contributions)
- Shared operating principles and responsibilities,
  defined and agreed to by each member. These include:

    1. Commitment to attend, prepare and be on time for meetings
    2. Have discussions and disagreements focus on issues, avoiding personal criticism
    3. Take responsibility for a share of the tasks and carry them out on time
       You may need to perform tasks that you have little experience, feel ill-prepared for, or even think others would do better. Accept the challenge, but be comfortable in stating that you may need help, training, a mentor, or have to resign and take on different task.

Process:

Refer to the **Group Project Guide**

- Set up goals, define how often and with what means you will communicate, evaluate progress, make decisions, and resolve conflict
- Define resources, especially someone who can provide direction, supervision, counsel, and even arbitrate
- Schedule review of your progress and communication
  to discuss what is working and what is not working

Teams with problems should be invited or required to meet with the instructor to discuss possible solutions.

MODULE : 14

COOPERATIVE LEARNING SERIES

Group projects

Learning and working in groups involves shared and/or learned values, resources, and ways of doing things. Effective groups learn to succeed by combining these factors. Your group, and each individual within it, will only be as effective as they are willing to respect differences within the group.

Summary of the entire process:

At the first meeting, all participants

1. introduce themselves with what they bring to the project, their interests, qualifications, and even preferences in projects.
2. determine a convener and/or clerk who will keep participants on task
   This is determined by your first group process, and should consider who would like to volunteer, experience and expertise with the task, and even a desire to learn about group tasks
3. Determine the strategy of how often to meet in person or through technology,
   where the group will meet, communicating including email and (cell) phone information, and how to distribute minutes and updates
4. Summarize objectives:
   Strategy: each member independently writes down one or two main objectives of the project, then the group compares these, extracts key words and phrases, then prioritizes results. If agreement cannot be reached, refer the matter to the teacher.
   Group members should realize that this a procedural situation, and not a matter for controversy or heated argument.
5. Determine process to achieve the objectives
   What is the timeline? What are the deliverables and when are they needed?
   Do you need sub-groups? project planning tools (Gantt, Critical Path, PERT)?
   What applications do you need (word processing, spread sheets, cameras, imaging software (Photoshop), presentation software (PowerPoint), Website, etc.

Process stages:

1. Research discovery: library, Internet, professional associations, experts, etc.
2. Research analysis: often in the process, difficulties appear:
   consolidation and identifying key concepts and issues
   mid-stream check-in, planning for gaps, requests for assistance, etc.
3. Product development:
   Development of a thesis statement, individual sections
4. Write/compile document or presentation
   Opening | body | closing statement/argument
5. Bibliography
6. Review and evaluation
   Product | process | participation
7. Project summary
8. Rehearsal for presentation
9. Presentation
10. Celebration

More(!) on group projects

- **Interaction within the group**
  is based upon mutual respect and encouragement.
- **Often creativity is vague**.
  Ideas are important to the success of the project, not personalities.
  A group's strength lies in its ability to develop ideas individuals bring.
- **Conflict can be an extension of creativity.**
  The group should be aware of this eventuality. Resolution of conflict balances the end goals with mutual respect. In other words, a group project is a cooperative, rather than a competitive, learning experience.

The two major objectives of a group project are:

- What is learned: factual material as well as the process
- What is produced: written paper, presentation, and/or media project

Role of instructors/teachers/professors:

- Outcomes depend on the clarity of the objective(s) given by teachers.
  The group's challenge is to interpret these objectives,
  and then determine how to meet them.
- Group work is only as effective as teachers or instructors
  manage and guide the process.
  Group projects are not informal collaborative groups.
  Students must be aware of, and should be prepared for, this group process.
  Cooperative group projects should be structured so that no individual can coast on the efforts of his/her teammates

Scoring:

- Rewards ideally should be intrinsic to the process,
  with group members deriving their reward from their contributions
  to the group and project
- External reinforcement (MODULEs, etc) for individuals can be based upon improvement, as opposed to comparative, scoring. Traditional, comparative scoring works to the detriment of teams with low-achieving members. Evaluation based upon improvement rewards the group for an individual's progress. Peer, comparative evaluations can have a negative effect on teams: low scoring members are considered "undesirable" and drags upon performance

High achievers versus low achievers?

- We assume high achievers mentor or teach low achievers.
  In the process of teaching others, we can learn more about the topic.
  As we tutor, even simple questions from the tutee make us look at our subject matter freshly. As we explain, we gain a deeper understanding of the topic. Low achievers then tutor or teach high achievers!
- High achievers profit in cooperative learning in other ways:
  leadership skills, self-esteem gains, conflict resolution skills, and role-taking abilities which become part of the leaning process, and betterment of the student.

MODULE : 15

Cooperative learning series

Group projects

Learning and working in groups involves shared and/or learned values, resources, and ways of doing things. Effective groups learn to succeed by combining these factors. Your group, and each individual within it, will only be as effective as they are willing to respect differences within the group.

Summary of the entire process:

At the first meeting, all participants

1. introduce themselves with what they bring to the project, their interests, qualifications, and even preferences in projects.
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- High achievers profit in cooperative learning in other ways:
  leadership skills, self-esteem gains, conflict resolution skills, and role-taking abilities which become part of the leaning process, and betterment of the student.

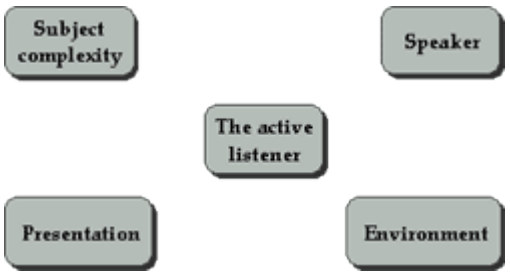
MODULE : 16

Cooperative learning series

Active listening

What affects listening?

Active listening intentionally focuses on who you are listening to,
whether in a group or one-on-one, in order to understand what he or she is saying.
As the listener, you should then be able to repeat back in your own words what they have said to their satisfaction. This does not mean you agree with the person,
but rather understand what they are saying.

What do you think of the subject matter? Have you a lot of experience with it? Will it be hard to understand, or simple? Is it important to you, or just fun?	Is the speaker experienced or nervous? What are his/her non-verbal cues? What frame of mind is he or she? How personable, threatening, intelligent, etc.?
	
Is the message illustrated with with visuals or examples? Is technology used effectively? Are concepts introduced incrementally, or with examples?	Is the space conducive to listening? or to interaction or exchange with the speaker? Are there avoidable distractions?

Described above are the external factors.
Now: what about you, the center, the listener?

Prepare with a positive, engaged attitude

- Focus your attention on the subject
  Stop all non-relevant activities beforehand to orient yourself to the speaker or the topic
- Review mentally what you already know about the subject
  Organize in advance relevant material in order to develop it further
  (previous lectures, TV programs, newspaper articles, web sites, prior real life experience, etc.)
- Avoid distractions
  Seat yourself appropriately close to the speaker
  Avoid distractions (a window, a talkative neighbor, noise, etc.)
- Acknowledge any emotional state
  Suspend emotions until later, or
  Passively participate unless you can control your emotions
- Set aside your prejudices, your opinions
  You are present to learn what the speaker has to say,
  not the other way around

Actively listen

- Be other-directed; focus on the person communicating
  Follow and understand the speaker as if you were walking in their shoes
  Listen with your ears but also with your eyes and other senses
- Be aware: non-verbally acknowledge points in the speech
  Let the argument or presentation run its course
  Don't agree or disagree, but encourage the train of thought
- Be involved:
  Actively respond to questions and directions
  Use your body position (e.g. lean forward) and attention to encourage the speaker and signal your interest

Follow up activities

One-to-one

Give the speaker time and space for rest after talking

Express appreciation for the sharing to build trust and encourage dialogue

Check if you have understood

- Restate key points to affirm your understanding & build dialogue
- Summarize key points to affirm your understanding & build dialogue
- Ask (non-threatening) questions to build understanding

Continue dialogue:

- Reflect on your experience to demonstrate your interest (feedback)
- Interpret after you feel you have grasped content
- Apply what you have learned to a new situation

In a group or audience

give the speaker space to regroup, to debrief after talking

During Q & A

If posing a question

- Quickly express appreciation
- Briefly summarize a preliminary point
- Ask the relevant question

If making a point

- Quickly express appreciation
- Briefly restate the relevant idea as presented
- State your idea, interpretation, reflection
- Invite a response

Continued development

- Get contact information for later reference
- Invite friends/colleagues/etc. for discussion afterward
- Write out a summary with questions for further review

MODULE : 17

Cooperative learning series

Conflict resolution, a case study

Exercise text:

Johnny and Ken share an apartment.
For the past week Ken's friend has stayed over every night.
This affects Ken's sleeping, and he didn't do well on a test one morning.

Using good conflict resolution skills, work though Johnny and Ken's issue and resolution to the problem.

Select what you think is the best italic option and read the answer:

Hey Ken, can we talk about your friend spending nights here and how it's affecting me?
Hey Ken, why does your friend have to stay here all the time?
Johnny grabs Ken by the shoulder and tells him he's tired of this.

Johnny first asks Ken if they can talk about the issue without challenging him on it.
Johnny summarized it clearly, without being offensive or attacking.

The second question is more attacking and catches Ken off guard and he is likely to respond in a negative, defensive manner.

The third option is totally inappropriate since it is more like a physical attack, and doesn't even refer to the issue!

"Sure, what's up Johnny? You said you were chill with it before..."

I know we agreed it was ok. But last Thursday I wasn't able to sleep and so didn't do well on my test Friday morning. I'd really appreciate it if we could work something out.
Yeah I changed my mind, he stays too often and I don't like it!
Johnny should push Ken for reminding Johnny he was OK with it.

The first answer is best: Johnny first acknowledges that he has changed his view, and has then given a specific example as to how this is affecting him. He is trying to help Ken understand his point of view. Keeping a calm tone encourages cooperation.

It is also important to have the goal of a compromise in mind. If Johnny is vague, or doesn't provide good examples or reasons, it is harder for Ken to understand him.

Both may then become defensive, and stop listening to each other. Johnny should instead remain calm and provide specific examples as to how it is affecting him.
He is applying <u>good feedback</u>
Remember: the one who initiates the conversation, has responsibility to guide the situation to a good solution.

The third response is totally in appropriate since it is a physical attack.

"Hey Johnny, your test scores are bad because you play video games all day!"

Please don't change the subject, Ken. I don't mind that you friend visits but I would really appreciate some kind of compromise.
What?! Who says I am getting bad test scores! I just need a good night's sleep!
Johnny punches Ken for insulting him.

The first answer is the best: It is hard to stay calm when the other person begins to bring up or attacks you with other issues.
However, staying on subject and remaining calm helps a lot when dealing with conflict resolution.
The burden of controlling the conversation should stay with Johnny who initiates it since Ken is not prepared, and may not know how to react or bring up topics that he thinks relate…

So Ken was wrong in changing the subject out of his frustration since Johnny may have caught him off his guard. Johnny however should stay on subject and stay calm. And violence is never an option and a good way to ruin a friendship.

"OK, I'm sorry, Johnny. If his visits are really bothering you, I can try to be flexible."

Thanks for understanding. I feel like it has been especially hard for my 8:00 class on Mondays, Wednesdays, and Fridays.

Ken, you should pick five nights next month that your friend can stay over!

Johnny shrugs and does not listen or accept that Ken is trying.

The first is best. First of all, it is good to recognize that Ken has done two things:
He has acknowledged that he changed the subject. Secondly he elaborates on what is bothering him (lack of sleep and poor performance on studies).

Johnny, though his body language, voice, and eye contact should pay attention to what Ken is saying, and give positive reinforcement to any helpful gesture he makes.

The second option is not bad even though we could interpret it as offering an alternative. Johnny should not tell Ken what to do when trying to resolve a conflict without out offering a compromise. This causes resistance and hard feelings. Instead he should try to be considerate of the Ken's feelings and viewpoint, and work into a solution with him.

Last option? Practice active listening.

"Well Johnny, maybe I can ask my friend to not come over before your classes on Sundays, Tuesdays, and Thursdays."

"That's great Ken, and I can end video games by midnight on Wednesdays and play somewhere else on Friday nights."

Here they have both built in a compromise. Johnny has offered something even though it was not the issue, but rather a gesture. Notice that Ken has taken the lead and made the first step, and Johnny is quick to acknowledge the gesture and offered something even if he did not consider it part of the issue.

Johnny could have just refused Ken, or told him that it was his problem. But by working together they both benefit.

A collaborative conflict resolution process will not eliminate tension in a relationship immediately, but over time, eliminating the source of tension, and overcoming difficulties can result in growth for all of us.

MODULE : 18

Conflict resolution, a case study

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MODULE : 18

Cooperative learning series

Peer mediation

Peer mediation is both a program and a process
where students of the same age-group facilitate resolving disputes between two people or small groups. This process has proven effective in schools around the United States, changing the way students understand and resolve conflict in their lives. Changes include improved self-esteem, listening and critical thinking skills, and school climate for learning, as well as reduced disciplinary actions and less fights. These skills are transferable outside of the classroom.

The process is voluntary for both sides.
Peer mediators do not "make decisions" but rather work towards a win-win resolution for both sides in order to avoid further trouble. Administrators in charge of discipline incorporate this conflict resolution process into their strategies as well.

Types of problems include

- Social media improprieties
- Relationship difficulties/harassment
- Rumor and gossip
- Cheating and stealing
- Racial and cultural confrontations
- Vandalism
- Classroom or extracurricular disputes
- Bullying, minor assaults and fighting

More serious problems require professional referral
and are not appropriate for peer mediation. These include: sexual abuse, assault, suicide, drug use, weapon possession, and those that involve legal problems.

Costs include materials, a dedicated location/facility for mediation
and training, staff support and office space, rewards

The following summarizes

- the process for beginning a school program
- steps of a peer-mediated session

Beginning a school program

A period of planning is critical:
Peer mediation has as its foundation student empowerment, and students are critical to all stages of development and implementation.

Students form a leadership team,
facilitated by an experienced, respected coordinator, and a few trusted teachers and /or professionals. The team can be appointed or self-developed. The team:

- **Researches the basics of peer mediation**,
  the system of conflict resolution and discipline in the school,
  administrative and peer support
- **Develops and publishes a clear vision**
  of its conflict resolution program.
  This vision includes an overview of publicity, training, practice, modeling, and evaluation.

  The goal is to educate various communities of the school on peer mediation, its expectations and limits toward building a commitment toward its implementation into a more comprehensive peace-based curriculum

- **The team secures commitment and support**
  from the school's administration, including agreements from all major school groups to follow this practice (including teachers and administrators)
- **The team commits to long term buy-in:**
  preparation meetings, practice mediation skills,
  and continued research about violence, its causes and prevention

The coordinator acts as liaison between major groups, including:
the leadership team, student body, administrators, parent groups, and outside trainers/professionals.

Main duties include:

- Develop a core group of adults within school community to carry out and model the mediation program
- Oversee the selection, training, motivation, debriefing of mediators
- Serve as a trained mediator for co-facilitation and program start-up
- Establish protocol for intake and referrals
- Select and schedule mediators with case load
- Keep records and report regularly to all communities/stakeholders
  whether via newsletters, web sites, ..
- Keep current with literature and research
- work aggressively to overcome attitudinal and structural resistance with their schools, developing and maintaining support from strategic groups, including parents

Peer Mediator selection:

- Mediators should reflect school's diversity including cultures, gender, behavior, academic social, race
- Selection procedure and process should be publicized and include recommendations and self-referral
- Commitments include continued skills development, willingness to co-facilitate sessions and mentor new trainers
- Rejection or deferral should be sensitively explained so as not to alienate the student

Initially a system of "experience" must be developed.
Peer mediators must be trained and monitored since they often lack maturity and experience, both in conflict management and negotiation skills. Strategies include role-playing, problem-based learning and active- learning. If possible, workshops should be conducted away from school to minimize distraction.

Peer mediations sessions, core elements

The goal is to move from mutual blame toward a solution acceptable to all parties

Disputants fill out a pre-session questionnaire
establishing ground rules, committing to solve the problem, tell the truth, and listen respectfully and without interrupting

Disputants meet with mediators
to see if chemistry is right and ensure there are no conflicts of interest

Mediators

- **Meet with disputants and explain exceptions**
  to confidentiality at the beginning of the mediation and ask if they wish to continue
- **Explain steps the mediators role:**
  using listening and communication skills to help fellow students resolve conflict and disagreements before they escalate and lose power over the situation
- **Solicit questions and clarifications**
  on the process before beginning

The session, disputants:

- **Introduce themselves**
- **Each in turn tells their story to the mediator**
  focusing on issues, not on who did what, while the other concentrates on listening without interrupting
- **Parties change roles:**
  each repeats the other's story to their satisfaction to demonstrate they understand the other's position (not that they necessarily agree with it)

The session, co-mediators:

- **Summarize the facts and feelings of both sides**
  for verification and agreement on the issues;
  leads a discussion of the issues and acknowledges the difficulty in dealing with its emotional baggage
- **Ask both parties if any solutions have come to mind,**
  or begins a brain-storming session without judgment.
  All suggestions noted and acknowledged.
- **Lead a discussion of the solutions**
  checking off only the solution(s) that both parties can agree to

Disputants

- **determine implications of solutions**
  in selecting the best possible outcome
- **Select the best alternative**

Co-mediators:

- **Verify the verbal agreement with all parties,**
  ensuring that no one is reluctant or afraid to speak out or dissent
- **Write a memo of understanding/contract**
  in parties' own words

Co-mediators and disputants:

- **Sign contract**
- **Develop a process for follow up**
  Verify that all will be committed and monitor this process

Co-mediators thank each person for their contribution to the process,
and for letting the mediation service help them

MODULE : 19

Cooperative learning series

Tutoring

A tutor provides expertise, experience, and encouragement.
They do not provide "answers," but rather assist in problem solving, in getting answers.
The challenge is to focus on assignments within the context they are assigned.
Tutors should not be expected to diagnose learning disabilities.
Diagnosis should take place outside of the tutoring process by a professional academic counselor. If a larger problem becomes apparent, referral is the best strategy.

Tutoring strategies:

Seek out training to be a more effective tutor:
This includes subject matter as well as the tutoring procedures
Clearly establish expectations for your learner
What are the expectations of the learner?
of the teacher? and of those close to the learner
(classmates, department, school, family, etc.)
Keep and follow a consistent set of rules
Write them down; post them; refer to them!
Rules are necessary, but must be mutually agreed upon with the learner.
They must be fair and enforced consistently.
Rules cut down on unnecessary struggles.
Have a clear idea of your own strengths and limitations,
and what skills or knowledge you can offer as a tutor.
One reward of tutoring is the opportunity to use and apply what you have learned

Know the learner
Discover his or her strengths and challenges in learning.
Under what circumstances does he or she learn best? poorly?
(Do not assume that everyone's learning styles or conditions are the same,
or similar to yours)

Build a relationship and trust.

- **Be aware of the differences** between you and the learner.
  You are not trying to change the learner, but to accommodate and use their learning style(s) in order to complete the tasks.
  Since you are more experienced,
  it is your challenge to adjust, adapt, or find a way
- **Be open and honest**
  Sarcasm and condescension are not productive.
  We do not tutor to impress, but rather to help.
- **Do not be afraid to acknowledge**
  that the chemistry between you and the learner isn't right,
  and that another tutor might be more effective.
  The goal is to help, not endure

Make sure the learner knows it is safe to not succeed at first
Learning is a process that often involves unsuccessful attempts.
This is not failure since options are eliminated toward the correct solution.
Learning and problem solving require passing through a period of sorting through facts and options toward success.

The tutoring session:

Listen closely to work out the real problem
Check to see if the learner has prepared with some time and effort
and attempted the assignments
Assess the situation
Think in terms of realistic objectives; develop a "contract" of

- agreed upon learning outcomes
- expectations of communication
  (availability, one/several sessions;
  means of communication (face-to-face, e-mail, telephone, etc.)

Use questions to enhance problem solving
Demonstrate or model similar processes
Don't be afraid to reveal that you don't know something
You can refer the learner to more sources, including the teacher
You can take the opportunity to learn/problem-solve, and bring back answers,
and demonstrate that you are in a learning process as well
Give positive feedback, use encouraging vocabulary
Find success, and reinforce effort, in even minor accomplishment
Summarize and review: Enable follow up
Celebrate accomplishment!
Keep records for future reference

MODULE : 20

Cooperative learning series

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Summarize and review: Enable follow up
Celebrate accomplishment!
Keep records for future reference
Cooperative learning series

MODULE : 21

Using feedback/working with tutors

Feedback, whether written or spoken, is a good guide on how your work is progressing. It should let you know

- What you have done well
- How you can improve or develop the specific assignment
- How you can achieve successful outcomes over a number of assignments

Responding to feedback needs to be timely, but not immediate. Try not to "defend" your work when the feedback is given. Instead, listen to it, and try to build constructively on your assignment, and your skills. The goal is to improve, not debate.

When your presentation receives spoken feedback at the time of presentation:

- Take notes on both positive and critical items
- Thank the person whether fellow student, teacher, or guest commentator
- Use active listening skills
- Respond to direct questions regarding process
  or how you developed such-and-such, or arrived at a certain viewpoint
- Do not react immediately to criticism, but say you will reflect upon what is said
- After you have reflected upon the feedback, create a "cover note summary" to refer to for the next presentation.

When your assignment is returned to you with written feedback
either on your assignment, or online:

- Read the feedback carefully
  try to understand not only the points made, but also the point of view
- Re-read your assignment to analyze
  the areas that the feedback covers
- Highlight and/or cross-reference the feedback to your work,
  or draw attention in the text to corrections and suggestions
- Pay attention to *positive* and negative comments
  Think of feedback as you would compliments and suggestions for improvement
  Feedback is also an opportunity for idea exchange
- Correct your assignment

- Add a cover note that summarizes your revision of the assignment
- File the original, the corrected version, and cover note for reference for the next assignment
- If requested, turn in the corrected version with its cover note

If the feedback seems too negative

- Wait a period of time to make sure you don't respond "angry"
- Make an "in person" appointment with the tutor, your teacher, or a support professional, (or arrive during scheduled "help" times/office hours)
- Approach the feedback as an opportunity to improve and develop, prioritizing areas to focus on

Working with a tutor

- Make an appointment with your tutor or arrive during their scheduled times/office hours
- Review your completed assignment just before arriving Separately mark areas you may be unsure of, or note questions you might have
- Bring your assignment, your questions/concerns, and this form and complete it with the tutor

Issues you understand	Issue: major or minor	**Actions for follow up**
1.		
2.		
3.		
Issues you don't understand	Issue: major or minor	**Actions for follow up**
1.		
2.		
3.		

MODULE : 22

Classroom learning

American classroom learning

Compared to classrooms in some countries, United States' classrooms tend to be informal.
There are, however, some very important basic rules:

Before class:

- **Do your homework!**
  Read critically; form your own opinions
- **Review your notes**
  from the previous lecture and reading for the day
- **Communicate immediately with professors**
  about any study problems
- **Focus on the task at hand before class:**
  take a moment of silence to gather your thoughts and mentally prepare yourself to the topic
- **Write any objectives**
  that come to mind at the head of your notepaper:
  - preparing for an up-coming test,
  - understanding a particular concept,
  - gaining a good foundation on a topic
  - understanding or reviewing the readings

In Class:

- **Arrive on time for class.**
  Professors do not take lateness lightly
- **Position yourself in the classroom**
  to focus on the subject matter; consider the best location for:
  - listening
  - asking questions
  - seeing visual materials
  - discussing--not only with the teacher but also your classmates
- **Avoid distractions**
  that may interfere with your concentration
  (daydreaming, looking around the room, talking to a friend, passing notes, dozing)
- **Evaluate as you listen:**
  - Decide what is important and should be placed in your notes and what can be left out;
  - Listen long enough to be sure you understand what was said before writing.
  - *Ask clarifying questions* (but wait for "breaks" in the instructor's stream).
- **Review your class objective(s)** throughout the class period
  - Did your objective(s) mesh with the instructor's introductory remarks?
  - Has the class digressed from stated objectives, yours or the instructor's?

- **Make a *to do list* including**

  - assignments;
  - reviewing difficult concepts;
  - joining study groups;
  - making appointments with a study pal, tutor, or the instructor.
    One resource often overlooked is a classmate who seems to have a good grasp of the material. If it seem appropriate, seek the individual out for help.

Periodically ask yourself if the course is meeting your objectives. If you find yourself dissatisfied with a particular class or the course in general, make an appointment with the instructor to discuss your expectations. The earlier the better.

MODULE : 23

CLASSROOM LEARNING SERIES

Paying attention in the classroom

If you have difficulty paying attention to what is happening in your classrooms,
Click on the text to begin to avoid the scene!

- **Try to anticipate the main ideas of the coming lecture:**
  Look over your notes of the previous lecture and read the course material.
  If you have questions about material from the previous class or text, ask the instructor before class about them
  Prepare a few questions
  you expect to be answered on new material if possible
- **Resist distractions**
  by sitting in front of the room away from disruptive classmates and by focusing on the instructor through active listening and note taking
- **Put yourself in the "mood" with**
  attentive expression and posture; do not sprawl
- **Shift position in your seat every so often**
  Don't sit frozen in one position
  Shifting on occasion will help keep the blood circulating,
  send more oxygen to your brain, and help you remain alert
- **When appropriate: ask a question, ask for more clarity,**
  or engage an instructor and the class in dialogue
- **Train yourself not to give in to distractions**

The Spider Technique

Hold a vibrating tuning fork next to a spider web. The spider will react and come looking for what is vibrating the web. Do it several times and the spider "wises up" and knows there's no bug and doesn't come looking.

You can learn that. When someone enters the room, or when a door slams, do not allow yourself to participate. Rather, keep your concentration on what's in front of you.

Form a tunnel between you and the lecturer

- Practice letting people move or cough without having to look at them - just let them "be out there" as you focus on what is being taught
- When talking with someone, keep your attention on that person, look at his face, and note what is being said. Let the rest of the world just be "out there."
- Use the *Be here now* technique to help you regain concentration when you do become distracted momentarily.

MODULE : 24

Classroom learning series

Classroom discussions

Making your voice heard

How to participate and contribute to the discussion of ideas
(in the American Classroom)

At the appropriate time in classroom discussions, don't be afraid to voice your opinion, even if you differ from your professor or classmates. Your opinion can and should be based on the text, other readings, class discussions, library sources, experts in the topic, as well as your own experience.

- In class, listen carefully to what a professor or other students are saying
- Mark or make notes of the points you wish to **answer** or **discuss** or **question**
  Remember: a question is as valuable as an opinion in the course of discussion. It shows that you are trying to understand others, as well as be understood!
- Introduce your contribution with a quick summary of the discussion or point... "As I understand it...."
  Restating the discussion/author's main idea also shows that you are trying to understand, and shows where you are in understanding
  It is very likely that if you have questions or information, others will share them
- Be certain it is clear to the class and professor when you are summarizing and when you are giving your opinion
- Try to keep your comments to the point and don't hesitate to refer to your notes: logic is not a speed test...
- In making an argument, begin with examples from the author or teacher (imitation can be a form of flattery), but generally use your own examples to show your agreement with their point of view. This demonstrates independent thinking which should be valued in an academic setting
- After you have spoken, it is appropriate to ask for feedback
  if others understand what you have said if others agree/disagree with you.
  Demonstrate openness and dialogue: you should score points with your professor!

Assumptions:

- A sense of competition underlies the informality of American classrooms
- First listen and try to understand others' opinions
  Respect theirs, and insist on being respected for yours
- Focus your contribution on your analysis of the topic, your reaction, your opinion, and finally your openness to understand others.
- Voicing a well-informed opinion is important to your overall academic evaluation
- Evaluations are made by professors throughout the semester;
  Final MODULEs are not simply determined by your score on the final exam.

If discussion is based upon readings:

- Study course lectures, articles, texts
- Find the author's thesis and restate it in your own words
- Decide what your opinion or reaction is to the author's thesis

Classroom learning series

Taking notes in classroom lectures

You can develop your own note taking system and study strategy
with the five "R's" of note-taking:
Record * Reduce * Recite * Reflect * Review
Get a good loose-leaf notebook:
This will enable you to add, delete, and re-sequence pages and materials.
Begin each session's notes with a cover page for later summaries and test preparation.

A typical notes page:

Heading Date Class/subject or title or number (e.g. 3/34)	***Heading, continued*** Guest speakers' names, including your fellow students' contributions
2. Reduce: ***After the class*** ***Summarize:*** **key/cue words** **phrases** **questions** Link to information from your textbook, Websites or other sources that helps you understand or study the material	***1. Record/take notes in class here:*** **identify** the main points **capture** the main ideas Use outlines or concept maps Use words and pictures and graphs or whatever it takes to get the information down quickly. Avoid quoting unless it is very necessary.
3. Place notes in this section when reviewing/studying (see 5 below)	

3. Recite: Talk aloud!

- Review from memory what you have learned
- Using the left hand margin's key words and questions, talk through, or illustrate definitions, concepts, etc.
- Create your own examples

4. Reflect: Think over!

- How does this relate to what you knew before?
- Note the *essay terms* and find the best ones that refer to your studies: Apply, Compare, Diagram, Evaluate, etc...

5. Review the notes you took

- At your next study session
- Before reading new material
- When studying for tests

Make notes on your "notes page"

Multiple pages of notes for one lecture:

- summarize each page at its bottom,
- summarize the lecture on a cover or end page

MODULE : 25

Classroom learning series

Influencing teachers

Improving your classroom communication skills

Good communication skills affect how well you do in the classroom, with your teacher, and in your studies! Teachers will evaluate you on your participation and demonstrated interest in, and accomplishment with, the coursework.

Impressing teachers is simply a matter of asking good questions,
and responding with good answers.
Being an "interested" student will determine how you influence your teacher.

The following are some strategies to demonstrate your interest and curiosity:

1. Don't criticize, condemn, or complain to the teacher about his or her performance rather: focus on, and discuss, the material and your understanding of it.
2. Let the teacher know what you appreciate about the course
3. Be pleasant. A smile goes a long way.
4. Know and use the teacher's name
5. Listen to what the teacher has to say about himself or herself
6. Talk in terms of what the teacher is interested in
7. Let the teacher know that you think he or she is important
8. Avoid arguing
9. If you are wrong, admit it quickly and emphatically
10. Ask questions rather than give orders
11. Try honestly to see the teacher's point of view
12. Let the teacher know that you sincerely want to do well in the course
13. Always have the course textbook in your hand whenever you see the instructor
14. ***Hand in all assignments on time throughout the semester***

Text from the exercise:

How will you influence your teacher?
The following situations present options that reflect how you can communicate:

1. Your teacher reviews yesterday's assignment in class.
What should you do?

1. Complain about it
2. Join the discussion: what you understood, what you question, and where you are challenged
3. Avoid eye contact because you aren't interested

(2) Best communication:
Complaints should be a last resort for an assignment. First understand where problems are in the discussion. The difficulties or complaints will emerge soon enough.

2. Your course is a requirement, and not your choice. Privately your teacher wants to know what you think about it. What do you say?

1. Tell your instructor that the course is useless. Post your thoughts on Facebook.
2. Avoid her and walk away
3. Let her know why you have signed up. Explain your program, and ask how the content will fit into it.

(3) Best communication:
Here you first explain your situation, leaving open her explanation on what benefit you can achieve. Remember: she is asking for your opinion, and your situation will help her understand not only you, but others!

3. In the hallway, your teacher just said hello. How do you respond?

1. Establish eye contact and say "hi"
2. Ignore her and text your friends that the teacher likes you.
3. Give your teacher an awkward facial expression

(1) Best communication:
A simple "hi" is all that is required.

Basic friendliness is also part of the educational experience.
Be glad that your teacher recognizes you among all the other students.

4. In class, your teacher starts talking about her career. What do you do?

1. Look on Craigslist for a new guitar.
2. Ask what this has to do with the course.
3. Listen, and try to understand how this relates to the course.

(**3) Best communication:**
A teacher's background qualifies him/her to teach a subject.
If the teacher speaks about his/her relation to the subject,
he/she is validating why they are even in your classroom.
In any situation, a career reflects expertise, whether teaching, banking, plumbing, etc.

5. Your teacher invites you to talk to about your coursework after class.
You are busy then. What do you do?

1. Explain why you are busy, and say you would rather not.
2. Explain why you are busy, and arrange for a convenient time.
3. Ask if she has a problem.

(2) Best communication:
Notice the teacher is expressing interest in you.
If there are problems, even that you do not see, this is the first step to resolving them.
You did well by first explaining that you have an appointment or sport or job, etc. and being open to setting up a good time for both of you.

6. Your teacher just helped you out with some homework problems that you were having trouble with. What do you do?

1. Express appreciation, and ask for suggestions for the future.
2. Pretend that you really knew what you were doing all along.
3. Try not to let her know you are having trouble.

(1) Best communication:
Well done that you thanked the teacher for help;
better yet to ask for recommendations on the future.
This demonstrates that you both appreciate the help, and are interested in succeeding!

7. In class your teacher just said something that you don't agree with. What do you do?

1. Argue with her
2. After class, mention that you didn't agree with that statement, but ask for more information.
3. Text your friends that the teacher was wrong.

(2) Best communication:
Saving your objection for after class demonstrates that you respect the teacher, and are not out to embarrass either her or yourself. A private conversation is always a good first strategy to resolve differences and avoid confrontation, even with friends! Never publicize disagreements without first understanding the opposing view.

8. You start to argue in class, then realize you are wrong. What do you do?

1. Admit it, and explain where you misunderstood.
2. Admit it, and tell her it was her fault for not explaining it better.
3. Tell her that there are different opinions on this.

(1) Best communication:
We have all been here. We start arguing, only to discover that we either agree with the other person, and/or find that we are wrong. In a classroom or in education, we are present to learn.
If you find that you now understand, or change your mind, say so! It demonstrates that you can keep an open, critical mind. However, it is best to be careful about arguing that it be kept on a civil level, and not be "personalized." Attacking a person is a distraction from arguing an idea.
c.f. Ad hominem attack in Wikipedia.

9. Your teacher missed giving you a handout in class. What do you do?

1. Don't ask for one because you think you won't be responsible.
2. Look at your friend and show him you've been missed.
3. Raise your hand and ask for one.

(3) Best communication:
Often the best communication is the simplest.

10. Your daily assignments are too much for you to do. What should you do?

1. Have good excuses when you turn them in late.
2. When you realize the problem, make an appointment with your teacher to explain your situation and find a solution.
3. Get someone to do your homework for you

(2) Best communication:

Demonstrating interest is often a case of trusting someone to help.
As soon as you realize a problem, seek help.

MODULE : 26

Cooperative learning series

Interviewing for class projects

Preparation: The more structure and preparation you demonstrate to the person you are interviewing, the better the interview will be.

The following are guidelines toward developing good interviews

- **Develop a statement of interest, including**
  What you find interesting about the subject
  What you will be able to discover through the interview
  that you could not otherwise research
- **Research thoroughly whatever public knowledge**
  you can find on the person, the project, the company, and/or events**.**
  The interview begins before you meet the person!
- **Prioritize a set of objectives and questions**
  Going in prepared makes you look capable and competent
- **Discover what is necessary to fit into his/her environment/space;**
  ask advice of others if necessary.
  Dress neatly and appropriately for the situation.
  Your objective is to make the interview subject feel comfortable,
  and willing to share what is important to them.
  Ask yourself: "How would I want to be treated if the roles were reversed?"
- **Develop a checklist of what "tools" are needed in the interview:**
  notebook, pens, recording device, etc.
- **Arrange for the interview "on location" if possible and/or appropriate**
  It will add to its sense of place, voice, and story

Before the interview:

- **Arrive early**
  Avoid traffic, parking, getting lost problems
  Silently observe where your subject works if possible the office environment, working conditions, co-workers and staff, how he/she is dressed, etc.
  Don't be "nosey" but be alert!
  Don't interfere with on-going operations
- **If you tape record the interview**
  Test your recorder, its tape and batteries before you start
  Get permission, in writing or on the tape: *sample form (.pdf)*
  While recording, continue to take notes, especially key points to be safe

Introductions (a "few" minutes)

- **Introduce yourself and your project**
- **Ask for the person's name, title, business card,**
  photograph or digital image, company logo, etc. as appropriate
- **Try to make the person you interview**
  (and yourself!) comfortable. Some casual conversation is appropriate as ice-breaker: express your appreciation

for their time and willingness.
Compliment their office, directions, your respect for their achievements, etc.

- **If this is your first interview,**
  share that you are developing your interviewing technique
- **If you know the person from before,**
  keep in mind that your project may require that you be impartial or neutral to that person's experience. Make no assumptions!
- **Offer a consent form** *sample form (.pdf)*
- **Introductory questions**
  - **Be complimentary to set the tone**
  - **Demonstrate your interest and preparation**
  - **Verify a few known selected facts, sequences, etc.**
    (I read your biography and saw your degrees are in....
    (The newspaper reported that your neighborhood has succeeded in...
    (In your company's annual report, I read that the most successful product line is...
    (What prepared you for your success in...
    (How did you become interested in....)
    (I read that you started out as a chemist, and developed yourself to become....
    (What books or people most influenced your....
    (I see that your position is responsible for....
    (Who were your important role models or teachers for....
    (What was the consequence of....)

The Interview

- **Treat the interview like a conversation with structure!**
  Begin with your list of questions
  Follow chance openings
  Keep in mind your objectives
- **Actively listen to understand and report**
  Affirm that you understand what they are saying
  Do not agree or disagree with the person
  Do not debate what they have to say
- **While taking notes,**
  don't hesitate to ask for clarifications or better understanding:
  "Could you repeat that, please? I want to make sure I get all of that down."
  "I am not sure I followed that, do you mean that...."
- **Know when to shut up**
  Listen carefully so that you know when to let your source pause to collect his or her thoughts. Don't feel the need to fill every empty space with conversation
- **Don't be afraid to say you don't understand,**
  or need more explanation.
  Use your own words to repeat back; ask:
  "So what you're saying is ..." or "So let me get this straight..."
- **Be willing at all times to be surprised; follow chance openings**
  Don't think you know what the story is about.
  Don't let your own feelings or bias shape the questions you ask

Follow the order and priority of your questions

- **Transitions: be aware of time constraints and your purpose:**
  look for a convenient jumping off point to engage the subject
- **Develop more depth/complexity as the interview develops**
  given the comfort level and opportunity
- **Avoid yes/no questions**
  Ask some questions that can be only answered with a story
  This reinforces your interest in not only getting "facts" but also the role your subject has played. It lends voice to the narrative, and can personalize the story for your readers.

- **Don't accuse (Why DID you ....?"),**
  rather ask if the person would like to respond to accusations,
  or tell their side of a story, or...
- **Develop scenes and themes during the interview**
  (It sounds like .... is very important to you, what/how/... has it affected...
  (What was most significant in....
  (What difficulties or challenges were most important...
  (How did you react to....
  (How do you see your role in changing....
  (At what point did you know you wanted to.... How did you meet this challenge or change?
  (What do you see as your current/next challenge...
  (In the ...., I read that you said ".........", can you provide more detail?
  (How do you keep track of ....
  (Some people say that ...., but you seem to take another path.
  Can you explain the difference?)

Transition to conclusion

- **Keep aware of the time,** and all the topics you need to cover
- **Ask if there are additional points** that have not been addressed
- **Summarize a few important points** to verify if you understand correctly
- **Ask for references for additional information,**
  sources for data, or advice for further development

Conclusion

- **Review your timeline toward completing your project**
- **Volunteer to provide a copy**
  of your completed report, article, or a summary of the presentation,
  including any reactions to the interviewee
- **Express sincere appreciation**

Writing an interview essay:

- **Immediately after leaving the interview:**
  - Organize your notes
  - Label and date notes and tapes for easy reference
  - Transcribe the audio recording, or important sequences and quotes
- **Set your notes aside for a day or two to get a fresh perspective**
- **Re-read the assignment!**
  What specifically is the focus of the assignment?
- **Review the entire interview's notes and recording**
  Note from three to five major themes,
  and compare these with the assignment's objectives
  (You are now re-structuring the interview from its "narrative" sequence
  to one of themes)
- **For each significant theme, find an appropriate quote**
  and cut and paste these into their categories
- **Follow the structure of any writing assignment**
  Refer to our guides on ***Writing Assignments***
- **After completing the substance of the interview,**
  develop an introduction (remember your initial observations?) and conclusion.
- Follow guidelines on
  proofreading, verifying with and citing your source(s), and spell checking
- **If appropriate, with advice from your teacher,**
  send a copy to your interviewed subject with appreciation inviting feedback.

Types of interviews:

- **Celebrity and newsmaker**
  Understanding who stands behind success or notoriety

- **Professional profiles**
  Understanding professions, careers, companies, institutions
- **Project profiles**
  Developing a project history from inspiration (to conclusion) and consequences
- **Oral history**
  Learning about past events and experiences
- **Employment**
  Developing your interviewing skills will also help you when you are,
  in turn, interviewed
- **Person-on-the-street interviews**
  Be brief and friendly, yet businesslike.
  Don't walk up to people with a "sorry to bother you" attitude.
  Develop a professional manner and act the part:
- Identify yourself and explain what you're doing.
- Request permission to ask a few questions
- Ask for the person's name and where they're from:
  Verify names -- especially spellings
- Be brief and look for follow-up possibilities
- Save tougher questions for near the end of the interview
- Thank the person -- remember that anyone who consents to an interview is doing you a favor, whether they are getting anything out of it or not
- If the story is being published,
  let the person know where and what your name is again
- No matter how rude someone is to you, be polite. Be businesslike.
  Remind the person you've approached why you're there and, if you can, repeat your question. If the situation doesn't improve, walk away. And don't take it personally.

Adapt this consent form with your teacher and/or school authorities.

MODULE : 27

Cooperative learning series

Problem-based learning

Problem-based learning (PBL) is an exciting alternative
to traditional classroom learning.
With PBL, your teacher presents you with a problem, not lectures or assignments or exercises. Since you are not handed "content", your learning becomes active in the sense that you discover and work with content that you determine to be necessary to solve the problem.

In PBL, your teacher acts as facilitator and mentor,
rather than a source of "solutions."
Problem based learning will provide you with opportunities to

- examine and try out what you know
- discover what you need to learn
- develop your people skills for achieving higher performance in teams
- improve your communications skills
- state and defend positions with evidence and sound argument
- become more flexible in processing information and meeting obligations
- practice skills that you will need after your education

A Summary of Problem-Based Learning:
This is a simplified model--more detailed models are referenced below.
The steps can be repeated and recycled.
Steps two through five may be repeated and reviewed as new information becomes available and redefines the problem.
Step six may occur more than once--especially when teachers place emphasis on going beyond "the first draft."

1. Explore the issues:
Your teacher introduces an "ill-structured" problem to you.
Discuss the problem statement and list its significant parts.
You may feel that you don't know enough to solve the problem but that is the challenge!
You will have to gather information and learn new concepts, principles, or skills as you engage in the problem-solving process.

2. List "What do we know?"
What do you know to solve the problem?
This includes both what you actually know and what strengths and capabilities each team member has.
Consider or note everyone's input, no matter how strange it may appear: it could hold a possibility!

3. Develop, and write out, the problem statement in your own words:
A problem statement should come from your/the group's analysis of what you know, and what you will need to know to solve it. You will need:

- a written statement
- the agreement of your group on the statement
- feedback on this statement from your instructor.
  (This may be optional, but is a good idea)

Note: The problem statement is often revisited and edited as new information is discovered, or "old" information is discarded.

4. List out possible solutions
List them all, then order them from strongest to weakest
Choose the best one, or most likely to succeed

5. List actions to be taken with a timeline

- What do we have to know and do to solve the problem?
- How do we rank these possibilities?
- How do these relate to our list of solutions?
  Do we agree?

6. List "What do we need to know?"
Research the knowledge and data that will support your solution
You will need to information to fill in missing gaps.

- Discuss possible resources
  Experts, books, web sites, etc.
- Assign and schedule research tasks, especially deadlines

If your research supports your solution,
and if there is general agreement, go to (7). If not, go to (4)

7. Write up your solution with its supporting documentation, and submit it.
You may need to present your findings and/or recommendations to a group or your classmates.
This should include the problem statement, questions, data gathered, analysis of data, and support for solutions or recommendations based on the data analysis: in short, the process and outcome.

Presenting and defending your conclusions:
The goal is to present not only your conclusions,
but the foundation upon which they rest. Prepare to

- State clearly both the problem and your conclusion
- Summarize the process you used, options considered, and difficulties encountered
- Convince, not overpower
  Bring others to your side, or to consider without prejudice your supporting documentation and reason
- Help others learn, as you have learned
- If challenged
  and you have an answer, present it clearly
  and you don't have an answer, acknowledge it and refer it for more consideration

Sharing your findings with teachers and students is an opportunity in demonstrating that you have learned. If you know your subject well, this will be evident. If a challenge arises that you cannot respond to, accept it as an opportunity to be explored. However, take pride in your attention to quality when you present. See also the Guide on presenting projects.

8. Review your performance
This debriefing exercise applies both to individuals and the group.
Take pride in what you have done well; learn from what you have not done well. Thomas Edison took pride in unsuccessful experiments as part of his journey to successful outcomes!
9. Celebrate your work!

MODULE : 28

Classroom learning series

Guided Notes

A system of learning with lecture

What are Guided Notes?
Guided Notes are teacher-prepared hand-outs that outline or map lectures,
but leave "blank" space for key concepts, facts, definitions, etc.
As the lecture progresses, you then fills in the spaces with content.
Guided notes help you follow a lecture, identify its important points,
and develop a foundation of content to study and to apply.

If you have difficulty taking notes, ask your teacher
if he or she can prepare guided notes to help you improve your note taking.

Here are several strategies in completing and using *Guided Notes*:
Content:

- **Cues:**
  Can your teacher add visual cues (highlighting, bullets, "fingers", circles, numbered sequences, images, etc.) that identify the type or quantity of information to complete?
  For example: main and secondary ideas, examples, sequences
- **Visuals:**
  Can visual information (charts, graphs, pictures, illustrations, concept maps, etc.) be included for completion
- **References:**
  Can these be included for comparison and study?

Before the lecture:

- **Questions/discussion**
  Is there opportunity to discuss the guided notes, either during or after the lecture?
- **Model/checklist:**
  Is there a model or checklist to follow?
  (How much do I write? Have I completed all the blanks? Where can I find missing items?)
- **Versions:**
  Are there simpler or progressively more complex versions of the guided notes? Can I begin with the simpler (less writing) and work up to more difficult versions that require more information?

After the lecture:

- **Class review:**
  Ask if the class can review the guided notes for comparison and/or feedback?
- **Media type, format, presentation:**
  Ask if completed guided notes can be displayed via computer or overhead transparency for demonstration, discussion, or developing examples and relationships?

After the class period:

- **Teacher review:**
  Review your guided notes with the teacher to see how you did
- **Models:**
  Ask your teacher for a completed copy and compare your notes with the model
- **Peer review:**
  Exchange your notes with a friend to compare and identify important content

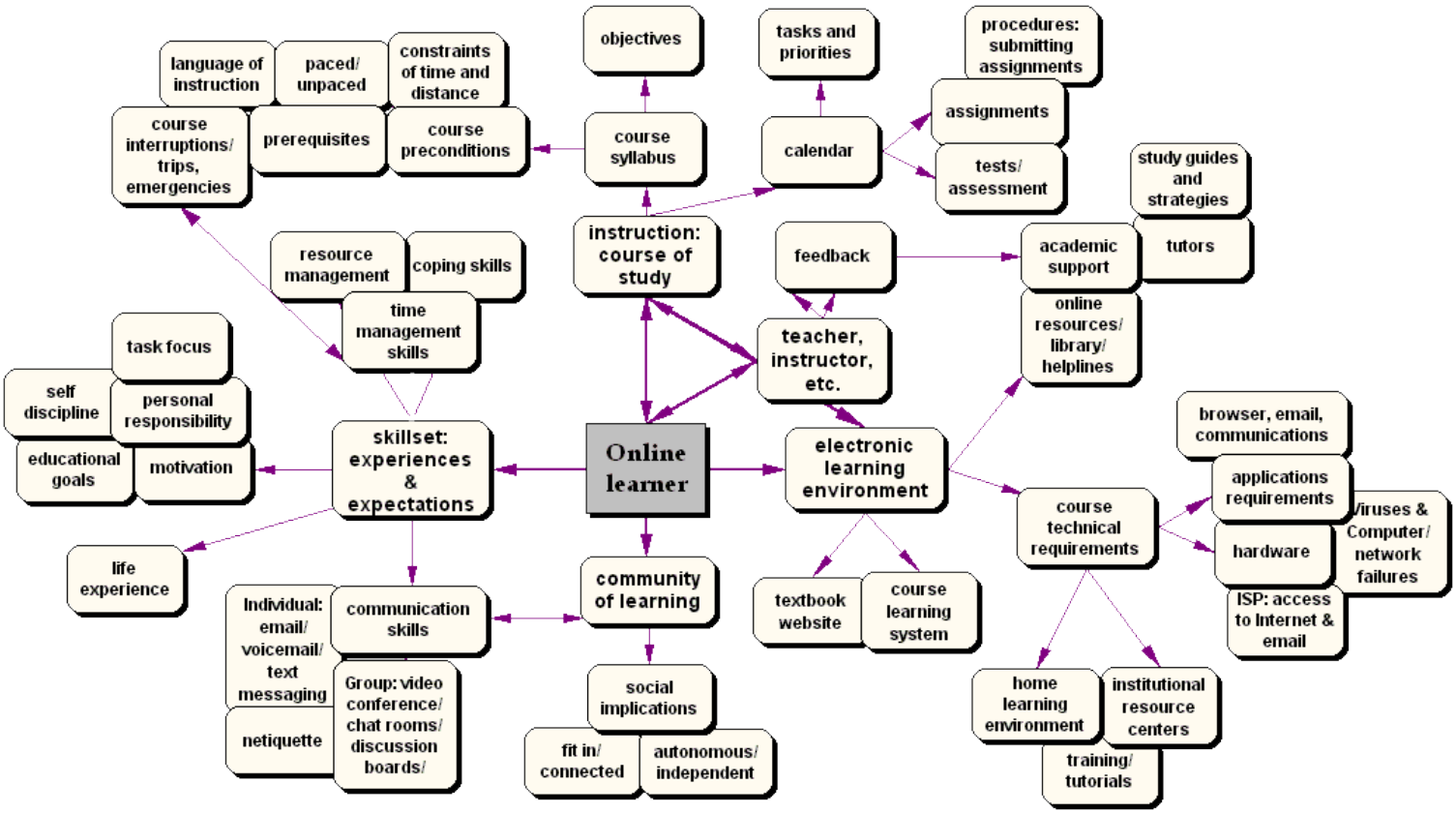
- **Examples:**
  Develop examples from your notes to see if you understand

Evaluation:

- **Tests/exams:**
  Ask if questions will be drawn from completed guided notes information?
- **Student-developed guided notes**
  Can these be used for an evaluation? as a class project?

The online learning series

Fundamentals of online learningwith you at the center



Questions to ask before taking an online or blended learning course.

As a learner, what is your skillset, experiences & expectations
that will help you succeed in online learning?
Preparing yourself for an online course,
whether it is totally online or with some classroom time (blended learning),
is a matter of asking a series of questions.
Studies have shown that it takes a certain amount of self discipline and motivation
to schedule and manage yourself through such a course.
If this is your first experience with online or distance learning,
your skill set of experiences and expectations begin with your educational goals with the course.

What purpose does this online course serve in my education?
Think the process through!
You may have to work without face-to-face contact with your teacher,
your classmates, and possibly outside academic support

What motivates you? What are your educational goals?

How will your life's experiences contribute to your desire to complete your education?
What resources do you have to support you, that you will need to coordinate and manage:
time management, coping and communication skills, etc.?

How confident am I of

- taking responsibility for my education?
  How prepared do I think I am?
- Managing my time?
  Do I think I have the self-discipline to succeed in online learning without a formal "classroom"
  to keep me on track?
- Keeping my focus on the course objectives and assignments?
- Taking responsibility for accomplishing my assignments?
- Meeting unexpected problems or challenges?

What elements should I consider in choosing courses?

The course syllabus provides information about

- What are thepPrerequisites/preconditions;
  Course objectives and priorities
- Who is the teacher and the language of instruction
- How is course content delivered?
  Lectures: in person and/or remote via technology;
  textbooks, handouts, digital texts; course website; course management system
- What is the course schedule
  or pacing as regards timelines for completing tasks
  or whether the course is "unpaced" with only broad deadlines
- What are the assignments and the procedures for completing them
  as well as procedures for submitting them
- Requirements for interaction
  whether live or asynchronous contributions
  whether in person or online via email, text messaging, chat rooms, videoconferencing
  whether discussions, feedback on projects, Q&A sessions,
  whether with the instructor, course mates, experts
- How and when is my performance assessed?
  Tests; criteria for grading on assignments
- Are there opportunities for feedback *throughout* the course.
  What opportunities are there for interaction with the instructor?
  What academic support is available, whether online or in person
  What/who are the study guides, help lines, online resources, reference works,
  tutors, research librarians, professional assistants, academic and technical helplines, etc.

What is my course electronic learning environment like?

- What are the course technical requirements
  hardware, software, specialized applications
- What is the optimal browser, and perhaps email client
- What training is necessary for the course applications?
- What training or orientation is available
  for the textbook website, CD, DVD, etc.
- What training or orientation is available for the course learning system,
  such as Blackboard, WebCT, Moodle, etc.
- What training or orientation is available for additional communications options?
  Conference or chat rooms, discussion boards, video conferencing, email, voicemail, text messaging, etc.

What is my home learning environment like?

- What hardware and software do I have at home?
- What access to the Internet and email do I have?
  How fast is the connection and what connection is necessary?
- What technology and applications does this course require?
  (If not explicitly stated, ask the teacher)
- If I should have a computer failure at home (disk crash, network failure or virus remediation), what is my back up?
  What institutional resources are available to help me at home?
- Can I schedule time to complete assignments without interference?
- What alternatives outside the home are available to me?
- Access to institutional support centers: computer labs and assistants; training, tutorials

Who makes up my *community of learning* to help me succeed?

- Teacher and teaching assistants; support professionals: librarians, tutors, study skills professionals, lab managers, etc.; fellow students; family.
- What degree of independence is necessary or unavoidable with my community?
- What (online) communication skills and methods are useful? are necessary?
  Individual: email, voicemail and text messaging;
  Group: video conference/chat rooms/discussion boards;
  What other applications are useful, such as for Internet voice calls outside of phone/cell services
- What are the rules of engagement in communications, as for *netiquette*

MODULE : 29

The online learning series

Descriptions of online courses

"Distance education is based on the premise that students are at the center of the learning process, take responsibility for their own learning, and work at their own pace and in their own place. It is about ownership and autonomy." *****

The good news: studies have shown that below MODULE students perform better in distance education courses if they finish them; and that at-MODULE or better students perform about the same.

The bad news: students tend to procrastinate and drop out at higher levels than in traditional courses, especially below MODULE students

There are many delivery methods of online courses in an institution's "Virtual Learning Environment":

- Via the Internet,
  conducted either synchronously or asynchronously
- Telecourse/Broadcast
  where content is delivered via radio or television
- CD-ROM
  where the student interacts with computer content stored on a CD-ROM,
  especially in locations without or unreliable Internet access
- Pocket PC/Mobile Learning where the student accesses course content stored on a mobile device or through a wireless server (see *M-learning guide*)
- Correspondence conducted through regular mail(!)
- Required attendance at certain times during the semester or even class day/week, as for seminars or taking tests is considered to be a hybrid or blended course or program.
- Electronic classrooms on campus as well as in satellite locations off campus
- Levels of accreditation vary;
  (Some institutions offering distance education in the United States receive little outside oversight, and may be fraudulent diploma mills.)
- Courses that meet in multiple locations at a specific time for lectures, course information delivery, and/or student interaction
- Courses that do not meet at any specific time, in one or many locations

If you are taking distance learning courses as part of a formal degree program, before getting started:

- Research why accreditation is important to higher education and online learning (see the government accreditation website)
- Research the specific accreditation bodies for your area of study, as well as the accreditation requirements for practicing as a professional
- Research whether the specific online degree programs that your course is part of has the appropriate accreditations at the school and program level (see database for searching online degree programs)
- Call your department advisor to ensure that the online course actually counts toward your degree program

If you wish to succeed in an online course, here are some details to collect:

Course information:

- Course website address
- Instructor's name, office location and hours, telephone number, fax number, e-mail address
- Teaching assistant name, office location and hours, telephone, fax, e-mail address
- Tutor name, office location and hours, telephone, fax, e-mail address
- Librarian/research assistant name, office location and hours, telephone, fax, e-mail address
- Resource center (RC) location and hours, telephone number; RC manager with e-mail address

Logistics

- Course materials you can expect
- How you will receive the course materials
- How you will be notified, or learn, of course announcements and class cancellations

Technical requirements:

- computing and internet hardware, platform, and specifications
- software type and version
- multimedia accessibility

Schedule yourself, and stick to an assignment schedule, that

- coincides with the course syllabus, or that
- is negotiated or verified with the instructor
- or both. See guide on Setting goals and making a schedule

Schedule yourself daily/weekly for course communications for

- peer learning/fellow student interaction via listservs, discussion groups, case studies, etc.
  Often you will be required to work on group projects or case studies, whether at one location or through the Internet. See the guides on group projects, or case studies.
- feedback to the instructor
  In a face-to-face course, an instructor relies on feedback from students, whether with questions or facial/physical expressions. In a distance situation this is most difficult, and you carry the responsibility to inform the instructor how you are doing in the course, whether by appointment or through phone conversations or e-mail..
- assignment progress and submission
- progress reports: The instructor must provide feedback to you on your progress through the course. Request an evaluation schedule, conditions, and methods for your progress through the material. Methods include
  - tests reflecting knowledge acquisition or performance of tasks
  - reports, projects, case studies, course portfolio, etc.
  - qualitative and quantitative input into course discussions and projects

MODULE : 30

The online learning series

M-learning: Mobile learning

with cell phones, IPods, and handheld devices

M-Learning: mobile learning with hand-held devices

Both in and out of the classroom, or a combination of both (blended learning)
you can use your pocket cell phones, note books and mobile devices
for your learning projects

Desktop and laptop computers are robust established tools for learning.

They download and send, they write and capture, they search and deliver. They organize and process large amounts information. However, they are also limited by their fixed locations, size and weight, need for power and network connections, time spent powering up and logging in, even shared use and lack of privacy.

However, with mobile learning (M-learning) devices,

the anytime-anyplace learning environment is expanded out to where computer labs, desktop workstations and laptop computers cannot go.

An ever-growing array of personalized handheld devices

enhance interactivity with an environment for gathering and processing information--and learning. They are handy, mobile, personalized and often single-purposed with apps. They include iPods (MP3/MP4 players), mobile/cell/smart phones, personal digital assistants (PDA's), notebooks/netbooks, game players, voting, and handheld GPS and specialized devices.

Applications,

Text:

1. Retrieve updates, instructions, background information, handouts, reference material and reminders for projects, whether through downloaded apps or wireless connectivity
2. Connect with teachers and mentors for instructions, questions, guidance, etc. and respond to questions and findings, especially dispersed in the field
3. Collaborate with teammates in the field or back to the classroom, by function or location
   --text discoveries and problems, share calendars, timelines, to do lists, and collaborative experiences via SMS, tweets and mobile blogging with each other, classmates, and/or the instructor
4. Observe and record events, file reports (live time or asynchronously); complete forms
5. Enter observed data
   Download/upload recorded data via a USB port, firewire Wii or Internet network
6. Access web-based and digital learning exercises
7. Access or record lectures, interviews, journals, notes, memos, calendar events, etc.
8. Create/interpret readable barcodes (optical machine-readable representation of data)

Audio and Image

1. Reference audio and slide recordings of lectures and instructions
2. Reference audio and video files on projects in the field
3. Overcome learning disabilities with alternative media (audio, video, etc.)
4. Create/document content with media capabilities for later analysis and documentation (audio recordings, images with inbuilt cameras, etc.)
5. The learner may store basic notes in audio format – e.g. laboratory results, key vocabulary definitions, language phrases etc.
6. Quiz software with basic factual questions
7. Static maps for reference/mapping software and/or GPS systems.
8. Create your own audio clips, interactive Flash or games explaining observations or summarizing group discussions.
9. Fieldwork sampling instructions/images/animations.
10. User selected photo galleries for portfolio evidence.
11. Search the Internet for similar projects, documentation, etc.

Devices:

- Run on batteries with optional plug-in capability to more robust technologies
- Are "pocket" size and boot quickly as a personalized, convenient instrument
- Can be used in a non-networked, offline environment in targeted applications (field research, data entry, etc.)
- Access and create files as text, graphics, photos, diagrams, audio, video, spreadsheets, databases, etc.
- Utilize wireless networks as Wi-Fi if enabled and within range of points or hotspots to connect to the Internet, with enhanced computing capability
  --Mobile phones are being enhanced into mobile computing platforms.
  -- Standard-size Pads, mobile phones, and even smaller platforms such as mobile gaming devices
- Via Bluetooth, devices can connect to each other in limited-range personal area networks of phones, PDA's, Palms, etc. (also as when a mobile phone is connected to a headphone and microphone)

Preparation:

- Check with your instructor/teacher for how you can incorporate them into your classroom learning and project management
- Apps (applications/computer software designed to help the user to perform singular or multiple related specific tasks: Wikipedia) and information must be tailored to small screen formats and informational chunks, accommodating these devices limited memory
- Apps need to be either be pre-installed or downloaded, and should be classroom and field tested for compatibility online versus offline (sync issues), and range of devices (taking into account the lowest version of the operating systems)
- Test the capacity of your personalized wireless network to distribute content and accommodate your group's size.
- Is the application compatible with a variety of devices and operating systems of the group? Will the content display be consistent regardless of the browser, device, and screen size?
- Is there enough memory to access/load/stream content?
- Do your school's computing environment and networks facilitate downloading, uploading and/or online working via wireless networks, mobile phone networks or both? Can you access the Learning Management Systems (LMS) and Content Management Systems (CMS)?
- Are the devices and network secure, and protected from viruses, unauthorized access, etc.

MODULE : 31

The online learning series

Taking online tests

An online exam has several variations,
but all involve technology! These are a few variations:

1. In a classroom, computer resource center or at home
2. Open or closed book
3. Timed or not timed
4. Scheduled or not scheduled
5. Continuous or saved and returned for completion
6. Part of an online course, traditional classroom, or blended option
7. MODULEd or not MODULEd
8. Scores immediately returned for feedback, or posted later

These variations all have technology in common. Here are suggestions to consider, and questions to ask, to master the process of taking an online exam:

Mastering or navigating technology should be your first concern:

- **Make sure your computer, especially at home,**
  - is technically capable and has the appropriate connection speed.
    (One advantage of taking the test at your school's computer resource center is that a computer consultant may assist you)
    Computer issues: cache, security settings, monitor/screen display, Internet connection, browser Internet options, etc.
  - **Master the login process to access the test**
    Taking the test is not the time to experiment with passwords and/or navigating a course website to find the test!
    Can you review the test instructions in class before taking the test?
    Do you need to create a login for the test, or use your student account?
    What is the test website address (URL),
    your student identification login, your test login?
    If you take the test in a controlled environment,
    what identification do you need?
    If you need assistance taking the test, alert the teacher beforehand!
- **Once at the test index page, carefully read the instructions**
  for answering questions:
  Is the time you take to complete the test tracked?
  If so, is there a clock you can access for your time?
  Can you save and return if interrupted?
  Must you answer the questions in sequence?
  Can you change answers?
  Is there a review feature that lets you check your work, or check for unanswered questions?
- **After you have finished answering the questions:**
  How do you save and exit so your work is not lost?
  Is there a separate sequence from saving to turn in the test?
  Will you get an alert about unanswered questions?
  How do you access your score, or is your score immediately returned?
- **Can you make a paper-backup of your responses?**
- **For short answer and essay questions,**
  can you create and format your answer in word processing, then copy and paste into the test question?

These questions are meant to specifically address procedural or technology issues.

For strategies on taking different types or formats of tests,
or components of online e-learning,
please see the *test taking index*, or the directory below.

The online learning series

Netiquette

E-guides on social interaction and communicating electronically

Within the email message, mouse over red text
to find the commandments of good email netiquette.
Look for all ten!

Communicating clearly on the Internet
without creating misunderstandings is a challenge.
One problem is that you haven't any facial expressions, body language, or environment to help you express yourself;
another that there is little "give and take" for developing what you mean to say or are discussing
These guidelines hopefully will help you:

- **Be clear**
  Make sure the subject line (e-mail) or title (web page) reflects your content
- **Use appropriate language**
  If you have a question on whether or not you are too emotional,
  don't send the message, save it, and review it "later"
  Remember: no one can guess your mood, see your facial expressions, etc.
  All they have are your words, and your words can express the opposite of what you feel
  Don't use ALL CAPITAL LETTERS--it's equal to shouting or screaming
- **Be brief**
  If your message is short, people will be more likely to read it
  Refer to the Guide on "Writing for the Internet"
- **Make a good impression**
  Your words and content represent you; review/edit your words and images before sending
- **Be selective on what information**
  you put in an e-mail or on a web site:
  Information on the Internet is very public, and can seen by anyone in the world including criminals, future employers, and governments
- **Forward e-mail messages you receive**
  only with permission of the sender
- **Remember you are not anonymous**
  What you write in an e-mail and web site can be traced back to you
- **Consider others**
  If you are upset by what you read or see on the Internet, forgive bad spelling or stupidity;
  If you think it violates the law, forward it to the FBI or your state's Attorney General
- **Obey copyright laws**
  Don't use others' images, content, etc. without permission
  Don't forward e-mail, or use web site content without permission
  Visit the Library of Congress' Guide on "*Copyright Basics*" for students and teachers
- **Cite others' work you use**
  Refer to the Guide on "*Citation*"
- **Use distribution lists appropriately**
  and with permission
- **Do not send SPAM**
  SPAM is posting or e-mailing unsolicited e-mail, often advertising messages, to a wide audience
  (another way of thinking of it is electronic junk mail)
- **Don't forward chain letters**
  If you receive one, notify your web master
- **Don't respond to "flames" or personal attacks**
  Contact your web master for action and referral

MODULE : 35

Netiquette

E-guides on social interaction and communicating electronically

Within the email message, mouse over red text
to find the commandments of good email netiquette.
Look for all ten!

Communicating clearly on the Internet
without creating misunderstandings is a challenge.
One problem is that you haven't any facial expressions, body language, or environment to help you express yourself;
another that there is little "give and take" for developing what you mean to say or are discussing

These guidelines hopefully will help you:

- **Be clear**
  Make sure the subject line (e-mail) or title (web page) reflects your content
- **Use appropriate language**
  If you have a question on whether or not you are too emotional,
  don't send the message, save it, and review it "later"
  Remember: no one can guess your mood, see your facial expressions, etc.
  All they have are your words, and your words can express the opposite of what you feel
  Don't use ALL CAPITAL LETTERS--it's equal to shouting or screaming
- **Be brief**
  If your message is short, people will be more likely to read it
  Refer to the Guide on "Writing for the Internet"

Make a good impression
Your words and content represent you; review/edit your words and images before sending

- **Be selective on what information**
  you put in an e-mail or on a web site:
  Information on the Internet is very public, and can seen by anyone in the world including criminals, future employers, and governments
- **Forward e-mail messages you receive**
  only with permission of the sender
- **Remember you are not anonymous**
  What you write in an e-mail and web site can be traced back to you
- **Consider others**
  If you are upset by what you read or see on the Internet, forgive bad spelling or stupidity;
  If you think it violates the law, forward it to the FBI or your state's Attorney General
- **Obey copyright laws**
  Don't use others' images, content, etc. without permission
  Don't forward e-mail, or use web site content without permission
  Visit the Library of Congress' Guide on "*Copyright Basics*" for students and teachers
- **Cite others' work you use**
  Refer to the Guide on "*Citation*"
- **Use distribution lists appropriately**
  and with permission
- **Do not send SPAM**
  SPAM is posting or e-mailing unsolicited e-mail, often advertising messages, to a wide audience
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Online learning series

MODULE : 36

Making your website popular

Search engine optimization (SEO)

Position & optimize your web site traffic
with search engines & directories

Website development

Identify your audience
Is your audience
local? regional? national? international? professional? content driven?

Keep perspective on developing your website:
you are not competing with Microsoft, the United Nations, or the Library of Congress

Review your content
What in your content is valuable to your audience?

Recommendations:

- create intuitive and obvious navigation; enable multiple topical "entry points"
- clearly present *current* content
- published research and items of interest
- establish credibility with the credentials of authors and list awards
- include a few items of personal interest (humanize)
- delete gimmicks or gratuitous technology or distracting graphics that have no purpose to that of the website
- facilitate contacts and feedback:
  make it simple!

Structure your content
for convenient and intuitive navigation and access
Your audience should easily find what they are looking for
A web site of links has little value compared to search engines and directories

Positioning your web site for search engines, directories, and portals
Do not promote a site that is not well-developed
First (bad) impressions will affect later positioning.

Content development:

- **Competitive landscape:**
  Compare your site to similar sites;
  Determine critical keywords/search terms
- **Prioritize keyword density**
  Constructively and proactively use keywords in your home page content;
  make sure it reflects the content

Open Directory Project
"The *Open Directory Project* (ODP) is the most comprehensive human edited directory of the Web, compiled by a vast global community of volunteer editors. The ODP powers core directory services for some the most popular portals and search engines on the Web, including AOL Search, Netscape Search, Google, Lycos, DirectHit, and HotBot, andhundreds of others."

- **ODP criteria**
  for submitting and listing web sites
- **For an excellent illustration of the central role the ODP plays**
  go to Bruce Clay, Inc. "Search Engine Relationship Chart"

Search engines:

- **Google**
  Spiders/crawls the Web and ODP for web sites (submitting a site not necessary)
  Increases the rank of your website by the number and quality (keywords!) of links to it
- **Yahoo**
  Most sites in this directory are suggested to it

Promoting your site

- Is the Web site incorporated consistently into all marketing plans?
  Is the URL/address prominent in all print and media publications?
- Are there professional e-newsletters, listservs, blogs, etc. where the site can be promoted or referenced?
- Do professional organizations list member Web sites?
- Are you a part of any Webrings?
  (An Internet site that links web sites that have the same theme)
- Do you encourage your staff, supporters and enthusiasts to refer to the site in publications, speeches, etc.?
- Do you monitor traffic on the site, especially its most popular pages for opportune developments?
- Have you reviewed all search engines, portals, directories for positioning?
- Do you submit your site for awards?
  and post the kudos?
- Do you exchange links with appropriate entities?
- Are there associated resources where you can promote your Website: an electronic newsletter, users group, events alert, blog, etc.

Tools to monitor website traffic and links to your site

- **GOOGLE analytics**
  A free service with executive, marketing, and webmaster analyses
- **Search Engine Colossus:**
  International Directory of Search Engines
- Link popularity:
  Alta Vista | Yahoo | MSN
  Enter: link:www.studygs.net or
  link:http://www.studygs.net for Google
  Use your own URL/address following this format!
- Alexa
  Monitors traffic of those using its tool bar

See also:

- Google Webmaster tools:
  invaluable site monitoring and suggestions
- Web Style Guide, 2nd Edition
- WAVE
  accessibility evaluation tool
- WDG HTML Validator
  Validator gives warnings for valid but dangerous HTML
  Validator gives warnings for undefined references

MODULE : 37

Time management

Developing time management skills is a journey
that may begin with this Guide, but needs practice and other guidance along the way.
One goal is to help yourself become aware of how you use your time
as one resource in organizing, prioritizing, and succeeding in your studies
in the context of competing activities of friends, work, family, etc.

First: try our exercise in time management:
How do you spend your time each day?
Strategies on using time:
These applications of time management have proven to be effective as good study habits.
As we go through each strategy, jot down an idea of what each will look like for you:

- **Blocks of study time and breaks**
  As your school term begins and your course schedule is set, develop and plan for, blocks of study time in a typical week. Blocks ideally are around 50 minutes, but perhaps you become restless after only 30 minutes? Some difficult material may require more frequent breaks. Shorten your study blocks if necessary-but don't forget to return to the task at hand! What you do during your break should give you an opportunity to have a snack, relax, or otherwise refresh or re-energize yourself. For example, place blocks of time when you are most productive: are you a morning person or a night owl?

  Jot down one best time block you can study. How long is it? What makes for a good break for you? Can you control the activity and return to your studies?

- **Dedicated study spaces**
  Determine a place free from distraction (no cell phone or text messaging!) where you can maximize your concentration and be free of the distractions that friends or hobbies can bring! You should also have a back-up space that you can escape to, like the library, departmental study center, even a coffee shop where you can be anonymous. A change of venue may also bring extra resources.

  What is the best study space you can think of? What is another?

- **Weekly reviews**
  Weekly reviews and updates are also an important strategy. Each week, like a Sunday night, review your assignments, your notes, your calendar. Be mindful that as deadlines and exams approach, your weekly routine must adapt to them!

  What is the best time in a week you can review?

- **Prioritize your assignments**
  When studying, get in the habit of beginning with the most difficult subject or task. You'll be fresh, and have more energy to take them on when you are at your best. For more difficult courses of study, try to be flexible: for example, build in reaction time when you can get feedback on assignments before they are due.

  What subject has always caused you problems?

- **Achieve "stage one"--get something done!**
  The Chinese adage of the longest journey starting with a single step has a couple of meanings: First, you launch the project! Second, by starting, you may realize that there are some things you have not planned for in your process. Details of an assignment are not always evident until you begin the assignment. Another adage is that "perfection is the enemy of good", especially when it prevents you from starting! Given that you build in review, roughly draft your idea and get going! You will have time to edit and develop later.

  What is a first step you can identify for an assignment to get yourself started?

- **Postpone unnecessary activities until the work is done!**
  Postpone tasks or routines that can be put off until your school work is finished!
  This can be the most difficult challenge of time management. As learners we always meet unexpected opportunities that look appealing, then result in poor performance on a test, on a paper, or in preparation for a task. Distracting activities will be more enjoyable later without the pressure of the test, assignment, etc. hanging over your head. Think in terms of pride of accomplishment. Instead of saying "no" learn to say "later".

  What is one distraction that causes you to stop studying?

- **Identify resources to help you**
  Are there tutors? An expert friend? Have you tried a keyword search on the Internet to get better explanations? Are there specialists in the library that can point you to resources? What about professionals and professional organizations. Using outside resources can save you time and energy, and solve problems.

  Write down three examples for that difficult subject above?

  Be as specific as possible.

- **Use your free time wisely**
  Think of times when you can study "bits" as when walking, riding the bus, etc. Perhaps you've got music to listen to for your course in music appreciation, or drills in language learning? If you are walking or biking to school, when best to listen? Perhaps you are in a line waiting? Perfect for routine tasks like flash cards, or if you can concentrate, to read or review a chapter. The bottom line is to put your time to good use.

  What is one example of applying free time to your studies?

- **Review notes and readings just before class**
  This may prompt a question or two about something you don't quite understand, to ask about in class, or after.
  It also demonstrates to your teacher that you are interested and have prepared.
  How would you make time to review?
  Is there free time you can use?
- **Review lecture notes just after class**
  Then review lecture material immediately after class.
  The first 24 hours are critical. Forgetting is greatest within 24 hours without review!
  How would you do this?
  Is there free time you can use?

Select one of the ten applications above.
and develop a new study habit!
Try something you have a good chance of following through and accomplishing.
Nothing succeeds like a first successful try!
Try the University of Minnesota's Assignment Calculator
Develop criteria for adjusting your schedule
to meet both your academic and non-academic needs

Effective aids:

- **Create a simple "To Do" list**
  This simple program will help you identify a few items, the reason for doing them, a timeline for getting them done, and then printing this simple list and posting it for reminders.
- **Daily/weekly planner**
  Write down appointments, classes, and meetings on a chronological log book or chart.
  If you are more visual, sketch out your schedule
  First thing in the morning, check what's ahead for the day
  always go to sleep knowing you're prepared for tomorrow
- **Long term planner**
  Use a monthly chart so that you can plan ahead.
  Long term planners will also serve as a reminder to constructively plan time for yourself

My daily schedule:

Classes:	**Studying:**	**Family commitments:**
Sleeping:	**Personal care/ grooming:**	**Meal preparation/ eating/clean-up:**
Exercise/sports:	**Socializing/entertainment (with friends):**	**Relaxing/TV/ video games, etc. (alone):**
Transportation (school, work, etc):	**Work/internship:**	**Other:**

My daily schedule:

Determine how you spend a "typical" 24-hour day:
As you enter the hours or parts of hours for each activity,
that amount is subtracted from the total:
(Use <tab> key and/or mouse click--not <enter>--to advance through**)**

Hours left in your day:	

Daily Activities:	Hours spent
Sleeping:	
Personal care/grooming:	
Meal preparation/eating/clean-up:	
Family commitments:	
Socializing/entertainment (with friends):	
Relaxing/TV/video games, etc. (alone):	
Exercise/sports:	
Transportation (school, work, etc):	
Work/internship:	
Classes:	
Studying:	
Other:	

Time management series

My weekly schedule:: time management exercise

Determine how you spend a typical week.
As you enter the hours or parts of hours for each activity,
that amount is subtracted from each day's total:

Hours remaining:							
Daily Activities:	**Mon**	**Tues**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
Classes:							
Studying:							
Sleeping:							
Exercise/sports:							

Work/internship:							
Family commitments:							
Personal care/grooming:							
Meal preparation/eating/clean-up:							
Transportation (school, work, etc):							
Relaxing: TV/gaming, etc.:							
Socializing & friends:							
Other:							

Print this weekly schedule for reference and review.
Use the landscape option to display table.

MODULE : 38

Time management series

Managing stress and organizing tasks

In the exercise below, enter three tasks you need to accomplish
in order to organize and prioritize your tasks, and reduce your stress.
(If you cannot access the exercise, follow this text exercise:

1. Develop each task into three steps.
   If each task has less, no problem.
2. Organize!
   Re-arrange each of the steps from earliest due date
   (1 or highest priority) to those further out (12 or less).

My school calendar; my goals:

(This is the big picture, don't include too much detail)

1. **Pick up a copy of your school's term/semester calendar**
2. **Develop a calendar of important dates for your classes:**
   Tests, papers, projects, readings, mid-term and final exams, holidays, breaks, study days, etc.
3. **Enter important dates for your work, social and family life**
4. **Each week develop a daily schedule**
   that includes routines and important dates
5. **Post this schedule in your study area**
   for referral and review, and to mark your progress
6. **Each evening develop a schedule to help you organize the next day,**
   include routines, errands and important appointments

7. **Review each day's schedule that morning**

Making a habit of the above suggestions will be a product of

Motivation! | Trial and error! | Practice!

1. **Document the sequence!**
   Note that you need to write these down, either for posting on a wall,
   or better yet, entered into your computer for reminders, especially 4-7.
2. **Commit to a trial period**
   Three to four weeks or a month...
   Think of the schedule as an experiment, but commit yourself to it.
3. **Think of this as an "organizer"**
   rather than a task list. Your to do lists, etc. are part of #2.
   Set your computer calendar to remind yourself of important events
   as numbers 4 - 7
4. **Relate this schedule to a reward**
   and post it prominently as an incentive in your room.
   If you need to give up something, replace it with an postitive benefit.
5. **Find someone to partner with, or adopt a role model**
   so that you can find reinforcement. The person will not have the same school, family or work schedule, but can be there to encourage and suggest.
6. **Don't expect perfection**
   it is the enemy of the good.
   You are developing a new or altered way of achieving your goals. Sometimes, there will be events that interfere, and are cause for re-evaluating this schedule.

How did you do?

Time management series

The what, why and how of to-do lists

Developing time management skills is a journey

that may begin with this Guide, but needs practice and other guidance along the way.

What:

- Listing!
  A simple presentation of three to five tasks that enables you to identify and visualize a core group of tasks in one place for easy reference
- It grows and shortens
  as you work through items
- Posted
  on a bulletin board, refrigerator or space
  readily reminds you of what you prioritize to do and when you need to do it (deadlines)
- Organize!
  It is an organizational tool that can be used for scheduling with
  electronic calendaring, strategic post-it notes, email, instant messenger, SMS and other communication services, etc.
- It can be a Not-to-do list where the time is not right, but you don't want to forget the item
- May help you develop timelines, sub-tasks, etc. to get the job done!
  (but separate from the to do list!)

Why:

- Reduce stress
  You can reduce stress by itemizing and prioritizing tasks and giving them a place in your life.
- Remind yourself
  A list displayed in a prominent place can remind you of what you consider important to do.

- Strategize completion
  When reminded, you also are thinking about the task,
  as well as what resources, strategies and options for completing the task!
- It can be fun!
  Playing with the list can encourage thinking outside of the box for solutions.
  Add images and pictures to create a more enjoyable even accurate presentation.

How:

- Use the simple exercise above to identify tasks
- Go to *Prioritizing tasks* to build an operational sequence
- Enter items into electronic calendaring, strategic post-it notes, email, instant messenger, SMS and other communication services
- Share
  With friends, family and colleagues for assistance and insights
  to communicate what you are working on and where you are
- Cross off items and celebrate their completion
- Apply the to do list to your daily life

MODULE : 39

Time and project management series

Avoiding procrastination

Is your procrastination related to a project?
or is it a habit?

To remedy procrastination:

1. Begin with one, modest project
2. Answer these basic questions
3. Keep the answers before you as you mark your progress

What do you want to do?

- **What is the final objective, the end result?**
  It may be obvious, or not
- **What are the major steps to get there?**
  Don't get too detailed: think big
- **What have you done so far?**
  Acknowledge that you are already part of the way,
  even if it is through thinking!
  The longest journey begins with a first step

Why do you want to do this?

- **What is your biggest motivation?**
  Do not concern yourself if your motivation is negative!
  This is honest and a good beginning.
  However, if your motivation is negative,
  re-phrase and re-work it until it is phrased positively
- **What other positive results will flow from achieving your goal?**
  Identifying these will help you uncover
  benefits that you may be avoiding: Dare to dream!

List out what stands in your way

- **What is in your power to change?**
- **What resources outside yourself do you need?**
  Resources are not all physical (i.e. tools and money),
  and include time, people/professionals/elders, even attitude
- **What will happen if you don't progress?**
  It won't hurt to scare yourself a little...

Create a simple "To Do" list

This simple program will help you identify a few tasks, the reason for doing them, a timeline for getting them done, and then printing this simple list and posting it for reminders.

Develop your plan, list

- **Major, realistic steps**
  A project is easier when it is built in stages;
  Start small;
  Add detail and complexity as you achieve and grow
- **How much time each will take**
  A schedule helps you keep a progress chart
  and reinforce that there are way-stations on your path
- **What time of day, week, etc. you dedicate yourself to work. This helps you**
  develop a new habit of working,
  build a good work environment, and
  distance distractions (It is much easier to enjoy your project when distractions are set aside.)
- **Rewards you will have at each station**
  and also what you will deny yourself until you arrive at each station
- **Build in time for review**
  Find a trusted friend, elder, or expert to help you
  motivate yourself or monitor progress

Admit to:

- **False starts and mistakes as learning experiences**
  They can be more important than successes,
  and give meaning to "experience"
- **Distractions and escapes**
  Do not deny they exist, but deny their temptation
- **Emotion**
  Admit to frustration when things don't seem to be going right
  Admit that you have had a problem, but also that you are doing something about it
- **Fantasy**
  See yourself succeeding

Finally, if procrastination is a habit of yours:

Focus on the immediate task and project, and build up from there.
Each journey begins with one step.

MODULE : 40

Time and project management series

Avoiding procrastination

Is your procrastination related to a project?
or is it a habit?

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- **Fantasy**
  See yourself succeeding

Finally, if procrastination is a habit of yours:
Focus on the immediate task and project, and build up from there.
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MODULE : 41

Time management series

Developing self-discipline

Self-discipline
Self-discipline can be considered a type of selective training, creating new habits of thought, action, and speech toward improving yourself and reaching goals.
Self-discipline can also be task oriented and selective.
View self-discipline as positive effort, rather than one of denial.

Schedule a small task for a given time of the day;
Practice deliberate delaying.

- Schedule a particular task in the morning and once in the evening.
- The task should not take more than 15 minutes.
- Wait for the exact scheduled time.
  When the schedule time is due, start the task.
- Stick to the schedule for at least two months.
  Advantages: Scheduling helps you focus on your priorities.
  By focusing on starting tasks rather than completing them, you can avoid procrastination.

- Schedule a task and hold to its time;
  Avoid acting on impulse.
- Track your progress;
  At the end of the allotted time, keep a record of accomplishment that builds over time.
  Advantage: Building a record will help you track how much time tasks take.

- If you begin to have surplus time, fill it with small tasks, make notes to yourself, plan other tasks, etc.

Harness the power of routine.

- Instead of devoting a lot of hours one day, and none the other and then a few on an another day and so on, allocate a specific time period each day of the week for that task.
- Hold firm.
- Don't set a goal other than time allocation,
  simply set the habit of routine.
- Apply this technique to your homework or your projects, you will be on your way to getting things done
  Advantage: You are working on tasks in small increments, not all at once. You first develop a habit, then the habit does the job for you.

Use self discipline to explore time management

Time management can become an overwhelming task.
When you do not have control over your own self, how can you control time?
Begin with task-oriented self-discipline and build from there.

Advantage: As you control tasks, you build self-discipline.
As you build self-discipline, you build time management.
As you build time management, you build self-confidence.

Maintain a self-discipline log book.

- Record the start and end times of the tasks.
- Review for feedback on your progress
  Advantage: This log book can be a valuable tool to get a better picture over your activities in order to prioritize activities, and realize what is important and not important on how you spend your time.

Schedule your work day and studies.

- When you first begin your work day, or going to work take a few minutes and write down on a piece of paper the tasks that you want to accomplish for that day.
- Prioritize the list.
- Immediately start working on the most important one.
- Try it for a few days to see if the habit works for you.
- Habits form over time: how much time depends on you and the habit.
  Advantage: When you have a clear idea as to what you want to achieve for the day at its start, the chances are very high that you will be able to proactively accomplish the tasks. Writing or sketching out the day helps.

Discouragement:

- Do not be intimidated; do not be put off by the challenge
- If you slip, remember this is natural
- Take a break and then refresh the challenge

Tricks:

Associate a new habit with an old one:
If you drink coffee, make that first cup the time to write out and prioritize your tasks.

Advantage: Association facilitates neural connections!

Mark your progress:

On a calendar in your bathroom, on a spreadsheet at your computer, on your breakfast table: Check off days you successfully follow up. If you break the routine, start over!

Advantage: Visualizing is a ready reinforcement of progress

Options in project management

MODULE : 42

Project management

Completing classroom assignments

This eight-step exercise will help you effectively work through a challenging assignment:

1. **List three of your homework assignments,**
   the most important first
2. **Why did you think the top choice was the most important?**
3. **What is one challenge**
   that may stop you from completing it?
4. **What time and place will be best for working on the assignment**
   without interruption and
   with the most concentration and creativity?
5. **What strength or interest of yours**
   has helped you complete a similar assignment?
6. **Who is the target audience of the assignment?**
   Who are you writing for?
   How does this "stakeholder" relate to the objective of the assignment?
   (Remember: a teacher can be your target audience!).
7. **If your past way of working has not been effective,**
   is there an alternative strategy you can use?
   Who or where can you go for advice?
8. **What is one option that can make the assignment**
   more interesting or enjoyable? How can you challenge yourself?

After completing this exercise below, or simply writing out the answers,take them to your teacher, advisor, and/or parent for review in order tobuild on your progress!

MODULE : 43

Options in resource management

Project planning

Project planning/organizing class projects

This sequence will help you to consider your project in stages,
whether a group or individual project.
You may need less detail, but at least consider each action category.

- **Begin early**: It is never too early to start.
  By starting early you simply get started!
  have more time to finish the project,
  and guarantee yourself adequate time to do a good job.
- **Determine the time commitment.**
  Estimate long the project, presentation or paper will take to develop and complete
- **Determine how hard the material is to research**
- **Break the project down into manageable sections**.
  Use the tasks below, add a column "done by" date to help you organize yourself and the project.

Identify Project

- Project title
- School/organization name
- Class/course and teacher
- Assignment requirements (in the words of your teacher)
- Requirements as you understand them

Operations (when the product is deployed into its working environment)
Consider: Feasibility/ Analysis / Design / Build / Implement / Operation
Consider: Initiate/ Requirements Definition/ Technical Design/ System Construction/ Installation/ Production/ Defined Deliverables/ Formal Reviews
Estimating: timing meeting schedule, budget

Detail Objectives

Do not confuse the project with its objective:
Objectives summarize why. They can be:

SMART: Specific | Measurable | Attainable | Relevant | Time-bound

from Blanchard, Zigarmi, and Zigarmi,
"Leadership and the One Minute Manager"
or

DUMB: Doable | Understandable | Manageable | Beneficial

Brainstorm resources to complete deliverable

- project planning tools
  (Gantt, Critical Path, PERT)
- project production tools
  (word processing, demonstration software (PowerPoint), etc.
- Time
- Money
- People and experts
- Resource centers and organizations
- Technology and software applications
- Existing systems
- Information accessibility:
  literature, books, Internet,
- Team: number, skills, motivation, turnover
- Technical expertise
- Physical (meeting) spaces

Evaluate Project

- How familiar are you with the subject matter? Its complexity?
- What lessons have you learned from similar projects?
- What alternative topics and projects can meet the objective?
- Can the size of the project be refined?
- What are the risks?
- Impact on stakeholders
- What are the environmental constraints?
- Are our resources adequate?
- Are resources spread too thin?
- Are our time estimations accurate?
- Are there too many concurrent tasks?
- Is this a proven plan?
- Is the plan realistic?
- Design--how the specifications will be met)
- Implementation--how will you develop the final product

- Integration--are there important components that will need to work together

Establish project timeline in phases

- Identify each phase's milestone/deliverable and cost
  Prevent runaway projects and scope creep with planning, vision, leadership
- Identify each phase's work units by tasks and approvals
- Identify who is responsible for what
  if a group project
- Allocate resources
  especially restraints and control
- Track progress and contingency plans
- Verify all with instructor

Research--identify what resources are available

- text book research
- library research
- field research
- Internet
- Professional associations
- other:

Analyze research/findings

- plan for gaps
- request assistance
- mid-stream check-in with team members and/or instructor

Outline finished product

- thesis statement
- individual topics/sections

Write/compile document presentation

- opening paragraph
- body
- closing arguments/statement

Final project identification

- Project title and code
- Project objective clearly stated (one sentence)
- School/organization name
- Class/course and teacher
- Project leader and group members
- Date
- Deadline
- Assumptions
- Identify related projects

Test

Document & create bibliography

Review and evaluate

- product
- process

Summarize/digest/Executive summary

Objectives, Scope, Possible Courses of Action, Pro's and Con's, Recommendations

MODULE : 44

Resource management series

Case studies

What: Case studies *

- are written summaries or syntheses of real-life cases based upon data and research
- require you to isolate and think through the key issues involved against both theory and the larger comparative environment
- identify appropriate strategies for the resolution of the 'case'
- weigh the pros and cons of the remedial options/strategies
- recommend and present a rationale for the best resolution

How: The process of developing a case study:

- Define the objective of the case study
- Identify the important players within the organization, the stakeholders or those who have a vested interest in the outcomes
- Identify other target groups of the organization, whether clients or suppliers
- State the official mission of the organization studied
- State the historical mission of the organization
- State the understood mission of the stakeholders in the organization
- Scale the importance of stakeholders, whether in decision-making or effect of consequences
- Outline the formal decision-making process
- Note informal decision-making processes
- Identify the process of production or service delivery
- Identify support mechanisms
- Identify competitors

What is the organizational context of the profession or of competitors?

- State the major problem
- State subsequent problems and implications
- State the role of management
- State the role of production/service providers
- Identify strategic issues
- Identify decisions needed to be made
- Identify risk factors
- Identify historical precedents

Define remedial options

Compare options as regards pros and cons, theory, risk factors

Make your recommendation and justify

Write an executive summary focusing on key elements

Math series

MODULE : 45

Creating and developing spreadsheets

Where did your money go?

Spreadsheets can help you with your financial calculations.
Develop a spreadsheet to analyze your expenditures for a month, or for whatever period you like,
and learn the basics of organizing budgets with key features of spreadsheets:

Open a new spreadsheet
Choose File: Save As and save the file as Financials.xls.
Make a habit of saving each spreadsheet immediately when you start because if something goes wrong (such as the dog tripping over the power cable and turning your computer off) a saved file is much easier to recover than an unsaved one

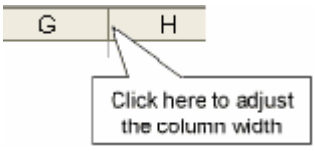
Begin to enter information:
Simply click on a cell and type your entry
If there's already something there, you don't need to delete it – just start typing and you will overwrite the current contents of the cell.
Click on cell B3 and type Date.
In future, when we want you to enter data into a cell, we'll simply write:
(B3) Date
Don't type the (B3) part; the brackets ( ) ask you to click/select the cell
Enter the following in their cells::

(C3) Amount	**(D3) Food**	**(E3) Clothing**	**(F3) Rent**	**(G3) Entertainment**	**(H3) Other**	**(I3) Check**	**(J3) Comment**

From these headings, you see that we will enter dates and amounts
then 'analyze' the amounts into key areas of expenditures.

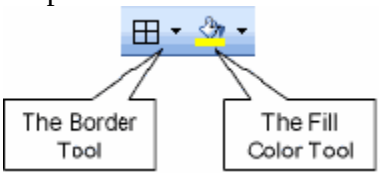
Your spreadsheet should now look like:

	A	B	C	D	E	F	G	H	I	J
1										
2										
3		Date	Amount	Food	Clothing	Rent	Entertainm	Other	Check	Comment
4										



In cell G3, the word Entertainment is too long to fit the cell, and so it has been cut short. Here's a simple way to make the cell wide enough. Double click on the line between the column headings G and H. This adjusts the column width to fit the information in its cell (column G).

To perform the same action to a number of cells at once, they need to be selected.



Click on B3 then hold down the mouse while you drag across to J3 and release the mouse.

Border tool:
Use the drop down menu of the Border tool to put a border around all the selected cells.
Fill Color tool:
Choose a color that you like to mark the cells as headings rather than data.
Light colored backgrounds with dark text colors work best for easier reading!

Now let's spend some money!

- First, a couple of examples for cell entries
  (It would be best if you entered some information of your own, so that you can see the analysis start to take shape for yourself)

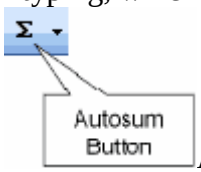
In the first row, we will also fix up the formatting as we go and show you how to make sure that the formatting is repeated in the cells below. We start with the date.

(B4) 25/08

As soon as you type *25/08* and press <Enter>
the spreadsheet assumes that you have typed a date, and formats it as a date
The program also adds the current year to the data that you have typed, which you can see by double clicking on B4.
There's good news and bad news in this action of the program. It saves you time, if the date is what you want, but if you didn't mean to type a date, the cell will have been given a date format, which you may have to remove by selecting the cell and choosing Format: Cell: General.

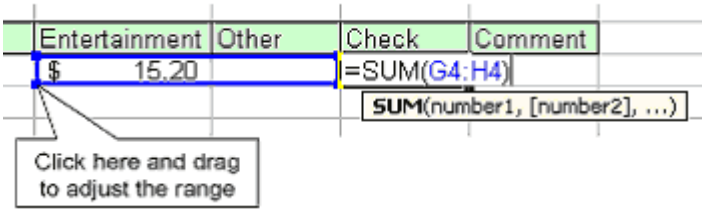
- So on the 25th August you spent $25.76 on a movie ($15.20) and a meal ($10.56)

Enter: **(C4) 25.76 (D4) 10.56 (G4) 15.20**
It's easy to make a mistake when typing, which is why we suggest a Check column.

Click on cell I3 and then on the 

Autosum button.

You'll see that the program adds the numbers in G4 and H4.
But you want the Check to add together all the numbers in cells D4:H4.
Drag the bottom left corner of the selected range across to D4 and the formula will automatically adjust



This feature of adjusting the range of a formula is really handy at times
The numbers that we have typed are all "dollar" amounts, and the formatting should reflect this.

Select **D4:I4** by clicking on D4 and dragging across to I4
On the Currency Style button (that's the one with a $ symbol).
Did you notice that there is a small triangular marker in the top left of cell I4?
Excel thinks that you might have made an error in your formula
To see the comment, click on cell I4 and then hover over the **!** box.
You will be told that there are numbers in cells next to the range that you have chosen.
But we don't want to include the Amount or Date columns in this summation. It's simply there so that we can immediately see if our analysis of the Amount is correct.
You can ask Excel to ignore this ‘error' using the dropdown menu of this warning.
Adding the following data to the table

- Leave Row 9 for later!

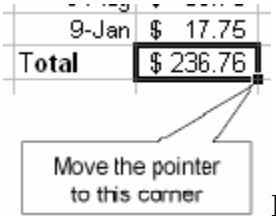
There is an error in Row 7 but we will correct that later also

	A	B	C	D	E	F	G	H	I	J
1										
2										
3		Date	Amount	Food	Clothing	Rent	Entertainment	Other	Check	Comment
4		25-Aug	$ 25.76	$ 10.56			$ 15.20		$ 25.76	
5		12-Aug	$ 32.50		$ 32.50				$ 32.50	
6		17-Aug	$ 125.00			$ 125.00			$ 125.00	
7		8-Aug	$ 35.75	$ 12.83			$ 22.50		$ 35.33	
8		9-Jan	$ 17.75					$ 17.75	$ 17.75	present for Ma
9		Total	$ 236.76	$ 23.39	$ 32.50	$ 125.00	$ 37.70	$ 17.75	$ 236.34	
10										

- To complete Row 9 of the table, you need to make:

(B9) Total
(C9) = SUM(C4:C8)
(Use the Autosum Button for this)

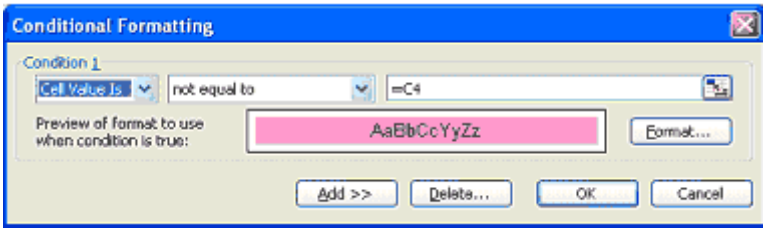
Fill handle:



Move the mouse pointer to the bottom right corner of C9 until it changes shape and becomes a vertical cross. This is called the Fill Handle
While it is showing, you can click down and drag across to I9 and the formula in C9 will be copied into or fill all the cells between C9 and I9.
The Fill Handle is a great time saver!

- In our diagram, we have put borders on Row 9.
  We did this by selecting B9:I9 and using the Border Tool to add the border that we wanted
- Before we fix our error in Row 7,
  here's a great technique for highlighting a part of a table that you need to pick out from the rest. Click on cell I3 and choose Format: Conditional Formatting. This allows you to apply a format to a cell if certain conditions are present.

Here, we want the condition to be as shown in the box below:



Set the centre box to “not equal to” and in the right-hand box type =C4.
Click on the Format button, choose the Pattern tab and select a colour that will show up whenever the analysis doesn't match with the amount.
Click OK to complete the formatting.
You won't see anything immediately, but if you use the Fill Handle to fill I4 down to I9, you'll see immediately where the error has occurred.
To fix the error, you make:
(C7) 23.25
Both the error and the warning sign disappear when you make correction!
Sort feature:
You may noticed that the information we added to the table is in no particular order.
Excel/spreadsheets can sort information

	A	B	C	D	E	F	G	H	I	J
1										
2										
3		Date	Amount	Food	Clothing	Rent	Entertainment	Other	Check	Comment
4		25-Aug	$ 25.76	$ 10.56			$ 15.20		$ 25.76	
5		12-Aug	$ 32.50		$ 32.50				$ 32.50	
6		17-Aug	$ 125.00			$ 125.00			$ 125.00	
7		8-Aug	$ 35.75	$ 13.25			$ 22.50		$ 35.75	
8		9-Jan	$ 17.75					$ 17.75	$ 17.75	present for Ma
9		Total	$ 236.76	$ 23.81	$ 32.50	$ 125.00	$ 37.70	$ 17.75	$ 236.76	

Select the whole of the table apart from the Totals. That is, select cells B3:I8 and choose Data: Sort . In the dialogue that shows, Excel suggests that you should sort by Date because that is the information in the first column. The program also detects that your data has a Header Row (i.e. the first row are the names of the columns in the table). For this data, both these choices are correct and we only need to click OK to have the table sorted by date. Otherwise, the program provides dropdown menus to enable you to change the Sort criteria.

- **Choose File: Save**
  to make sure that you don't loose all your hard work!
  You have created a simple financial analysis package.
  - We'd just like to make one last point. Unlike using a calculator, where the last number entered disappears as soon as you start on the next one, the numbers that you type into a spreadsheet are permanently on view and you can always go back and change one or two numbers that might have been entered in error without having to re-enter all the information. It's a great tool for financial analysis … and that's just the beginning!
    We hope that you will be able to find time to adapt it to your own needs!

MODULE : 46

Developing your (school) budget

This simple exercise will help you
balance your educational budget
First enter your income from your
job, scholarships/grants, savings, family and "other"

Then enter your expenses from
rent/utilities, tuition/books, food, entertainment, and "other"

The third screen will show you the two columns,
and you will then be able to balance the two
by adjusting the individual entries.

Good luck!

Problem solving/decision making

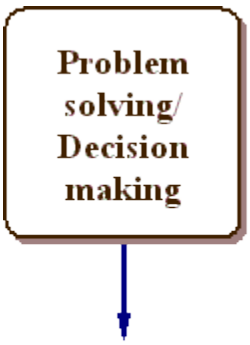
Problem solving series

Problem Solving and Decision Making

Project planning/organizing class projects

We solve problems and make decisions everyday/all the day:
at home, at work, at play, even at the grocery store!

Some problems and decisions are very challenging,
and require a lot of thought, emotion, and research. The steps of this guide are designed to help you make good decisions



Good luck!

Flexibility

This procedure looks as if one moves neatly from step to step. This isn't the case. These steps simply provide a structure for working on the problem.

They overlap: you may have to return to earlier steps, or work them simultaneously, to find the best solution.

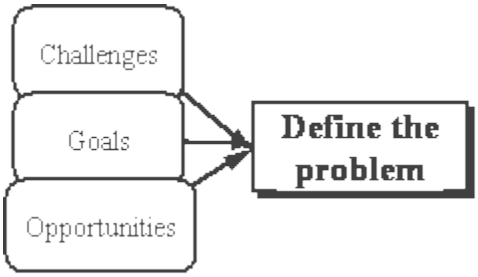
Examples of flexibility:

- Information gathering occurs in all steps—from recognition of the problem to implementation of its solution
- New information may force you to redefine the problem
- Alternatives may be unworkable, and you'll have to find new ones
- Some steps may be combined or abbreviated

Problem solving overview

Problem solving series

1. Defining the problem/ gathering information



Define the Problem

What prevents you from reaching your goal?
You may need to state the problem in broad terms since the exact problem may not be obvious.

- you may lack information to define it
- you can confuse symptoms with underlying causes

Prepare a statement of the problem and find someone you trust to review it and to talk it over. If the problem is a job situation, review it with your supervisor or the appropriate committee or resource.

Consider these questions:

- What is the problem?
- Is it my problem?
- Can I solve it? Is it worth solving?
- Is this the real problem, or merely a symptom of a larger one?
- If this is an old problem, what's wrong with the previous solution?

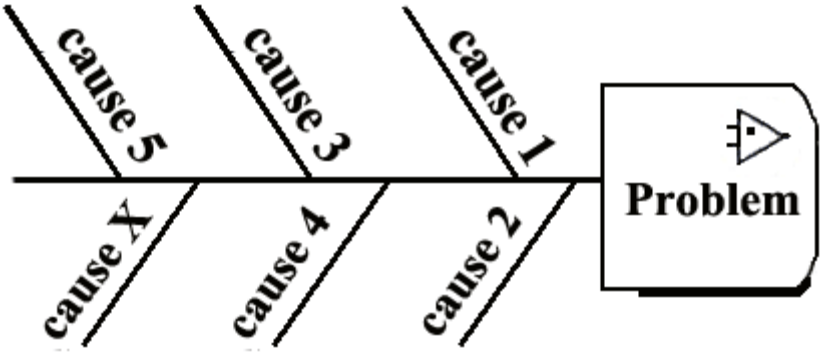
- Does it need an immediate solution, or can it wait?
- Is it likely to go away by itself?
- Can I risk ignoring it?

- Does the problem have ethical dimensions?
- What conditions must the solution satisfy?
- Will the solution affect something that must remain unchanged?

Causes!

When problem solving, identify the causes of the problem in order to solve it.

- Identify causes of your problem
  Look at the current situation, rather than its history
  Do not consider the "trouble" it creates whether now or in the future.
- List and organize the causes of the problem



Fishi-kawa! Ishikawa diagrams! Fishbone diagrams! *

Similar to the practice of concept mapping and brainstorming,
place each "cause" along a line that ends in a box identifying a problem
creating your very own fishbone diagram.

At the beginning brainstorm and identify all the possible causes.
One strategy is to use post-it notes for each cause,
then paste them into your "graph" along the "spine" for a visual representation,
either on a whiteboard, flipchart, or other large surface that can be modified.
If some causes relate to others, you can develop layers connecting and extending out from the first rays. As you develop your diagram, arrange the causes toward the fishhead/problem to indicate importance.
Identify/map all the causes before considering solutions to the problem.

What are examples of causes of the problem?

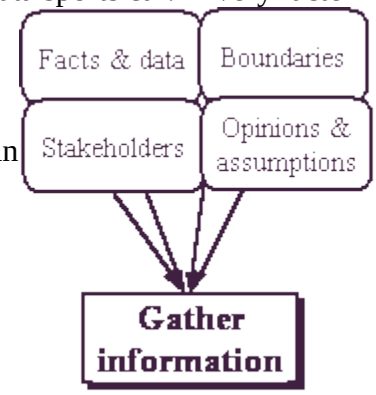
- **People**
  Are there enough participants to help?
  Are the participants' skills adequate?
  Are some participants perceived as not helpful?
- **Resources**
  Are there enough, for example funding?
  Are some not identified?
  Are some not used effectively, or mis-placed?
- **Environment**
  Is it conducive to problem solving? Is there too much stress?
  Is the power structure (administration or line of authority) supportive?
  Is the power structure (administration or line of authority) aware of the problem?

- **Processes, procedures and rules**
  Are they understood, or badly defined?
  Are they perceived as an obstacle?
- **Vocabulary/terminology/concepts**
  Is there an agreed-upon vocabulary, and understanding of their meanings and definitions?
  Are some "hidden"?

Working with the diagram:

- Consider all the causes and rank them in importance
  either on their post-its, or by circles with numbers etc.
- Examine relationship
  Drop some causes to secondary levels, or off the chart to indicate irrelevance.

* The Ishikawa Diagram was developed by Kaoru Ishikawa (1968) with applications in manufacturing and later published in "Introduction to Quality Control (1990. It was first used in the 1940s, and is considered one of the seven basic tools of quality control.[4] It is known as a fishbone diagram because of its shape, similar to the side view of a fish skeleton. Mazda Motors used the procedure in the development of the Miata sports car. "Every factor identified in the diagram was included in the final design."



Gathering Information

Stakeholders

Individuals, groups, organizations that are affected by the problem, or its solution. Begin with yourself. Decision makers and those close to us are very important to identify.

Facts & data

- Research
- Results from experimentation and studies
- Interviews of "experts" and trusted sources
- Observed events, past or present, either personally observed or reported

Boundaries

The boundaries or constraints of the situation are difficult to change. They include lack of funds or other resources. If a solution is surrounded by too many constraints, the constraints themselves may be the problem.

Opinions and Assumptions

Opinions of decision makers, committees or groups, or other powerful groups will be important to the success of your decision. It is important to recognize truth, bias, or prejudice in the opinion.

Assumptions can save time and work since is often difficult to get "all the facts." Recognize that some things are accepted on faith. Assumptions also have a risk factor, must be recognized for what they are, and should be discarded when they are proven wrong.

MODULE : 47

Problem solving series

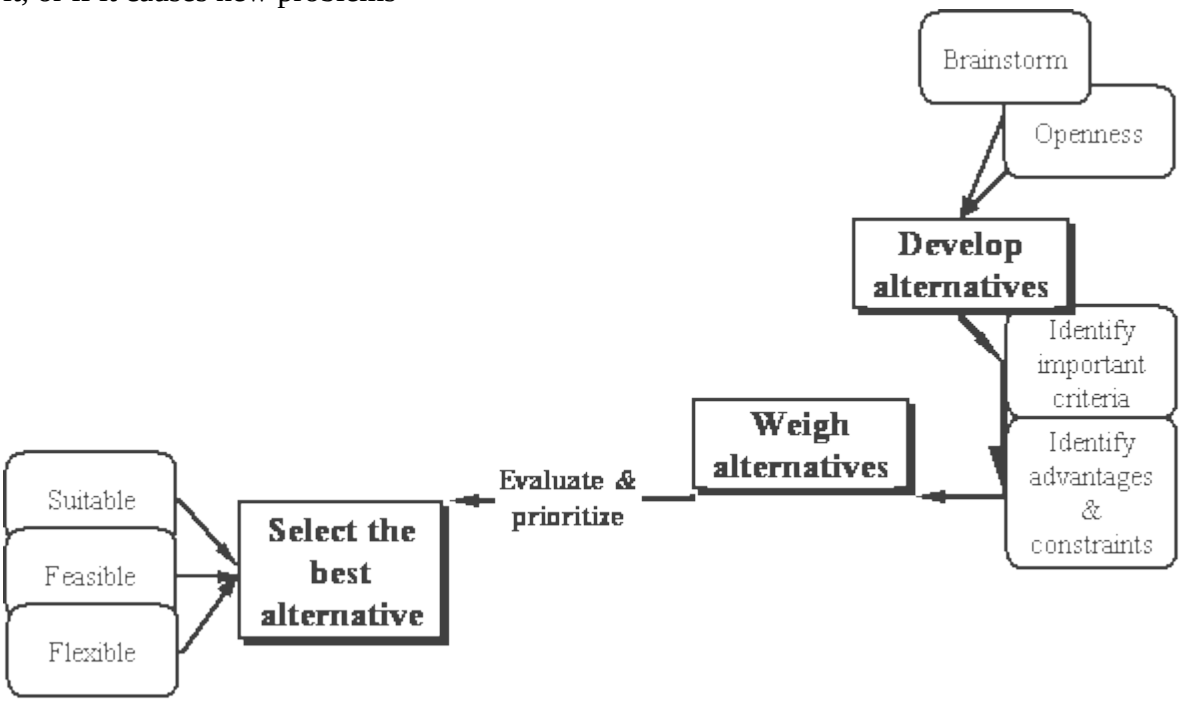
2. Developing/weighing alternatives

Look at your problems in different ways; find a new perspective that you haven't thought of before.
Brainstorming, or rapid noting of alternatives no matter how silly, is an excellent discovery process.
Once you have listed or mapped alternatives, be open to their possibilities. Make notes on those that:

- need more information
- are new solutions
- can be combined or eliminated
- will meet opposition
- seem promising or exciting

Weigh Alternatives

After listing possible alternatives,
evaluate them without prejudice,
no matter how appealing or distasteful
Consider all criteria
While a suitable solution may solve the problem, it may not work if resources aren't available, if people won't accept it, or if it causes new problems



Select the best alternative

- **Don't consider any alternative as "perfect solution."**
  If there were, there probably wouldn't be a problem in the first place
- **Consider your intuition,**
  or inner feelings in deciding on a course of action
- **Return to your trusted outsider:**
  Is there something you missed?
  Does he/she see a problem with your solution?
- **Compromise**
  Consider compromise when you have a full grasp of the problem, and your alternatives. Competing solutions may yield a hybrid solution.

Techniques in weighing alternatives:

ANALYTICAL HIERARCHY MATRIX

	Alternatives				Row Sum	Rank
	A	B	C	D		
Alternative A		0	0	0	0	4th
Alternative B	1		0	1	2	2nd
Alternative C	1	1		1	3	1st
Alternative D	1	0	0		1	3rd

Thomas Saaty's Analytical Hierarchy Matrix.

List alternatives in columns and rows as depicted in the matrix above. Starting with Alternative A, go across columns in the matrix and rate each alternative against all the others.

When the alternative under consideration has more value than the others **Then** give the more valuable alternative a score of 1

When the alternative has less value than the others give the less valuable alternative a score of 0

Add the scores for each row/alternative; highest score is the highest rated alternative according to the criteria you used. In the matrix above, Alternative C scores highest, so it's the highest rated alternative

SFF Matrix: Suitability, Feasibility & Flexibility

	Suitability	**Feasibility**	**Flexibility**	**Total**
Alternative A				
Alternative B				
Alternative C				
Alternative D				

Rate each alternative onscale of 1 - 3 for its

- **Suitability: refers to**
  the alternative itself, whether it is ethical or practical. Is it appropriate in scale or importance? an adequate response? too extreme?
- **Feasibility: refers to**
  How many resources will be needed to solve the problem (i.e. Is it affordable?)
  How likely will it solve the problem?
- **Flexibility: refers to**
  your ability to respond
  to unintended consequences, or openness to new possibilities? the alternative itself, and whether you can control outcomes once you begin.

Total a score for each alternative, compare, prioritize your alternatives...

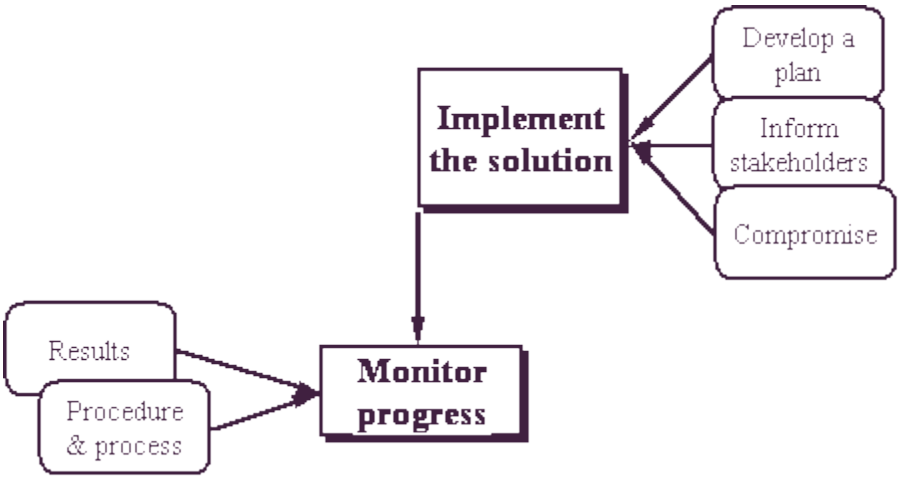
MODULE : 48

Problem solving series

3. Implementing decisions

Develop a plan for implementation.
Elements:

- Step-by-step process or actions for solving the problem
- Communications strategy for notifying stakeholders
  Where important or necessary, inform those who care for you and/or will be affected by the change. Prepare them as necessary about your decision
- Resource identification/allocation
- Timeline for implementation



Monitoring progress

Your implementation will only be successful if you are monitoring your solution, the effects of it on resources and stakeholders, your timeline, and your progress. As you monitor your progress, if results are not what you expect, review your options and alternatives.

Review/ learn from your experience

Whether or not you achieved your goals,
it is important to consider what you have learned from your experience: about yourself, about what you consider important.

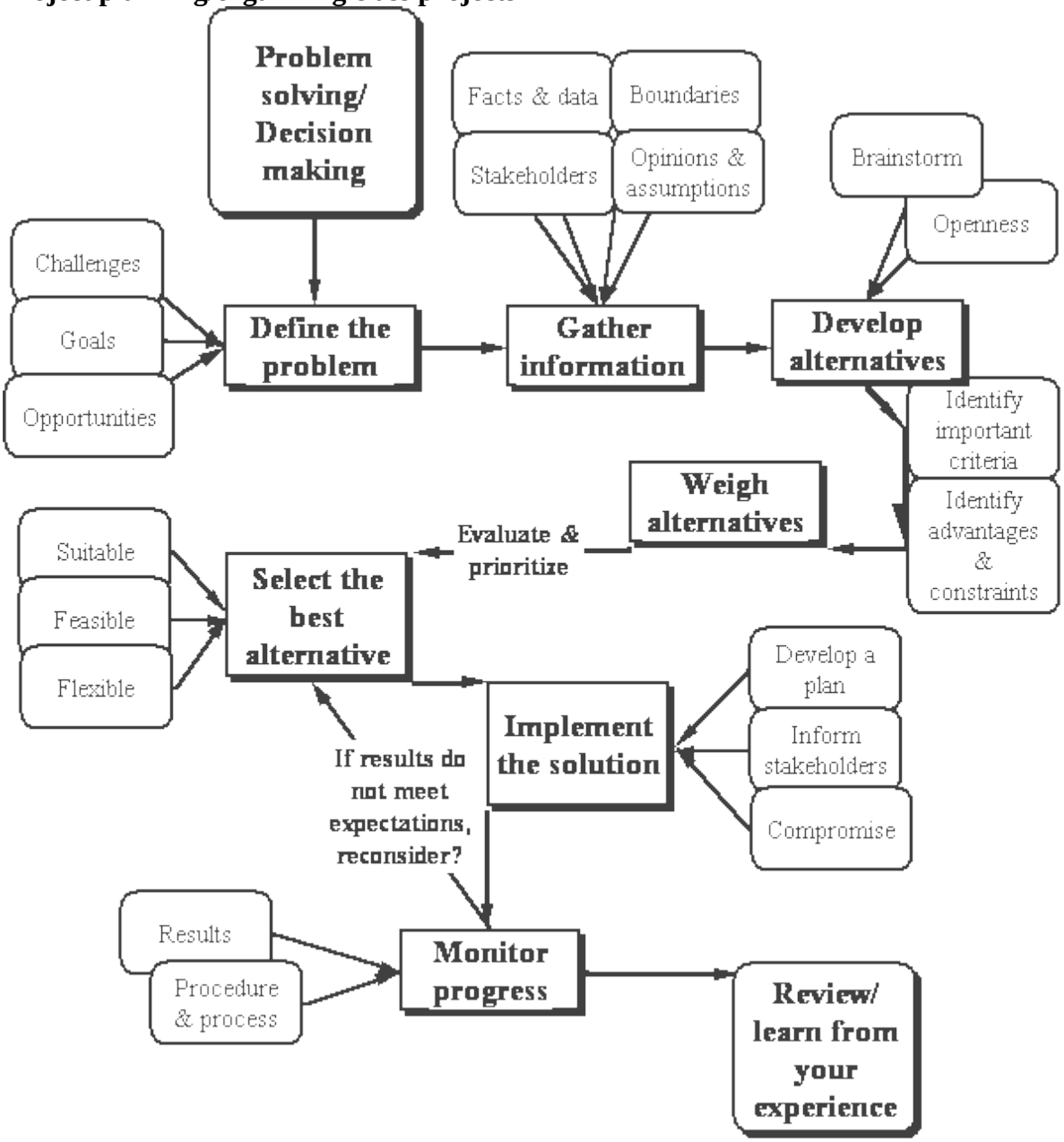
Lastly, if you have done your best,
you have this as one measure of success.

Problem solving series

MODULE : 49

4. Mapping the problem solving process

Project planning/organizing class projects



Thinking and recall series

MODULE : 50

Thinking like a genius

Problem solving: creative solutions

"Even if you're not a genius, you can use the same strategies as Aristotle and Einstein to harness the power of your creative mind and better manage your future."

The following strategies encourage you to think productively,
rather than reproductively, in order to arrive at solutions to problems. "These strategies are common to the thinking styles of creative geniuses in science, art, and industry throughout history."

Nine approaches to creative problem solving:

1. Rethink! Look at problems in many different ways.
2. Visualize! Utilize diagrams and imagery to analyze your dilemma.
3. Produce! Genius is productive.
4. Combine! Make novel combinations...
5. Form! Form relationships.
6. Opposite! Think in opposites.
7. Metaphor/simile! Think metaphorically.
8. Failure! Learning from your mistakes is one example of using failure.
9. Patience! Don't confuse inspiration with ideas.

Text of exercise:

Nine approaches to creative problem solving:

1. Rethink!
   Look at problems in many different ways.
   Find new perspectives that no one else has taken.
   Solutions example: Finding a job or internship:
   a. Ask friends or colleagues for potential leads
   b. Over-sell yourself
      Send samples of your work or portfolio to anyone that might respond.
   c. Check local resources like Craigslist or your school's job search
   d. Broaden your target audience.
      What other fields could you specialize in?
2. Visualize!
   Utilize diagrams and imagery to analyze your dilemma.
   a. How can you use pictures, images, graphs, etc. in your studies?
   b. Visit guides on *concept or mind maps*, *picturing vocabulary*, *flashcards*, etc.
   c. Write out one example of how you can use imagery, then print and post it in your study area.
3. Produce!
   Genius is productive.
   a. Perhaps originality is not the key, but rather constant application of thought and tools to arrive a solutions.
   b. *Geniuses are the luckiest of mortals because what they must do is the same as what they most want to do.*
      W. H. Auden (1907–1973) Anglo-American poet
   c. *Genius is nothing but a great aptitude for patience*.
      George-Louis Leclerc de Buffon (1707–1788) French naturalist
4. Combine!
   Make novel combinations...
   Combine and recombine ideas, images, and thoughts into different combinations no matter how incongruent or unusual.
5. Form!
   Form relationships. Make connections between dissimilar subjects.
   a. This doesn't always apply to objects: form relationships with people and ask them questions!
   b. Get to know people in your field that can help you excel to the best of your ability.
   c. Write down one person that you could get in contact with, why you think this person can help, and print/post it for reference!
6. Opposite!
   Think in opposites. Don't always stick with the obvious solutions.
   Get outside of your comfort zone.
   a. “Opposites” bring two approaches to a situation but they do share a basic similarity.
      Example: “right” and “left” are both directions, but which is the right choice?
   b. The Sesame Street Muppet *Elmo* teaches small children the concept of opposites!

7. Metaphor/simile!
   Think metaphorically.
   a. Metaphors are connections that are unusual or not an ordinary way of thinking:
      A sea of troubles; the heart of a lion; raining cats and dogs.
   b. Similes use "like" or "as" to illustrate
      The boy was as agile as a monkey. The miner's face was like coal.
      The task was as easy as ABC. Dry like a raisin in the sun.
8. Failure!
   Learning from your mistakes is one example of using failure.
   a. As strange as it seems the human brain is failure machine: it generates models of reality, acts on them, and adjusts or creates new, successful models based on failures.
   b. From Daniel Coyle's *the Talent Code* on Adam Bryant's weekly interview: "*every single CEO shares the same nugget of wisdom: the crucial importance of mistakes, failures, and setbacks*… mistakes create unique conditions of high-velocity learning that cannot be matched by more stable, "successful" situations."
9. Patience!
   Don't confuse inspiration with ideas.
   Apply your ideas with patience for the reward they may deserve

Time and project management series

Brainstorming or generating options toward problem solving

What is commonly known as brainstorming can be used to generate ideas toward problem solving.

- Individuals can use brainstorming!
  Diehl and Stroebe (1987) found that individuals working separately were able to generate more ideas than groups!
- Groups working with brainstorming are more effective when
  individuals within the group are responsible and empowered to contribute,
  and understand the value of contributing. Ideas generated can be more constructive when the group brings different perspectives and backgrounds to the process.

Brainstorming should begin with a focused, well-defined topic
that is understood by all participants. If used in a group, it should be smaller, include a facilitator and note taker, and have a defined time limit. Ideas should be expansive, creative and not judged, and hopefully reflect a diversity of the contributors. Ideas can also build on one another. See the entry in Wikipedia for a broader discussion.

Follow up activities:

Ideas contributed are not criticized in the process of brainstorming.
Each may have a grain of possibility and should be viewed from that perspective.

1. Ideas contributed should be left in their original form.
2. Guidelines should be developed for evaluating and ranking them.
3. Ideas are then considered in light of the guidelines, revised and ranked.
4. Follow up activities then discussed for further action:
   - A report is generated for all participants to demonstrate the validity of the exercise and continue to empower individuals to contribute to the process of resolving its original problem/challenge
   - Meetings by sub-groups to work on ideas, and perhaps resolve any differences/conflicts
   - Meeting of the collective to see if new perspectives or options are generated from the exercise.

MODULE : 51

Problem solving series

Using analogies in creative problem solving

Use analogies to compare and contrast options in problem solving and decision making.
This is a great way to brainstorm and organize new and creative solutions.

With the exercise below, four strategies are considered. With each, you will compare relations, similarities or contrasts, between words, events, things, etc. in order to understand the situation.

Work though them with lower step circles:

- Fantasy
- Close-similarity
- Surprising
- Personal

Options using analogies to resolve problems:

Fantasy

- Identify/define the problem
- Imagine solutions without telling yourself "no" to any one option
  Suspend all judgment and/or doubt
- Brainstorm variations on a solution:
  Apply options even to the most extreme

"Close" options

- Identify/define the problem
- Discover solutions that have worked in the past
- Brainstorm solutions from this starting point

Surprise!

- Identify/define the problem
- Try to think of an unrelated event, word, time, etc.
- Brainstorm solutions in trying to bridge the differences

Personalize

- Identify/define the problem
- Now imagine yourself in the middle of a "room" with the problem
- Brainstorm solutions in trying to "get out"

Problem solving series

Adaptive Decision Making

Adaptive techniques for solving problems are a combination of logic and common sense, and while not precise, can produce satisfactory solutions.
If you cannot follow the complete problem solving process, use these techniques when you

- have little time for research
- don't need exhaustive analysis
- can accept the risks
- can make reversible decisions

Strategies toward adaptive decision making:

Managing by exception: exercise

Managing by exception: text

Work on matters critical to you; leave off matters that are not. Strategizing and prioritizing

Example: You tutor a child in math. You become aware that the family situation is troubled, but you haven't the skills to help. You inform the case manager for their action, but continue to focus on the supporting the child with his/her homework

Decision staggering

Make incremental decisions to achieve an objective and avoid total commitment to a decision you cannot change.

Example: Before installing air-conditioning, try screens, shades, and fans. These alone may do the job. If not, these improvements will still have helped cool the building and increase air-conditioning efficiency if later installed.

Exploration

Use information available to probe for a solution.

Exploring is a modified trial-and-error strategy to manage risk. Unlike a throw of dice, however, it requires a firm sense of purpose and direction. Use this technique to move cautiously in small steps toward a solution.

Example: Doctors avoid committing to a single, incomplete diagnosis of an illness. Through tentative but precise exploration, they determine the cause of an illness and its cure.

Hedging

Spread risk by avoiding decisions that lock you into a single choice if you are not prepared to commit.

Example: astute investors don't "put all their eggs in one basket." They spread risks with a balanced portfolio of stocks, bonds, and cash.

Intuition

Create options based on your experience, values, and emotions (your gut feelings and your heart)! While often able to arrive at the truth through intuition, don't rely on it exclusively. It can trigger snap judgments and rash decisions. Use logic first, then your intuition to make the decision "feel" right

Delay

Go slow and/or postpone committing yourself to a course of action
if an immediate decision isn't necessary and there's time to develop options.

Sometimes doing nothing is the best decision; the problem will either go away, conditions will change, the path may become clearer as you reflect on it, or events will change the problem itself.

Delegating decision-making or action to another person or group

Sometimes we take on problems that are not ours,
or that the problem can be solved better by someone else.

One strategy towards delegation is to identify stakeholders of the problem. A stakeholders is a person or group that interest in, or will be affected by, resolution of the problem. (This is a good practice for all decision-making!)

Another consideration for "out-sourcing" a problem's resolution is to consider if your resources will be adequate to the task. Resources are time, money, skills, confidence, etc.

Visioning

Focus on the future to uncover hidden opportunities and options that may resolve the problem.

With options, we make better decisions. Without them, decisions become forced choices.

By finding tomorrow's opportunities and developing options, you can make enduring, quality decisions.

Barriers to effective decision-making

Indecision

Avoiding decisions to escape the unpleasant aspects of risk, fear, and anxiety

Stalling

Refusing to face the issue; obsessive gathering of endless facts

Overreacting

Letting a situation spin out of control; letting emotions take control

Vacillating

Reversing decisions; half-heartedly committing to a course of action

Half measures

Muddling through. Making the safest decision to avoid controversy but not dealing with the whole problem

Problem solving series

MODULE : 52

Managing by exception

This exercise will help you identify matters of importance within a problem.
Managing by exception
Work on those matters that are critical to you
Leave matters to others that are not.
One strategy is to identify and chose one remedy that is most "doable" where you will have the best chance of success toward solving the problem. This will give you confidence to continue with the others, and solve your problem!

Strategizing and prioritizing:
Use the exercise below to

1. Write out your problem
2. Identify eight "aspects" or characteristics of the problem
3. Number each, from 1 -8, with "1" being most important, "8" the least
4. Eliminate the 4 least important!
5. Focus on the four remaining.

Example of managing by exception:
You tutor a child in math.
You become aware that the family situation is troubled,
but you haven't the training, skills and professional experience or qualification to help:

You inform the case manager for his/her action and recommendation,
but continue to focus on the supporting the child with his/her homework

1. Informing the manager is the most appropriate first step
2. Following the manager's advice the second
3. Continuing to help with homework a third
4. Just being there to listen in a supportive manner a fourth.

Cooperative learning series

MODULE : 53

Managing stress

Select the text below for guidance:

Managing stress(text summary from Flash piece, above)
First, recognize stress:
Stress symptoms include mental, social, and physical manifestations. These include exhaustion, loss of/increased appetite, headaches, crying, sleeplessness, and oversleeping. Escape through alcohol, drugs, or other compulsive behavior are often indications. Feelings of alarm, frustration, or apathy may accompany stress.

If you feel that stress is affecting your studies,
a first option is to seek help through your educational counseling center.
Stress Management is the ability to maintain control
when situations, people, and events make excessive demands.
What can you do to manage your stress?
What are some strategies?

Look around See if there really is something you can change or control in the situation	**Set realistic goals for yourself** Reduce the number of events going on in your life and you may reduce the circuit overload
Exercise in stress reduction through project management/prioritizing	

Remove yourself from the stressful situation Give yourself a break if only for a few moments daily	**Don't overwhelm yourself** by fretting about your entire workload. Handle each task as it comes, or selectively deal with matters in some priority
Don't sweat the small stuff Try to prioritize a few truly important things and let the rest slide	**Learn how to best relax yourself** Meditation and breathing exercises have been proven to be very effective in controlling stress. Practice clearing your mind of disturbing thoughts.
Selectively change the way you react, but not too much at one time. Focus on one troublesome thing and manage your reactions to it/him/her	**Change the way you see your situation; seek alternative viewpoints** Stress is a reaction to events and problems, and you can lock yourself in to one way of viewing your situation. Seek an outside perspective of the situation, compare it with yours. and perhaps lessen your reaction to these conditions.
Avoid extreme reactions; Why hate when a little dislike will do? Why generate anxiety when you can be nervous? Why rage when anger will do the job? Why be depressed when you can just be sad?	**Do something for others** to help get your mind off your self
Get enough sleep Lack of rest just aggravates stress	**Work off stress** with physical activity, whether it's jogging, tennis, gardening
Avoid self-medication or escape Alcohol and drugs can mask stress. They don't help deal with the problems	**Begin to manage the effects of stress** This is a long range strategy of adapting to your situation, and the effects of stress in your life. Try to isolate and work with one "effect" at a time. Don't overwhelm yourself. for example, if you are not sleeping well, seek help on this one problem.
Try to "use" stress If you can't remedy, nor escape from, what is bothering you, flow with it and try to use it in a productive way	
Try to be positive Give yourself messages as to how well you can cope rather than how horrible everything is going to be. "Stress can actually help memory, provided it is short-term and not too severe. Stress causes more glucose to be delivered to the brain, which makes more energy available to neurons. This, in turn, enhances memory formation and retrieval. On the other hand, if stress is prolonged, it can impede the glucose delivery and disrupt memory." "All Stressed Up", St. Paul Pioneer Press Dispatch, p. 8B, Monday, November 30, 1998	
Most importantly: if stress is putting you in an unmanageable state or interfering with your schoolwork, social and/or work life, **seek professional help at your school counseling center**	

MODULE : 54

Classroom learning series

Presenting Projects

Presenting projects in the classroom

Basic content:

- **Build your topic from a few main ideas**
  State where you are going and what you will prove
- **Know your audience: where are they coming from?**
  Cover mutual ground as a starting point
  Use familiar vocabulary to begin; introduce and define new concepts gradually
  Adapt the presentation's goals with the interests of your audience
  Treat each audience as a unique group
- **Convince them with facts and logic**
  Demonstrate that you know what you are talking about, but on their level!
- **Review and summarize in your conclusion**
  Summarize what you've told them
  Check for comprehension
- **Leave time for questions and discussion**
  Follow up with options so audience can contact you

This practice session will identify tips on
presenting your project, and yourself, more effectively:

Summary:

1. Think positively!
2. Know your material
3. Familiarize yourself with the room and technology you will use
4. Know your audience
5. Think about the message
6. Visualize yourself succeeding
7. Don't apologize for what the audience may not even notice!
8. Relax
9. Realize success
10. Think in terms of building experience in presenting projects

MODULE : 55

Presenting projects and public speaking series

Public speaking: guidelines

Know the room.
Be familiar with the place in which you will speak.
Arrive early, walk around the speaking area and practice using the microphone and any visual aids.
Know the audience.
Greet some of the audience as they arrive.
It's easier to speak to a group of friends than to a group of strangers.

Know your material.
Practice your speech and revise it if necessary.
If you're not familiar with your material or are uncomfortable with it, your nervousness will increase.
Relax.
Ease tension by doing exercises.
Work from your personal brand (Try the exercise)
Visualize yourself giving your speech.
Imagine yourself speaking, your voice loud, clear, and assured.
When you visualize yourself as successful, you will be successful.
Realize that people want you to succeed.
They don't want you to fail.
Audiences want you to be interesting, stimulating, informative, and entertaining.
They are on your side!
Don't apologize.
If you mention your nervousness or apologize for any problems you think you have with your speech, you may be calling the audience's attention to something they hadn't noticed.
Concentrate on the message -- not the medium.
Focus your attention away from your own anxieties, and outwardly toward your message and your audience.
Your nervousness will dissipate.
Turn nervousness into positive energy.
Harness your nervous energy and transform it into vitality and enthusiasm.
Gain experience.
Experience builds confidence, which is the key to effective speaking.
A Toastmasters club can provide the experience you need.

The online series

MODULE : 56

Creating and presenting your personal brand

You have two options with the final screen of the exercise:

- Print, and look for patterns as to where your strengths lie.
  Take advantage of them in presenting yourself to others, and in how you can compensate for short-comings
- Copy and paste each section into word processing.
  Then edit the four groups into a document that you can review as above.

Four components of your personal brand:

- *Appearance:*
  Your body language, clothing attire and overall posture.
- *Personality:*
  Your behavior, communication skills and attitudes toward people.
- *Competencies:*
  Your special skills fulfilling task requirements.
- *Differentiation:*
  What separates you from others and leaves a lasting memory in the minds of others.

Make good use of your first impression, whether in the real or digital world.
Decide what works best for you and then go out and do it. Prepare, know the path, enjoy it and be yourself. [1]
In person:
In just a few seconds, with a brief glance, a person unfamiliar with you will evaluate who you are based upon your appearance and personality. This first impression is critical, not only with employment, but also in your social life. Think of yourself as a delivery mechanism. When you begin to identify, enhance and integrate/increase the importance of these positive elements into your personal brand, you can think of it as packaging who you are, what you have to contribute, and how you interact with others. By strengthening these elements, you also strengthen your confidence level in operating from the vantage point of what is familiar and true to yourself.

With groups

Your public image is critical when you are addressing your class or a larger group. *People generally retain or remember 4% of the content of any presentation, speech or talk, but they always remember 100% of how they felt about it.*[1]

Integrate these elements in order to build your core personal message, unique to you.

- Be well-prepared, then write out or outline what you have to say.
  Recognize the importance of writing to the sequence of what you have to say. Sort out the main ideas, then prioritize them so your audience can follow your train of thought.
- Practice what you have to say in front of a mirror. You make think you make beautiful music, but others may just hear noise.
  You will feel a bit strange at first, but eventually you will see and hear yourself as others, and so work out the stumbles.
- Work out what type of "guide" you need in presenting,
  whether a script, note cards or projected outlines, whether with illustrations or images.
- Develop supplemental materials: a business card, hand-out with references and resources, contact information, etc.

Online/networking

When you package yourself online, whether in a personal or community Web site, consider this your public image and remember that you are not there to interpret what others see, and read. Remember that your presence on the Internet is archived (www.archive.org) and will always be available to anyone, employer or social group, who search for it.

- Pay attention to how you present yourself.
  Keep your personal life private, especially on the Internet and Social networking sites.
- Develop a personal/professional logo and use it consistently on your business card, presentations, and digital profiles
- Develop a Web page that you control, whether professional or personal, as your portfolio.
  A personal Web site will also enable you to have a related personalized email address!
  Keep the URL/address simple, content up-to-date. Include work history, accomplishments, interests, etc.
- Coordinate what you put online, whether in social Web sites (i.e. Facebook), or your personal Web site.
  Be aggressive in projecting your strengths and a positive image.
  Research do's and don'ts!
  Social Web sites include MySpace, Facebook , Nexopia, Bebo, Hi5, Tagged, Skyrock, Orkut, Friendster, Xiaoneiand Cyworld. Frequently review Wikipedia for the latest.
  Professional Web sites include LinkedIn, Xing, careerbuilder.com, Jobfox, and organizational and professional Web sites that may enable you to list yourself.

When these assets are integrated, they become your core *personal* message, unique to you.

In order to impact those around you, use your personal brand to differentiate yourself and make a positive impression. You will also strengthen your confidence level since you will be presenting from your position of strength.

As you develop or cultivate your brand, you become in charge of how you present yourself and act.

Begin with an honest assessment of where you are at, then determine where you need to go.

A brand is not static, but constantly in development, altered by situations and accomplishments.

Beware:

In the era of the social Web and social media,
everything we create and share online is open to discovery, interpretation, and feedback –
positive, neutral and negative. Remember that you are not there to interpret what others view and read.

MODULE : 57

The online series

Creating and presenting your personal brand

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- Pay attention to how you present yourself.
  Keep your personal life private, especially on the Internet and Social networking sites.
- Develop a personal/professional logo and use it consistently on your business card, presentations, and digital profiles

- Develop a Web page that you control, whether professional or personal, as your portfolio.
  A personal Web site will also enable you to have a related personalized email address!
  Keep the URL/address simple, content up-to-date. Include work history, accomplishments, interests, etc.
- Coordinate what you put online, whether in social Web sites (i.e. Facebook), or your personal Web site.
  Be aggressive in projecting your strengths and a positive image.
  Research do's and don'ts!
  Social Web sites include MySpace, Facebook , Nexopia, Bebo, Hi5, Tagged, Skyrock, Orkut, Friendster, Xiaoneiand Cyworld. Frequently review Wikipedia for the latest.
  Professional Web sites include LinkedIn, Xing, careerbuilder.com, Jobfox, and organizational and professional Web sites that may enable you to list yourself.

When these assets are integrated, they become your core *personal* message, unique to you.
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positive, neutral and negative. Remember that you are not there to interpret what others view and read.

MODULE : 58

Self Motivation/Project Management

Project management and motivation series

Motivating yourself

How can you motivate yourself?
With this exercise, try to

- recognize your sense of discovery
- take responsibility for your learning
- accept the risks inherent in learning with confidence, competence, and autonomy
- recognize that "failure" is success**:**
  learning what doesn't work is on the same path
  as learning what does work
- celebrate your achievement in meeting your goals

As young children, we have a great ability to learn and to see past setbacks.

As we begin to meet expectations created by our families, schools, and environment, the motivation of our early years shifts from our goals to pleasing others, and often our desire to learn suffers.

How can **you** motivate **yourself**?

Text of the exercise in four steps:

Try to

- recognize your sense of discovery
- take responsibility for your learning
- accept the risks inherent in learning with confidence, competence, and autonomy
- recognize that "failure" is success**:**
  learning what doesn't work is on the same path
  as learning what does work
- celebrate your achievement in meeting your goals

Part I: definition

How can you motivate yourself?

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- take responsibility for your learning
- accept the risks inherent in learning with confidence, competence, and autonomy
- recognize that "failure" is success**:**
  learning what doesn't work is on the same path
  as learning what does work
- celebrate your achievement in meeting your goals

How can **you** motivate **yourself**?
Good luck!

MODULE : 59

1. Motivate yourself by first identifying your project

In a note book or on your computer,
define your learning project where you need to motivate yourself:

- **Be brief and specific**
- **Don't be too ambitious.**
  Remember: this is a trial project in developing self motivation
- **Keep to a very reasonable and manageable timeframe,**
  perhaps a two-month period at most

In a separate entry, on a scale of 1 - 10, how curious are you in this subject?
Your project must be greater than five or choose something else!
This project should have significant appeal to you.
Create a wallboard in a visible "study" space and post your project,
or begin a notebook or computer diary and post your project as its first entry.

Project management and motivation series

2. My intrinsic motivation

*** Intrinsic motivation is your motivation,**
and includes your goals, your values, and your interests. This is what turns you on!
Studies have found that if you are intrinsically* motivated you will

- put in more effort
- try different ways to succeed

- be more persistent
- learn more deeply

Examples:

I want to learn to type or text faster to communicate with my friends.
I want to learn about Africa to learn about my family's history.
I want to work and learn in a ski shop to ski better and get discounts on equipment.
I want to learn joinery to make my CD or DVD cabinet.

Write three reasons <u>you</u> want to learn in this project:
focus on your needs, benefits, curiosity, pleasure
Be honest with yourself--

1.
2.
3.

Post "intrinsic motivation" on your wallboard, or in your notebook or computer diary. Keep the focus on your needs, benefits, curiosity, pleasure, etc.

3. My extrinsic motivation

Extrinsic motivation comes from **outside** yourself and is not as effective as intrinsic motivation. It includes the goals, values, and interests of others as they affect you. You learn in order to avoid punishment, or to get a reward, or to please someone.

Examples:

I learn dates to pass a history test.
I learn this computer program as a job requirement.
I learn how to kick to please my coach.

Extrinsic motivation is not bad, it just isn't as effective as intrinsic motivation.
Keep intrinsic reasons first whenever possible.

Write out three reasons <u>someone else</u> wants you to learn this

1
2
3

Do not post "extrinsic motivation" on your wallboard or in your diary
but place it aside for later; or place it as the last page in your notebook diary.
Keep focus on your motivation, not that of others.

Project management and motivation series

4: Developing the project

Considerations:

- **What do I already know in this area?**
- **What are the sources of information?**
  Text books, reference books, manuals, other print material, web sites:
  in-school resources, out-of-school resources
- **Who are the experts?**
  Reference librarians, tutors, teachers, professionals, consultants, etc.
  How did others learn in this area?
- **Are there sequences to learn?**
  Chapters, concepts, skills, levels, etc.
- **How much time am I dedicating to this project?**
  Number of hours? Weekly schedule?
- **What is my timeline?**
- **How will I check what I am learning?**
  Tests, reports, MODULEs, feedback from a group or teacher or expert or professional, pages read, tasks completed, etc.
- **Where do I go if I'm not getting the results I want?**

- **When will I record my progress?**
  Daily/weekly/monthly; when I complete a "section", etc.?
- **What are my rewards as I progress?**
  Rewards should match your effort, the degree of difficulty, or the task.

Post these on your wallboard, or in your notebook.

5: Choosing a mentor

Who will be my mentor?

A mentor will help you monitor your progress, and should

- be a person you trust
- understand your motivation
- understand your project
- ask you how you are doing from time to time
- not test your learning (this is not his/her role!)
- give encouragement without being judging
- be able to suggest ways of getting around obstacles
- confront you if you are avoiding him/her or the project

Preparation

You should feel comfortable about sharing
what you have developed so far with the person: your project description, intrinsic and extrinsic motivations, etc.

Communications:

- How will you communicate and meet with your mentor?
  In person, via email or phone?
- When or how often will you meet?
  Meet at least three times: at the outset, mid-term check in, and wrap up.
- Copy your project name, your intrinsic motivations, project description, and this page for your monitor.

Write out your agreement on the project, and both should initial
Post your mentor's information on your wallboard, your notebook,
or computer.

Project management and motivation series:

6: Monitor your progress

As you learn about the subject, you will need some markers of progress:

- **What are the stages of learning?**
  Are there steps? chapters? concepts? and what is the sequence?
  Are there short term goals? These should be as specific as possible.
- **What skills am I developing as I learn?**
  These can be used in other situations and should be recognized!
- **What have I learned that won't work?**
  Will I need to retrace my steps to find alternatives?
- **Does something not make sense?**
  Tasks that involve "a moderate amount of discrepancy or incongruity" are beneficial because they stimulate curiosity
- **How am I rewarding myself?**
  We can reward ourselves for effort or tasks!
- **Am I thinking positively with my goals in mind?**
  Avoid avoidance!

Make several copies of this list.
Fill in blanks only as you have information, but mark N/A for blank entries.
Post entries regularly and frequently on wall board or in your notebook.

7. Review

This page assumes you have continued with
your learning project to a conclusion,
(or need to analyze why you did not!).
It is important first to recognize that if you have not succeeded
in learning what you first wanted, that you have not failed.
Success is not always determined by quantity of knowledge.
We are not all meant to be brain surgeons, soccer players, plumbers, or even spellers.
But we can recognize that some subject matter can be gained/enjoyed in other ways: consulting a specialist; watching or refereeing a game; hiring a plumber; using a spell checker.
Success in learning is also determined by an evaluation
of your process, and what you have learned from this process.
Consider these questions, and answer from your experience in the project.
With your experience, you will be able to build on it and do even better next time.

- **Was the subject matter as important or interesting**
  as you first thought?
- **What intrinsic motivations did you satisfy?**
- **Was the process of learning that you chose effective?**
- **Did you learn anything you didn't expect?**
- **Was a mentor/monitor helpful?**
  Were communications good?
- **Retrieve your extrinsic motivations.**
  What role did they play in your learning process?
- **Was this self-motivation exercise effective?**

MODULE : 60

Guides: Writing and vocabulary

Writing assignments

The process and types of writing

Required and voluntary writing has a broad range of styles. A writing assignment succeeds by addressing a defined audience with content organized into an effective and/or convincing presentation. This sequence may help:

Essay and writing sequence

Develop your topic (1)
If a topic is not assigned, identify a subject that interests you...
Identify your audience (2)
Use this exercise to develop your audience and readership...
Research (3)
Develop your time line: allow for editing, revision and unexpected developments...
Organizing with notecards
Using the "Note Card System" can be very useful...
Summarizing research
An easy step by step process of
identifying critical information
Prewrite (4)
Prewriting exercises provide key words, meaning, and structure to...
Draft/write (5)
A rough draft is "a late stage in the writing process"...

Revise (6)
Before the revising/editing, take a break to gain a new perspective...
Proofread (7)
Intentionally separate "proofreading" from the "writing"...

Types of writing:

Consider what type of writing is assigned, and explore what will make it effective. For example, your diary has different purpose, components and style than an essay; a research proposal different purpose, components, and style than a white paper. The better you understand the task at hand, the more successful will be your writing.

The five-paragraph essay
Getting started means getting organized.
A good place to start if you are inexperienced in writing.
Essays for a literature class
Brainstorm the question/assignment: restate the key words...
Expository essays
When writing an expository essay, follow these eight basic steps...
Persuasive essays
In persuasive or argumentative writing, we try to convince others...
Position papers
Write a position paper to organize and outline your viewpoint on an issue...
Writing for the "Web"
The topic, its main idea, and its conclusion should be immediately visible, locatable, or knowable...
Open book exams
In an open book exam you are evaluated on understanding rather than recall...
Essay Exams
Before writing out the exam, write down its key words...
Research proposals
These recommendations do not guarantee a successful research application! They are intended to help you conceptualize and prepare a research proposal...
White papers
White papers introduce your product or technology as innovative...

Helpful guides can assist you:

Transitional words & phrases
Using transitional words and phrases helps papers read more smoothly...
Essay terms and directives
"Directives" ask you to answer, or present information, in a particular way...
Modifiers & commas
Grammar refers to the rules regarding the current standard of correctness...
Writing under deadline
Don't panic: organize! Whether you are meeting a publication deadline, over-booked, or procrastinating...
Writing Strategies Learned
Stephen Wilburs' reflections or blog on writing...

Don't forget to use words correctly!

Spelling strategies
English spelling rules are complex, with many exceptions...
Spelling rules & exercises
American spelling rules and exercises...
Common misspelled words
Words commonly misspelled,or spelled correctly but not used properly...
There | They're | Their
pronounced the same, but spelled differently according to usage...
Too | Two | To
pronounced the same, but spelled differently according to usage...
"Y" with suffixes
When "y" is the last letter in a word...

Prefixes and root words
As you go through this exercise, note that a word's root or stem is its foundation...
Suffixes and silent "e"
If a word ends with ...
Mapping vocabulary
The exercise will help you remember, use and understand a vocabulary word...
Picturing vocabulary
Use your mouse to draw what comes to mind about the given word...
American alphabet recited
Actor James Earl Jones recited the alphabet in 1.5 minutes as a test pilot for Sesame Street...

MODULE : 61

Reading and research

Reading

Critical reading

Summarize, review and study your reading assignment, whether book, chapter, handout, article, whitepaper, etc.:

Characteristics of Critical Readers

- They are honest with themselves
- They resist manipulation
- They overcome confusion
- They ask questions
- They base judgments on evidence
- They look for connections between subjects
- They are intellectually independent

Ask yourself the following questions as you read:

- What is the topic of the book or reading?
  What issues are addressed?
- What conclusion does the author reach about the issue(s)?
- What are the author's reasons for his or her statements or belief?
  Is the author using facts, theory, or faith?

Facts can be proven
Theory is to be proved and should not be confused with fact
Opinions may or may not be based on sound reasoning
Faith is not subject to proof by its nature

- Has the author used neutral words or emotional words?
  Critical readers look beyond the language to see if the reasons are clear
- Be aware of why you do, or do not, accept arguments of the author

MODULE : 62

Reading and research series

Pre-reading Strategies

What you bring to the printed page
will affect how you understand what you read,
and may be what is most important in understanding what you read

Organize yourself before you read

Strategies to activate your prior knowledge:

Brainstorming:
Examine the title of the selection you are about to read
List all the information that comes to mind about this title
Use these pieces of information to recall and understand the material
Use this knowledge to reframe or reorder what you know, or to note what you disagree with, for further research

Group discussions:
Group discussions in and out of class will help you to discover what you bring to your reading, what your fellow students bring, as well as shared experiences
If you find they have new background information, ask for more information from them

Concept or mind mapping:
This is a type of brainstorming where you place the title/subject as the main idea,
then develop a "mind map" around it. It can be effective either in a group or by yourself

Pre-questions:
Often chapters in texts provide organizing questions.
You can also write out a series of questions you expect to be answered when reading:
Examples:

Definition:
What is....? Where does ... fit? What group does ... belong to?

Characteristics:
How would I describe...? What does ... look like? What are its parts?

Examples
What is a good example of ...?
What are similar examples that share attributes but differ in some way?

Experience
What experience have I had with ....? What can I imagine about ...?

Visual Aids:
Pictures and other visual material can activate your prior knowledge.
Use the Internet to search for pictures related to your title/topic to give you visual images of what you are about to read.

Advance Organizers:
Relate new reading material to something you already know, to your background or experiences. Ask your teacher for assistance in developing these.

Additional Pre-reading Strategies:

Overviews:
Discussing information about the selection or assignment prior to reading must take place.
This may take the form of class discussions, printed previews, photographs, outlines, or films. Spend enough time before the students begin the assignment to ensure understanding of it.

Vocabulary Previews:
Unfamiliar key words need to be taught to students before reading so that new words, background information, and comprehension can improve together.

List all words in the assignment that may be important for students to understand. Arrange words to show the relationships to the learning task. Add words students probably already understand to connect relationships between what is known and the unknown. Share information with students. Verbally quiz them on the information before assigned reading begins.

Structural Organizers: Before reading an assignment, basic frameworks which are included in the text should be pointed out such as cause-effect or problem-solution. It can be beneficial to call attention to specific plans of paragraph or text organization such as signal words, main idea sentences, highlighted phrases, headings and subtitles. A review of skimming techniques might also be appropriate as these various areas are covered.
A Purpose for Reading: When students have a purpose for reading a selection, they find that purpose not only directs their reading towards a goal, but helps to focus their attention. Purposes may come from teacher directed questions, questions from class discussions or brainstorming, or from the individual student. Along with the question, it is a good idea to pose predictions of the outcome and problems which need to be solved. These may be generated by the student or the teacher, but the teacher should use these to guide students in the needed direction for the assigned selection.
Author Consideration: Depending upon the content area, a discussion of the author of the particular work can be helpful to the understanding of it. What is the author trying to say? What is his point of view and his reason for writing the particular work?

MODULE : 63

SQ3R reading method

SQ3R is a reading strategy formed from its letters:

Survey! Question! Read! Recite! Review!

SQ3R will help you build a framework to understand your reading assignment.

Before you read, Survey the chapter:

- the title, headings, and subheadings
- captions under pictures, charts, graphs or maps
- review questions or teacher-made study guides
- introductory and concluding paragraphs
- summary

Question while you are surveying:

- Turn the title, headings, and/or subheadings into questions
- Read questions at the end of the chapters or after each subheading
- Ask yourself,
  "What did my instructor say about this chapter or subject
  when it was assigned?"
- Ask yourself,
  "What do I already know about this subject?"
  Note: If it is helpful to you, write out these questions for consideration.
  This variation is called SQW3R

When you begin to Read:

- Look for answers to the questions you first raised
- Answer questions at the beginning or end of chapters or study guides
- Reread captions under pictures, graphs, etc.
- Note all the underlined, italicized, bold printed words or phrases
- Study graphic aids
- Reduce your speed for difficult passages
- Stop and reread parts which are not clear
- Read only a section at a time and recite after each section

Recite after you've read a section:

- Orally ask yourself questions about what you have just read, or summarize, in your own words, what you read
- Take notes from the text but write the information in your own words
- Underline or highlight important points you've just read
- Reciting:
  The more senses you use the more likely you are to remember what you read Triple strength learning: Seeing, saying, hearing
  Quadruple strength learning: Seeing , saying , hearing, writing!!!

Review: an ongoing process

Day One

- After you have read and recited the entire chapter,
  write questions in the margins for those points
  you have highlighted or underlined.
- If you took notes while reciting,
  write questions for the notes you have taken
  in the left hand margins of your notebook.
- Complete the form for a *critical reading review*

Day Two

- Page through the text and/or your notebook to re-acquaint yourself
  with the important points.
- Cover the right hand column of your text/note-book
  and orally ask yourself the questions in the left hand margins.
- Orally recite or write the answers from memory.
- Develop mnemonic devices for material which need to be memorized.
  Make flash cards for those questions which give you difficulty.

Days Three, Four and Five

- Alternate between your flash cards and notes and test yourself
  (orally or in writing) on the questions you formulated.
- Make additional flash cards if necessary.

Weekend

- Using the text and notebook, make a Table of Contents - list all the topics and sub-topics you need to know from the chapter.
- From the Table of Contents, make a Study Sheet/ Spatial Map.
- Recite the information orally and in your own words as you put the Study Sheet/Map together.
- As you have consolidated all the information you need for this chapter, periodically review the Sheet/Map so that at test time
  you will not have to cram.

MODULE : 64

Reading and research series

KWL reading method

KWL is intended to be an exercise for a study group or class
that can guide you in reading and understanding a text.
You can adapt it to working alone, but discussions definitely help.
It is composed of only three stages that reflect
a worksheet of three columns with the three letters:

What we **K**now	what we **W**ant to know	what we **L**earned

K stands for Know

This first stage may surprise you:
Think first about, then list, what you know about the topic before reading!
This advanced organizer provides you with a background to the new material,
building a scaffold to support it.
Think of it as a pre-reading inventory.

- Brainstorm!
  Before looking at the text, think of keywords, terms, or phrases about the topic, either in your class or a study group.
- Record these in the *K* column of your chart until you cannot think of more.
- Engage your group in a discussion about what you wrote in the *K* column.
- Organize the entries into general categories.

W stands for Will or Want

The second stage is to list a series of questions of what you want to know more of the subject, based upon what you listed in **K**.

- Preview the text's table of contents, headings, pictures, charts etc.
  Discuss what you want to learn
- List some thoughts on what you want, or expect to learn, generally or specifically.
  Think in terms of what you will learn, or what do you want to learn about this.
- Turn all sentences into questions before writing them down.
  They will help you focus your attention during reading.
- List the questions by importance.

L stands for Learned

The final stage is to answer your questions,
as well as to list what new information you have learned.
Either while reading or after you have finished.

- List out what you learn as you read,
  either by section, or after the whole work, whichever is comfortable for you.
- Check it against the W column, what you wanted to learn
- Create symbols to indicate main ideas, surprising ideas, questionable ideas, and those you don't understand!

Expand this exercise beyond K W L:

Add an H!
Stands for **HOW** you can learn more.

- Pose new questions about the topic
- How can I learn more or answer questions not answered in my worksheet
  These include other sources of information, including: organizations, experts, tutors, websites, librarians, etc.

5 W's and an H

Another reading strategy is to answer the questions
that form the basis of good journalism:

Who What When Where Why and How

- Who are the main characters?
- What does the author say happened?
- Where did the action occur?
- When did it happen or what is the span of time?
- Why did this happen?
- How did it happen?

I keep six honest serving-men
(They taught me all I knew);
Their names are What and Why and When
And How and Where and Who.
I send them over land and sea,
I send them east and west;
But after they have worked for me,
I give them all a rest.

MODULE : 68

Reading series

Reading textsMarking & Underlining

Read a section of your text (that you own!)
that you consider "manageable" but make no entries
Review the section:
Number important or sequential ideas in the margins
Underline or highlight:

- **main subjects**
- **examples of these main ideas**
  that help you understand them
- **unfamiliar vocabulary and/or definitions**

Jot down paraphrases, questions, and summaries
in available space within the text
Develop a system to coordinate various sources
of information: workbooks, CDs, Web sites, classroom notes, etc.

Taking notes

First: read a section of your textbook chapter

Read just enough to keep an understanding of the material.
Do not take notes, but rather focus on understanding the material.

It is tempting to take notes as you are reading the first time, but this is not an efficient technique: you are likely to take down too much information and simply copy without understanding

Second: Review the material

Locate the main ideas, as well as important sub-points

- Set the book aside
- Paraphrase this information:
  Putting the textbook information in your own words forces you to become actively involved with the material

Third: write the paraphrased ideas as your notes

- Do not copy information directly from the textbook
- Add only enough detail to understand

Review, and compare your notes with the text,
and ask yourself if you truly understand

See also Concept mapping for a system of writing and organizing notes.

MODULE : 69

Reading and research series

Reading difficult material

Reading difficult material can be a matter of concentration
or of simply organizing the challenge into steps:

- Choose a moderate amount of material or a chapter to begin
- Get a grasp of how the material is organized:
  Scan the section for titles, headings, sub-headings, and topic sentences to get its general idea; pay attention to graphs, charts, and diagrams
- If there is a summary at the end of a chapter, read it.
- Check the beginning and the end for leading questions and exercises
- Read first for what you do understand, and to determine difficulty.
- Mark what you do not understand to review later

As you read, practice *the look-away method*:

- Periodically look away from the text
  and ask yourself a stimulus question relating to the text
- Phrase the question positively!
- Respond, or restate, in your own words

Make connections and associations,
but don't use this exercise to memorize--but rather understand

- **Look up words**
  Look up words whose meanings are important to your understanding of the material, but you cannot discern from the context.
- **Read to the end**
  Do not get discouraged and stop reading.
  Ideas can become clearer the more you read. When you finish reading, review to see what you have learned, and reread those ideas that are not clear.
- **Organize your notes by connecting ideas**
  you choose into an outline or *concept map*.
  Pay attention to relationships between ideas.

Do not confine yourself to words!
Use representations, graphics, pictures, colors, even movement to visualize and connect ideas. Use whatever techniques work to help you understand
At this point, if you do not understand your reading, do not panic!
Set it aside, and read it again the next day.
If necessary, repeat. This allows your brain to process the material, even while you sleep. This is referred to as *distributed reading*.

- **Re-read the section you have chosen with the framework**
  (outline or concept map) you have constructed in mind
  Separate out what you do understand from what you do not.
- **If the reading is still a challenge,**
  consult with either your teacher, academic counselors, or reading specialists.

Good luck!

Reading and research series

Interpretive or dramatic reading

Basically the reader is sharing an interpretation of an author with an audience, literally read and not memorized.

- Selections include stories, essays, speeches, raps, plays and scenes of plays.
- The reader communicates meaning and emotions to the listener,
  relying only on the spoken word through reading,

without props, costumes, lighting or sound effects, or other devices including digital presentations, or wandering about a stage

- The reader assumes the identity of a character and portrays the dramatic, physical and emotional aspects of this character or of the situation
- External music or sound effects are to be avoided unless critical to the piece
- Stools and podiums for scripts may be used
- If there are several characters,
  each is identified through voice changes, gestures, and posture
- If there are more than one reader,
  there is no physical or eye contact between readers as in a play

Interpretive reading begins with a good understanding of the material

- The selection is focused and not too complex that the audience can identify with and understand it in one presentation
- The piece stands on its own: does it sound right? Will it be understood?
- What is the (your) emotional connection;
  how does it affect your reading and interpretation?

Once a reading is selected, analyze and study its sequence of thought:

- Summarize the general theme, or dominant meaning, you wish to convey
- Visualize or imagine a word picture that will help you relate
  your experience with the reading

What will be your introduction?

Capture the audience's attention, and set the stage for
the reading, point of view, context, etc.

- From what work is this selection taken? What is the title? Who is the author?
- What is the context, and role of any character?
- If two or more pieces are read,
  transitions should set the stage and connect the pieces

Practice reading aloud for continuity and smoothness:

- Keep your mind on the connected thought as you read
- Do the sequences of sentences build the theme or story?
- Practice reading the story out loud to a trial audience

Format your oral presentation to the audience's ability
to identify with, understand and enjoy the piece

Create an atmosphere or context with your voice:

expressive reading uses many vocal tools. Vocal qualities show differences in characters, development of the action, and indications of emotions

- Rhythm, pace and cadence include pauses and effective spacing for words
- Pronunciation of words pays attention to the enunciation of sounds.
  Practice difficult words and their sounds as vowels and consonants,
  especially leading and ending sounds.

Hear James Earl Jones recite the *American alphabet*

Emphasize prominent words or groups of words
in order to make the meaning clear. Enunciate the final word in sentences
Pay attention to punctuation (comma, question, exclamation, etc.) and expressions

- Inflection: raising and lowering pitch, as loudness and softness
  For example, a rising inflection is used in asking a question and expressing happiness, an expression of joyousness and life. A falling inflection expresses seriousness, completing a thought, or an indirect question.

One strategy can be to read the sentences but in place of words
use only a sound as mmm or ahhhh.

- Use facial expressions and gestures, and timely,
  effective eye contact with the audience
- Bring out the music of the rhythm, but avoid sing-song reading.
  Adjust your voice in order to interpret the "music" and thought of the reading
  Deliberate or fast reading can convey emotion.

Reading and research series

How to read an essay *

Note: this excellent process can be applied to
books, chapters in books, articles, and all manner of reading.
What is the title?
What does it tell you about what the essay is about?
What do you already know about the subject?
What do you expect the essay to say about it--especially given when it was written and who the author was (see next questions)?

When was the essay written?
Do you know anything about the state of the historical literature on the subject at that time?
If so, what do you expect the essay to say?

Who wrote it? What do you expect him or her to say?
What are the author's credentials, or affiliations?
What are his/her prejudices?
Are you familiar with the authors' other work related to the subject?

Read the essay, marking the information that is crucial to you.
When the text gives you crucial information, mark and note it:
What exactly is the subject?
How does it correspond to the title?
What are the main points--the theses?
What is the evidence that the author gives to sustain the thesis or theses?

What is the factual information that you want to retain?
Is there a good description of something you knew, or did not know, that you want to remember its location. If so, mark it. If for research, make out a research note on it.

Does the author cite some important source that you want to retain for future reference?
If so, mark it. If for research, make out a bibliographic note either now or on reviewing the article for such citations.

Once you have finished the article, reflect on:
What have you learned?
How does it relate to what you already know?
Did you find the argument convincing on its own terms?
Given what you know about the subject, do you think the main point(s) might be correct even if the argument was not convincing?
Can you think of information that makes you doubt the main point(s), even if the essay argued it well?
How does the essay relate to other things you have read--that is, how does it fit in the historical literature?

MODULE : 70

Make out a summary sheet on the essay
Reading and research series

Reading fiction

Many types of fiction give us great reading pleasure:
novels and short stories can be historic, westerns, science fiction, thrillers, romance, horror, etc. The following can provide a framework for discussing these in book clubs and for writing book reports.
Point of view: *test your knowlege* (narrator and character types)
An author creates a person to tell the story, and this person is the narrator.
The narrator delivers the point of view of the story.
Multiple narrators of the story can also present multiple points of view.

A first person narrator
uses the pronoun "I" to tell the story, and can be either a major or minor character.
It may be easier for a reader to relate to a story told in a first person account.
A subjective narrator is generally unreliable
because he/she is in the story,
and can only speak to his/her experience within it.
A second person narrator
uses the pronoun "you" and is not used very often since it makes the reader a participant in the story (and you, as reader, may be reluctant to be in the action!).
A third person narrator
uses the pronoun "he" or "she" and does not take part in the story.
An objective narrator is an observer
and describes or interprets thoughts, feelings, motivations, of the characters. Details such as setting, scenes, and what was said is stronger with an objective observer
An omniscient (omniscient = all knowing) **narrator has access to all**
the actions and thoughts within fiction
A limited narrator has a restricted view of events,
and doesn't "know" the whole story
Questions:

- **How much does the narrator know?**
  Does he or she know everything, including the thoughts, feelings, motivations, etc. or present just limited information?
  Do you (the reader) know more?
- **Time?**
  Do events take place "now" (verbs in the present tense)?
  or in the past (verbs are in the past tense)?
  Are past recollections fresh, or distant, and maybe hazy?
- **Is the narrator a participant in, or a witness to, the action?**
  Is the story second-hand, related "as told to" the narrator?
  Think of yourself telling someone something that happened:
  How much of the event do you know, and how does that affect the story?
- **Why is the story being told, and why now?**
  What is the motivation?

Character types in fiction
Characters are the people of a story, or the opposing forces.
A protagonist or hero/heroine is the central character of the story.
An antagonist is the counterpart to the protagonist
Tension between the protagonist and antagonist creates the story.
Speech, thoughts, actions, appearance, desires, and relationships reveal characters, and each undergoes development and/or change as the story unfolds.
Static characters are role players, and may not “develop.”

Questions:

- Can the protagonist and antagonist be the same person?
- Can events or situations act as an antagonist?
- How do your characters speak? How does it affect the dialogue?
- What effect has the social class of the characters?

Environment
Environment consists of the time, place, and mood of a story.

- How does the setting affect the story?
  Are the situations happy, unhappy, mysterious, joyful, what?
- Where does the story take place: in nature, in a city, within a room?
  How does location affect the story?

- How is emotion created?
  Is it dramatic at the outset, or build in intensity?
  Maybe the effect is to maintain a certain evenness throughout: creating its own type of tension?
- How would you change the setting of a story to change it?

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Reading and research series

Reading fiction: narrator and character types

An exercise in narrator types or point of view in fiction:

Summary of exercise:

Point of view: narrator and character types
An author creates a person to tell the story, and this person is the narrator.
The narrator delivers the point of view of the story.
Multiple narrators of the story can also present multiple points of view.
A first person narrator
uses the pronoun "I" to tell the story, and can be either a major or minor character.
It may be easier for a reader to relate to a story told in a first person account.
A subjective narrator is generally unreliable
because he/she is in the story,
and can only speak to his/her experience within it.
A second person narrator
uses the pronoun "you" and is not used very often since it makes the reader a participant in the story (and you, as reader, may be reluctant to be in the action!).
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and describes or interprets thoughts, feelings, motivations, of the characters. Details such as setting, scenes, and what was said is stronger with an objective observer
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  or in the past (verbs are in the past tense)?
  Are past recollections fresh, or distant, and maybe hazy?
- **Is the narrator a participant in, or a witness to, the action?**
  Is the story second-hand, related "as told to" the narrator?
  Think of yourself telling someone something that happened:
  How much of the event do you know, and how does that affect the story?
- **Why is the story being told, and why now?**
  What is the motivation?

MODULE :72

Reading and research series

Reading speed & comprehension

Reading rates

- **Each type of reading has a different rate;**
  an exciting novel is a quicker read than a text in biology.
- **Text books vary in how well they are written;**
  as a consequence some are more difficult to read.
- **Each semester, time yourself reading a chapter**
  in each of your text books. See how many pages an hour you can read. Once you have an accurate estimate of your reading rate, you can better plan your reading time and studying time.
- Test your reading speed

Comprehension

Scan the chapter first.
Identify the sections to which the author devotes the most amount of space. If there are lots of diagrams for a particular concept, then that must also be an important concept. If you're really pressed for time, skip the sections to which the least amount of space is devoted.
Read the first sentence of every paragraph
more carefully than the rest of the paragraph.

- **Take notes on headings and first sentence**
  of each paragraph before reading the chapter itself.
  Then close your book and ask yourself what you now know about the subject that you didn't know before you started.
- **Focus on nouns and main propositions in each sentence**. Look for the noun-verb combinations, and focus your learning on these.
- **For example, consider the following text:**

Classical conditioning is learning that takes place when we come to associate two stimuli in the environment. One of these stimuli triggers a reflexive response. The second stimulus is originally neutral with respect to that response, but after it has been paired with the first stimulus, it comes to trigger the response in its own right.
Rather than read every word, you might decode this text graphically:

Classical conditioning = learning = associating two stimuli
1st stimulus triggers a response
2nd stimulus = originally neutral, but paired with 1st --> triggers response.

Rather than reading and re-reading your text, take notes in this form, so that you've re-written the important parts of the text. Once you have written notes, you don't have to worry about the text itself.

Elements of a Research Paper

Set the stage; state the problem (introduction)

- **Topic:**
  generally describe the topic and how it fits into your field of study
- **Set the scene**
  Describe the environment and its conditions
  Get permission before using personal information
- **Introduce and describe the problem**
  Describe what you intend to show/argue and why
  What is its significance?
  Illustrate the problem with an interesting example
  (Remember you are writing for an audience and want to capture their interest)

- **Begin to define terms, concepts, vocabulary**
  If possible, use one authoritative source or combine definitions and footnote your sources
  Later in the development of your paper, be conscious of using new terms and their definitions
- **Since *tasks begun well, likely have good finishes*** (Sophocles)
  review the topic, scene, and problem with your teacher or supervisor to verify if you are on the right path

Review the Literature

What research is relevant?
How is it organized? c.f.: Writing Center/University of Wisconsin's Review of literature

Develop your Hypotheses

Your hypothesis is your proposed explanation that you will test to determine whether it is true or false
It will contain measurable variables (those that change or can be manipulated)
with results that can be compared with each other.
Avoid over-generalizing, and reference the research findings of others to support why you think this will work
C.F. National Health Museum's Writing Hypotheses: a student lesson

Methods

Give enough information so that others can follow your procedure,
and can replicate it (and hopefully come up with the same findings and conclusions as you did!)

- Describe your procedure as completely as possible so that someone can duplicate it completely
- Define your sample and its characteristics
  These should be consistent throughout the test
- List the variables used
  These are what change, or that you manipulate, throughout the test
- Try to anticipate criticism that affects either your internal or external validity
  These might be considered "flaws"

Findings

This is descriptive and numeric data

Discussion

Develop your argument based upon your findings.
While the data may read for itself, you will need to interpret

- how it validates your hypothesis
- what falls outside of validity
- how it impacts the literature you cited
- where further research is needed

Conclusion

Restate and summarize your findings and discussion either in order to simply complexity or to provide a summary for those who skip to it!

References

Verify with your teacher the proper format

Recommendations:

A research paper is not an essay, an editorial, or a story.
All assertions of fact must be documented.
Be careful of any generalizations that you make.
Strive to be value-free in your inquiry.
Review our *Guide on the Scientific Method*

...it's worth stressing that the evaluation of your paper will never be determined by whether or not your hypotheses are verified. It is important to remember that a hypothesis supported by the data does not mean that it is true as there conceivably is an infinite number of other theories that lead to the same prediction. Similarly, failure of support does not necessarily mean that your hypothesis is wrong: it may be hold true in some populations, you may have incorrectly measured your theory's concepts, your sampling may be flawed, etc. Philosopher Karl Popper, in fact, argues that science is not a

method for verifying hypotheses. Instead, all that science can logically lead to is the falsification of hypotheses. In sum, negative results can be every bit as important as positive ones. 1Marvin Harris (Cultural Materialism 1979:7)"facts are always unreliable without theories that guide their collection and that distinguish between superficial and significant appearances." 1

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Reading and research series

Researching on the Internet

How do I search the Internet?

- **Narrow your topic and its description;**
  identify and pull out key words, phrases and categories
- **Use a search engine: does it contain a directory of topics?**
  Find the best combination of key words to locate information you need;
  Enter these in the search engine
- **Get assistance from your local research librarian**
- **Refer to known, recommended, expert, or reviewed web sites**
- **Refer to professional portals**
  that may have directories or collections by topic
- **Review the number of options returned.**
  If there are too many web sites, add more keywords.
  If there are too few options, narrow/delete some keywords,
  or substitute other key words
- **Review the first pages returned:**
  If these are not helpful, review your key words for a better description
- **Use *advanced search* options in search engines:**
  Search options include
  - Key word combinations, including Boolean strings
  - Locations where key words are found
    For example: in the title, 1st paragraphs, coded metadata
  - Languages to search in
  - Sites containing media files
    (images, videos, MP3/music, ActiveX, JAVA, etc.)
  - Dates web sites were created or updated
- **Research using several search engines**
  Each search engine has a different database of web sites it searches
  Some "Meta-Search" engines actually search other search engines!
  If one search engine returns few web sites, another may return many!
- **Evaluate the content of the web sites you've found:**
  Refer to the Study Guide "Evaluating web site content"
- **Track your search:**
  List resources you checked; the date your checked them
  Identify the resource, especially its location and the date you found it
- **When printing, set your options to print the**
  Title of the page | the Web address | the date printed

What are some resources?

- **Search engines**
  Search Engine Colossus
  links to search engines from 148 countries
- **Directories that organize information and links**
  - *Open Directory Project*
    a comprehensive human-reviewed directory of the web
  - *IPL2*
    features a searchable, subject-categorized directory of authoritative websites; links to online texts, newspapers, and magazines; and the Ask an ipl2 Librarian online reference service

- *Infomine*
  a comprehensive virtual library and reference tool for academic and scholarly Internet resources, including Web sites, databases, electronic journals, bulletin boards, listservs, online library card catalogs, articles, directories of researchers, and other types of information

- **Web sites devoted to particular topics**, including text, graphics, movies, music files.
  Examples include *Internet Directory for Botany, Phone-soft Internet Directory International organic Chemistry, Stock photography* (royalty free)
- **Government documents, forms, laws, policies, etc.**
  U.S. Government Printing Office disseminates official information from all three branches of the United States Federal Government
- **Services and information by**
  non-profit organizations and by for-profit businesses
- **LISTSERVs or discussion groups**: *L-Soft*:
  browse any of the 50,686 public LISTSERV lists on the Internet, search for mailing lists of interest, and get information about LISTSERV host sites
- **Resources at your local (public) library**
  These may require membership or registration
- **Newspaper, journal, magazine databases**
  Often restricted to subscribers, require registration, or can be fee-based for access

International conventions of copyright govern the use and reproduction of all material: all information should be properly cited

MODULE : 74

Online learning series

Evaluating Website Content

I. The Problem

The Internet is a relatively new and untested information and communication medium.
As such, we need to evaluate, expand, and adapt existing criteria for evaluating content, as well as develop new techniques.

The Internet is a ubiquitous medium:
aside from questions of affordability, it is very pervasive in both authorship and audience. A web address is now an international information and persuasion medium

The Internet can very well be an unregulated and un-regulatable medium.
As such, it is the visitor to a website who must have both tools and responsibility to discern quality websites.

II.. Examples of the problem

Have you been to New Hartford, Minnesota? (Probably only virtually...)
What do you think of the distinguished academic study "Feline Reactions to Bearded Men" by Catherine Maloney, Fairfield University, Fairfield, Connecticut, Sarah J. Lichtblau, University of Illinois, Champaign, Illinois Nadya Karpook,
University of Florida, Gainesville, Florida Carolyn Chou, University of Pennsylvania, Philadelphia, Pennsylvania, Anthony Arena-DeRosa, H

III. Eight basic types of website purposes:

1. Personal with biographic data, often called "vanity pages"
2. Promotional to sell a product
3. "Current" to provide extremely up-to-date information, as for newspapers' sites
4. Informational to share information on a particular topic or hobby
5. Advocacy/persuasive as propaganda to convert you to particular point of view
6. Instructional to teach a unit or course of study;
7. Registrational to register for courses, information, and/or products, accumulate a database of, and simplify communication with, registrants
8. Entertainment!

IV. Contexts of website evaluation:
header * body * footer * navigation
V. Five evaluative guidelines from the School of Journalism & Library Science:
Authority Who is responsible for the page?
What are their qualifications and associations, and can you verify them?

Check the footer
for name of the web page author, his/her credentials and title, organizational affiliation. Is the information verifiable?

Currency Are dates clear when the website was first created and edited?

Check the footer
for when the website was created, and when last edited.
Check the content
for news items, indications that the site is actively maintained, acknowledgements/responses to visitors

Coverage What is the focus of the site? Are there clear headings to illustrate an outline of the content? Is the navigation within the website clear?

Check the header
for a clear title and web site description
Check the content
for headings and keywords
Check the navigation
to reflect content outline within the web site

Objectivity Are biases clearly stated? Are affiliations clear?

Check the content
for statement of purpose,
to determine the type of web site and potential audience
for outside links for information external to the website
for graphics and cues for affiliations
Check the header/footer and URL/domain (.gov .com .edu)
to determine organizational source of website and how this reflects on content type

Accuracy Are sources of information and factual data listed, and available for cross-checking

Check the content
for accuracy of spelling, grammar, facts(!), and consistency within website
Check content for a bibliographic
variety of websites (external links), of electronic media (electronic databases of references, established (print & on-line) journals, of electronic indexes (ERIC), and of books for comparative/evaluative purposes

MODULE : 76

Brainstormingor generating options toward problem solving

What is commonly known as brainstorming can be used to generate ideas toward problem solving.

- Individuals can use brainstorming!
  Diehl and Stroebe (1987) found that individuals working separately were able to generate more ideas than groups!
- Groups working with brainstorming are more effective when
  individuals within the group are responsible and empowered to contribute,
  and understand the value of contributing. Ideas generated can be more constructive when the group brings different perspectives and backgrounds to the process.

Brainstorming should begin with a focused, well-defined topic
that is understood by all participants. If used in a group, it should be smaller, include a facilitator and note taker, and have a defined time limit. Ideas should be expansive, creative and not judged, and hopefully reflect a diversity of the contributors. Ideas can also build on one another. See the entry in Wikipedia for a broader discussion.

Follow up activities:

Ideas contributed are not criticized in the process of brainstorming.
Each may have a grain of possibility and should be viewed from that perspective.

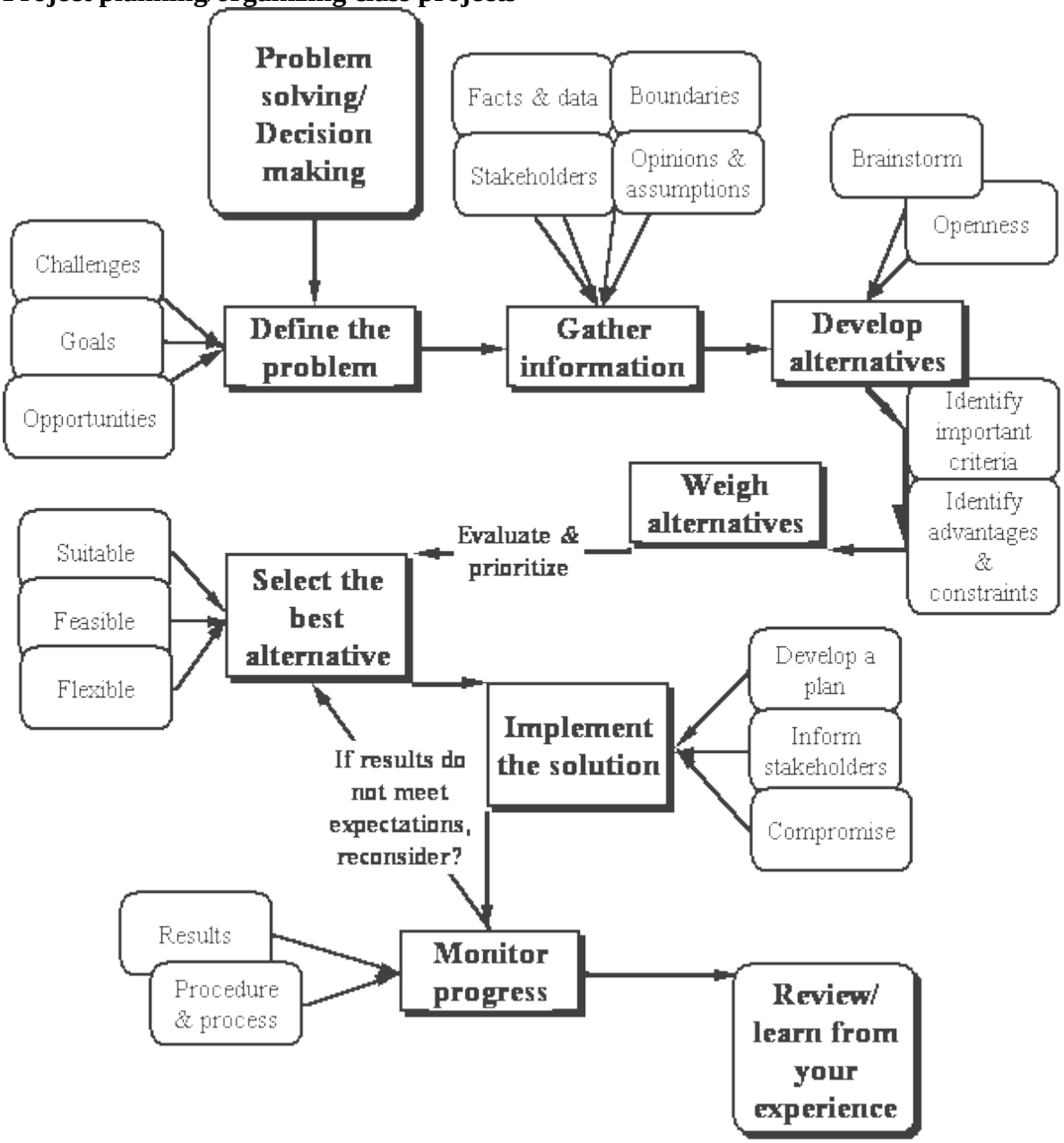
1. Ideas contributed should be left in their original form.
2. Guidelines should be developed for evaluating and ranking them.
3. Ideas are then considered in light of the guidelines, revised and ranked.
4. Follow up activities then discussed for further action:
   - A report is generated for all participants to demonstrate the validity of the exercise and continue to empower individuals to contribute to the process of resolving its original problem/challenge
   - Meetings by sub-groups to work on ideas, and perhaps resolve any differences/conflicts
   - Meeting of the collective to see if new perspectives or options are generated from the exercise.

MODULE : 77

Problem solving series

4. Mapping the problem solving process

Project planning/organizing class projects



MODULE : 78

Reading and research series

Organizing research with computers& avoiding plagiarism

Plagiarism:

1. To use and pass off (the ideas or writings of another) as one's own.
2. To appropriate for use as one's own passages or ideas from (another). 1

***Plagiaries*:** accidental using and passing off someone's work or ideas as your own

This Guide is intended to help you avoid accidental plagiarizing

Why document your work with that of others?

Why reference, footnote, endnote?

- Your research will be better
  as you document the quality of your sources
- Your argument will be better
  with the support of authorities and statistics you quote, paraphrase, and summarize
- Your writing style will be better
  if your readers can see how you build on, and agree or disagree with the work of others
- Sometimes the source says it better
  and you may as well use it and cite it
- Your readers may be interested in exactly
  what your reference says, or in its context, etc.
- Citing sources may demonstrate that there are opposing points of view,
  even opposing statistics! or establish consistency for the sake of argument

When is it appropriate to reference another's work?

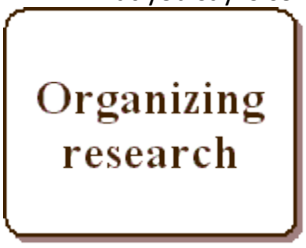
When you are

- Quoting directly
- Using unique expressions or ideas of another,
  whether from printed resources, the Internet, interviews, even casual conversations
- Documenting facts, reproducing images, tables, etc.
- Referencing opinions of experts,
  whether or not you agree with them
- Getting extraordinary help from someone,
  a tutor, a teacher, even a roommate or parent. Why not?

When don't you reference:

When

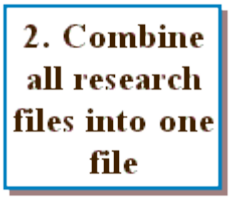
- A fact or idea is commonly understood
- A reasonable search has led to no author or source
  (for example the phrase "give credit where credit is due" seems to be a common expression without an author
- What you say is commonly accepted and not cited elsewhere



When researching,
how can I organize
and keep track of my sources?

How can I use my computer effectively?

When beginning a project, create a new folder
Save all your research in separate files in this folder
Include bibliographic information: author; type of source; web address, publisher, etc.; date
Develop a "code" that will help you identify the type of source, the person responsible, and the date



Combine all research into <u>one</u> file

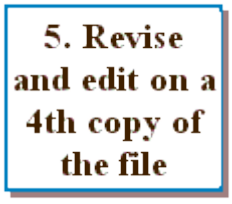
1. Save it as your research file in this folder, and keep it separate
2. Within this combined file, head each section of notes with the code you developed above
3. Do not alter this combined research file except to add new research/information

Duplicate your combined research file into a working duplicate
Use "save as" to create a second file of the research file
Use this file to organize your research

1. Use the copy and paste strategy to combine and organize the text, graphics and images
2. Create and bold face topics and sub-headings
3. Bold face and/or underline common terms, key words, duplicate expressions, arguments for and against
4. Delete all that is not useful
5. Save and store this second research file in the project folder
6. In a separate document, develop an outline or concept map of your paper

Create (save as...)
a third file from the re-organized research file

1. Add a couple blank pages at the beginning of this file.
2. Begin to write your draft.
3. Write from your outline/map and from what you remember of your research and preparation
4. Only look up the research when necessary in order to keep your focus on the writing.
5. Only copy and paste from your research when you quote directly
6. Indent quotations to separate them clearly within your draft
7. If you need to paraphrase or summarize, make it clear in the text (According to Joe Landsberger, ...)
8. After you complete this draft, save it in the project folder.



Create a fourth file from this third

1. Delete all the research at its bottom
   (Remember: you have not deleted anything in the second and third copies)
2. Revise this draft into your final paper
3. Cite any work of others from your research in footnotes and/or endnotes in the style required
4. Print this draft and review for any text or information you may have reproduced from the first file of your research

MODULE : 79

Writing series

Organizing research with note cards

The "Note Card System" can be very useful
when it comes to organizing information for a term paper or even a short two or three page paper.
By using this system, you create note cards from blank 3x5 or 5x7 index cards that you fill with information pertinent to the subject that you are researching. The organization of the information can readily be adapted to use with word processing...

- In the upper left corner of the card, **"code"** the topic of your paper, and where in the outline it may fall
- In the upper right corner, **place the author's name** and/or title and page number
- **In the body of the card**, enter one single fact or thought you'd like to include in your paper

Make sure the information is expressed in your own words,
unless it is a quotation;
Use good sentence structure:
this will save you time when you start to write the paper

- **Organize the cards** to coincide with the outline of your paper
- **Write the term paper following this sequence**
  Use topical, concluding, and transitional sentences to link the information on the cards
- **Keep a separate set of cards**
  with the complete information of books, magazines, films, etc. These will be used for entering footnotes and endnotes, and when compiling the bibliography

Citing Websites series

MODULE : 80

American Psychological Association style

Create your APA website citation: (Guidelines below)

Author. (Date published if available; n.d.--no date-- if not). Title of article. *Title of web site* . Retrieved date. From URL.

- Separate each item of the citation with a period and two spaces
- Use hanging indents following the first line
- List entries alphabetically by author, if no author list the title first

Example:
Landsberger, J. (n.d.). Citing Websites. In *Study Guides and Strategies.* Retrieved May 13, 2005, from http://www.studygs.net/citation.htm.
Remember to refer to your department or instructor
as to the

- Type of style required
- Any variations. For example,
  -whether to include the retrieval date
  -how to cite digitial object locators
  (.pdf's, images, Flash pieces, etc.)
- Respective manuals for sequencing the list, for page notes, and for other detailed information

- Refer to the Basics of APA Style Tutorial for updates on the 6th edition, as well as the various citation types and options.

MODULE : 81

Writing guides and resources

- **Seven stages of writing assignments**

The process and types of writing

Required and voluntary writing has a broad range of styles. A writing assignment succeeds by addressing a defined audience with content organized into an effective and/or convincing presentation. This sequence may help:

Essay and writing sequence

Develop your topic (1)
If a topic is not assigned, identify a subject that interests you...
Identify your audience (2)
Use this exercise to develop your audience and readership...
Research (3)
Develop your time line: allow for editing, revision and unexpected developments...
Organizing with notecards
Using the "Note Card System" can be very useful...
Summarizing research
An easy step by step process of
identifying critical information
Prewrite (4)
Prewriting exercises provide key words, meaning, and structure to...
Draft/write (5)
A rough draft is "a late stage in the writing process"...
Revise (6)
Before the revising/editing, take a break to gain a new perspective...
Proofread (7)
Intentionally separate "proofreading" from the "writing"...

Types of writing:

Consider what type of writing is assigned, and explore what will make it effective. For example, your diary has different purpose, components and style than an essay; a research proposal different purpose, components, and style than a white paper. The better you understand the task at hand, the more successful will be your writing.

The five-paragraph essay
Getting started means getting organized.
A good place to start if you are inexperienced in writing.
Essays for a literature class
Brainstorm the question/assignment: restate the key words...
Expository essays
When writing an expository essay, follow these eight basic steps...
Persuasive essays
In persuasive or argumentative writing, we try to convince others...
Position papers
Write a position paper to organize and outline your viewpoint on an issue...
Writing for the "Web"
The topic, its main idea, and its conclusion should be immediately visible, locatable, or knowable...

Open book exams
In an open book exam you are evaluated on understanding rather than recall...
Essay Exams
Before writing out the exam, write down its key words...
Research proposals
These recommendations do not guarantee a successful research application! They are intended to help you conceptualize and prepare a research proposal...
White papers
White papers introduce your product or technology as innovative...

Helpful guides can assist you:

Transitional words & phrases
Using transitional words and phrases helps papers read more smoothly...
Essay terms and directives
"Directives" ask you to answer, or present information, in a particular way...
Modifiers & commas
Grammar refers to the rules regarding the current standard of correctness...
Writing under deadline
Don't panic: organize! Whether you are meeting a publication deadline, over-booked, or procrastinating...
Writing Strategies Learned
Stephen Wilburs' reflections or blog on writing...

Don't forget to use words correctly!

Spelling strategies
English spelling rules are complex, with many exceptions...
Spelling rules & exercises
American spelling rules and exercises...
Common misspelled words
Words commonly misspelled,or spelled correctly but not used properly...
There | They're | Their
pronounced the same, but spelled differently according to usage...
Too | Two | To
pronounced the same, but spelled differently according to usage...
"Y" with suffixes
When "y" is the last letter in a word...
Prefixes and root words
As you go through this exercise, note that a word's root or stem is its foundation...
Suffixes and silent "e"
If a word ends with ...
Mapping vocabulary
The exercise will help you remember, use and understand a vocabulary word...
Picturing vocabulary
Use your mouse to draw what comes to mind about the given word...
American alphabet recited
Actor James Earl Jones recited the alphabet in 1.5 minutes as a test pilot for Sesame Street...

- **Develop your topic** (1)

MODULE : 82

Writing series

1. Developing a topic

Seven stages of writing assignments

If a topic is *not* assigned, identify a subject that interests you.
Refer to your text book, a lecture, a hobby you have that relates to the subject,
something that you are curious about.

Summarize your topic
State your thesis, theme, or objective in a sentence or two at most:

If the topic is assigned, or when you have identified your subject:

- **Note key ideas or words (search terms!) you think will be important.**
  Use only short phrases or individual words at this point
  Construct a map using these words and phrases
  Refer to our Guide on concept mapping on how to create one
- **Identify what you want to do** with the concepts!
  Refer to our list of terms for essays
  Pick a likely verb (or two) and write out the definition to keep before you.
  Are you to develop a persuasive or expository essay, or a position paper?
  What has the teacher assigned?
- **List out what sources you will need**
  to find information for your essay:
  Start small: what does an encyclopedia say about it?
  Is there a reference librarian who can help you find sources, both for an overview and for detailed research?
  Is a search engine enough? Or too boring?
  Think big: are there experts you can talk to? an organization?
- **Analyze your topic so far**
  Is it too vague or broad, or too narrow?
  Is it interesting enough? Is there a controversy to explore, or do you think you can help others understand a problem? Will you provide information from two points of view, or only one while anticipating questions and arguments?
- **Summarize your topic**
  and present it to your teacher for feedback.
  Bring these first few steps with you in case the teacher will want to help you refine or restate your topic
- **Write out your opinion on, or approach to, the topic**
  Remember: you are writing an essay as a learning experience and you may find information that is against your position. You will need to resolve this.
- **Keep an open or critical mind** as you research:
  You may only see your side and not be objective.
  Your position could be prejudicial to, or otherwise affect, your investigation

Writing series

2. Determining audience/readership

Stages of writing assignments

Use this process to develop your audience and readership:

Define your target audience, and how you will address them

Some ways of thinking of audience

- **You are selling a product:**
  what style of writing will appeal to them?
- **You are explaining a sport:**
  how would your vocabulary change if your audience were children?
  visitors from another country? your parents?
- **Are you documenting an event:**
  how would you detail the facts of a crime you witnessed?

3. Writing an essay: research

Develop your time line

Allow for editing, revision and unexpected developments

- **Inspiration phase:**
  This is continuous to prevent losing ideas and inspirations
  Keep a convenient place to organize phrases, vocabulary, events, etc. for later use
- **Research phase; information gathering and recording:**
  Do not copy research word-for-word unless using quotes to illustrate ideas.
  The goal is to transform source material into your ideas and organization while adequately representing the authors in a neutral manner.
  Keep a good record of source material for citations and bibliography.
- **Organizing/prewriting phase**
  with concept mapping, outlining, even brainstorming
  Determine how you will build the scenes of your argument, narrative, story, etc.
  See our definitions of writing terms in our Guides.

Research phase; information gathering and recording:

Document all interviews, readings, experiments, data, websites, reports, etc.
People: instructor, teaching assistant, research librarian, tutor, subject matter experts, professionals

1. **Develop research strategies and a list of resources**
2. **Narrow your topic and its description;**
   Pull out key words and categories
   Develop a list of key words--50 or so--that form the foundation of both your research and writing. Build the list from general sources and overviews
3. **Bring your topic and keyword list**
   to a local research librarian, teacher, support professional on resources available
   Text books (!), reference works, web sites, journals, diaries, professional reports
4. **International conventions of copyright govern the use**
   and reproduction of all material: all information should be properly cited
   c.f. our guide on citing websites for models

What are some resources?

- **Search engines**
  c.f. Search Engine Colossus with links to search engines from 148 countries
- **Directories and portals on the Internet that categorize/organize information and links**
  c.f. Open Directory Project; Librarians Index to the Internet; **Infomine**
- **Web sites devoted to particular topics**, including text, graphics, movies, music files
  e.g. Internet Directory for Botany
- **Government documents, forms, laws, policies, etc.**
  c.f. U.S. Government Printing Office disseminates official information from all three branches of the United States Federal Government

- **Services and information by**
  non-profit organizations and by for-profit businesses
- **LISTSERVs or discussion groups**
  c.f. **L-Soft** "the official catalog of LISTSERV® lists"
- **Resources at your local (public) library**
  These may require membership or registration
- **Newspaper, journal, magazine databases**
  Often restricted to subscribers, require registration, or can be fee-based for access

Using an Internet search engine:

Find the best combination of key words to locate information you need;
Enter these in the search engine

- **Refer to known, recommended, expert, or reviewed web sites**
- **Review the number of options returned.**
  If there are too many web sites, add more keywords.
  If there are too few options, narrow/delete some keywords,
  or substitute other key words
- **Review the first pages returned:**
  If these are not helpful, review your key words for a better description
- **Use advanced search options in search engines:**
  Search options include
  - Key word combinations, including Boolean strings
  - Locations where key words are found
    For example: in the title, 1st paragraphs, coded metadata
  - Languages to search in
  - Sites containing media files (images, videos, MP3/music, ActiveX, JAVA, etc.)
  - Dates web sites were created or updated
- **Research using several search engines**
  Each search engine has a different database of web sites it searches
  Some "Meta-Search" engines actually search other search engines!
  If one search engine returns few web sites, another may return many!
- **Evaluate the content of the web sites you've found:**
  c.f. the Study Guide Evaluating web site content
  Beware referencing blogs as they are basically opinions and not "fact"
- **Track your search:**
  List resources you checked; the date your checked them
  Identify the resource, especially its location and the date you found it
  c.f. index card system
- **When printing, set your options to print the**
  Title of the page | the Web address | the date printed

MODULE : 84

Writing series

Organizing research with note cards

The "Note Card System" can be very useful
when it comes to organizing information for a term paper or even a short two or three page paper.
By using this system, you create note cards from blank 3x5 or 5x7 index cards that you fill with information pertinent to the subject that you are researching. The organization of the information can readily be adapted to use with word processing...

- In the upper left corner of the card, **"code"** the topic of your paper, and where in the outline it may fall
- In the upper right corner, **place the author's name** and/or title and page number
- **In the body of the card**, enter one single fact or thought you'd like to include in your paper

Make sure the information is expressed in your own words,
unless it is a quotation;
Use good sentence structure:
this will save you time when you start to write the paper

- **Organize the cards** to coincide with the outline of your paper
- **Write the term paper following this sequence**
  Use topical, concluding, and transitional sentences to link the information on the cards
- **Keep a separate set of cards**
  with the complete information of books, magazines, films, etc. These will be used for entering footnotes and endnotes, and when compiling the bibliography

Writing series

Organizing and pre-writing

Seven stages of writing assignments

Prewriting exercises provide key words, meaning, and structure
to your research before you write your first draft, and may help you overcome "writers block."

These exercises can help you

- **Focus intellectually**
  and clear distractions while opening your mind to ideas within your subject
- **Narrow and define topics for your paper**
  and begin the process of translating research into your own words.
- **Develop logical or architectural structure to topics you have identified**.
  This provides a visual and verbal document for reaction, review, discussion, and/or further development in your rough draft. However, these exercises are dynamic or subject to change in the actual writing process as you understand, develop, and build your argument. Some topics will go, some will stay, some will be revised
- **Provide a context for "project management"**
  to further define the topic, set timelines, identify gaps in information, etc.

Use one of these four processes,
free writing, *mind mapping*, *brain storming*, or *listing and outlines* to both develop your topic and get started. Better yet, try them all to see which suits your style and/or the topic.
(See the text versions below for more information.)*Four exercises in prewriting:*

Focused Free writing

1. **Use a blank paper or computer screen** and set a time limit of 5 - 15 minutes
2. **Summarize the topic in a phrase or sentence;**
   generate a free flow of thought
3. **Write <u>anything</u> that comes to mind**, whether on topic or off, for the period of time you chose,

4. **Don't pause**, don't stop.
   don't rush; work quickly
5. **Don't review**
   what you have written until you have finished
6. **At the end of your time**, refer back to the beginning:
   Rephrase the initial topic
   Repeat a word, phrase, or important thought or emotion that makes sense.
7. **Review:**
   are there words or ideas you can grab onto for the topic?
   Is there a main idea to this sequence of ideas?

Listing and outlines

This is a more structured and sequential overview of your research to date. You may also outline to organize topics built from free writing, brainstorming, or mind mapping:

1. Arrange items or topics, usually without punctuation or complete sentences
2. List topics and phrases them in a grammatically similar or parallel structure (subjects, verbs, etc.)
3. Sequence topics in importance,
   defining what "level" of importance they are. Items of equal importance are at the same level

Example (using this web site):

Study Guides & Strategies

I. Preparing to learn

A. Learning to learn
B. Managing time
C. Setting goals/making a schedule

II. Studying

A. Thinking critically
B. Memorizing
C. Organizing projects

III. Writing Essays

A. Basics of essays
   1. **Prewriting**
      a. **Definitions**
      b. **Basics of prewriting**
      c. **Exercises**
      d. **...**
   2. **Rough drafts**
      a. **definition**
      b. **basics of drafts**
      c. **exercises**
      d. **...**
   3. **...**
B. **Types of essays**
   1. The five paragraph essay
   2. Essays for a literature class
   3. Expository essays
   4. Persuasive essays
   5. ....

Project management and motivation seriesWriting series

5. Rough drafts:

A rough draft is "a late stage in the writing process".1
It assumes that you have adequate information and understanding,
are near or at the end of gathering research, and have completed an exercise in prewriting.

What you need:

- **Adequate time period** for focus
- **Clear study area**
  to eliminate distractions, whether other school projects or friends' demands,
  in order to concentrate on the task at hand
- **Preparation and research**
  with as much current and historical data and viewpoints as necessary
- **Target audience**
  or a clear idea for whom you are writing:
  your professor, an age group, a friend, a profession, etc.
- **Prewriting exercises**
  and notes on ideas from your research
- **Review** all the above.
  Don't "study" it; just refresh yourself on the main concepts for now

What you will NOT need:

- **Title or introduction:**
  derive these from your prewriting exercise
- **Reference works, print-outs, quotes,** etc.
  Rely on your notes, and don't overwhelm yourself with facts.
  Details can be added; you now want to focus on developing your argument
- **Edits!**
  Do not revise as you write, or correct spelling, punctuation, etc.
  Just write, write, write.
  This is the first draft, so what you put down will be revised and organized "after"

Take a break after your prewriting exercise!
Refresh yourself

- **Review the ideas, topics, themes, questions**
  you have come up with in your prewriting exercise. Try reading the prewriting text out loud (a type of self-mediation).
  Listen for patterns that seem most interesting and/or important. Summarize them.
- **Evaluate the ideas, topics, themes, questions**
  whether by scoring, prioritizing, or whatever method seems best.
  Keep this list in case your first choice(s) don't work
- **Sequence**
  what you have prioritized as in outlining, above.

Writing your draft (3):

Your first paragraph

- Introduce the topic; entice the reader (remember: audience)
- Establish perspective and/or point of view!
- Focus on three main points to develop

Establish flow from paragraph to paragraph

- Topic sentences of each paragraph
  define their place in the overall scheme
- Transition sentences, clauses, or words at the beginning of paragraph connect one idea to the next
  (See the page on transitional words and phrases)
- Avoid one and two sentence paragraphs
  which may reflect lack of development of your point
- Continually prove your point of view throughout the essay
  - Don't drift or leave the focus of the essay
  - Don't lapse into summary in developing paragraphs--wait until its time, at the conclusion

- Keep your voice active
  - "The Academic Committee decided..." not "It was decided by..."
  - Avoid the verb "to be" for clear, dynamic, and effective presentation
    (Avoid the verb "to be" and your presentation ~~will be~~ effective, clear, and dynamic)
  - Avoiding "to be" will also avoid the passive voice
- Support interpretations with quotes, data, etc.
  - Properly introduce, explain, and cite each quote
  - Block (indented) quotes should be used sparingly;
    they can break up the flow of your argument

Conclusion

- Read your first paragraph, the development, and set it aside
- Summarize, then conclude, your argument
- Refer back (once again) to the first paragraph(s) as well as the development
  - do the last paragraphs briefly restate the main ideas?
  - reflect the succession and importance of the arguments
  - logically conclude their development?
- Edit/rewrite the first paragraph
  to better set your development and conclusion

MODULE : 87

Revising and editing writing assignments

Before the revising/editing,
take a break to gain a new perspective.
It will help you review how effectively you have communicated your message.

General review strategies:

1. **Revising takes practice:**
   Try reviewing with a limited agenda, for example with focus on vocabulary,
   and build from there.
2. **Read the paper out loud to yourself.**
   Read it slowly. How does it "sound?"
3. **Cover the text with a blank paper,**
   and lower it down as you read for a line by line analysis.

Does the text flow in an effective manner?
Is it too long for what you wish to say? too short?
Keep in mind your audience: they do not know what you do.
They rely on what information you give them, *in the order* you give it to them.

Title

Does the title briefly describe and reflect the purpose of the paper?
If there are headings and sub-headings, are these similarly brief and concise?

Introductory paragraph/introduction

Get a good start!
Capture attention at the beginning or you may lose your audience.
An introduction should present the purpose in an inviting way.
Is your first sentence interesting and inviting?
Does your first paragraph predict the development of the piece?
Does it clearly introduce the subject, project, or idea to be developed?

Supporting paragraphs

Does each paragraph build the argument or story? Did you follow a plan or outline?
Is each paragraph in an effective or logical order?
Is your train of thought, or that of the "characters," clear?

Do your transitions between paragraphs work?
Are relationships between paragraphs clear?
Can any paragraphs be eliminated as unnecessary, or combined with others more effectively?

Does each sentence support *only* the topic sentence of *that* paragraph?
Can any sentences be eliminated as unnecessary,
or combined with others more effectively?
If there are side-stories or digressions,
are their purposes clear in the context of the whole?

Conclusion

Does the conclusion summarize and clarify important information
and resolve the thesis statement?
Does the conclusion leave the reader thinking?
Is it supported by the paper?

Areas of focus:

It could be that you have a troublesome area, or want to make your writing more effective.
Here are some areas of focus:

Sentences and phrases:

Sentences should be clear and logical, even short and to the point.
Sentences should flow consistently,
except in places you wish to stop the reader for emphasis.
Is the tone consistent throughout the paragraph?
Do subordinate ideas find their right place?
(Keep on guard for dangling modifiers and avoid sentence fragments.)

Prepositional phrases can modify nouns and verbs.

Words such as *in, with, out, by, at* are prepositions and create phrases such as:
in its place... with honors... out in the yard... by the side of the road... at a place called home... throughout the paragraph...
Avoid too many in one sentence, and make sure they are in their right place, near their subject/object or verb.
Don't let them wander in the sentence, or *dangle*, as
Strive for consistency with parallel forms:
Pay attention to conjunctions
(and, or, not only...but also, either... or, neither...nor, both...and)

The "big picture": as you review

- **Audience:**
  Can someone unfamiliar with your subject understand
  both the vocabulary/concepts and your main points?
- **Authors:**
  Have you accurately represented the points of view and major findings
  of the authors of your research?
- **Subject matter:**
  Have you adequately addressed the diversity of arguments
  relating to the main thesis of your study?
  Are these presented in a neutral or unbiased presentation?
- **Conclusions:**
  Are the points of view and conclusions clear that they are your own?
  Do they reference and build on the arguments developed in the body of your paper?
- **Further study:**
  Are there recommendations for further research and applications?

See also:

Clear Direct and Concise Sentences (University of Wisconsin) *and A Garden of Phrases (Capital Community College Foundation)*

Vocabulary:

With each piece of writing you establish a vocabulary that is used throughout.
Set aside your writing, list its key words, and return to your writing

Is there any word that lacks definition or context?
Are their any words that are emotionally-charged? If so, are they used effectively for stress?
Position important words where they are more effective (at the end or beginning of sentences/paragraphs)
Develop and use an active, descriptive vocabulary; avoid the overuse of pronouns (*it*,*they*, *we*, *their*, etc.);
Reflect on important vocabulary: anticipate reactions of your audience
Reserve the use of emotional words to create effects. What words can be strengthened to be clearer or stronger?
What words can be simplified to be clearer or stronger?

Do you over-use any words? Would synonyms add interest?

Colloquialisms are informal expressions that imitate speech.
Their use may not be clear of effective in your writing since they are so familiar, and may tend toward predictability.

Nouns:

Avoid adjective-noun strings:

See DesignSensory's Professional Writing Style section:

Unraveling Adjective-Noun Strings, Reducing Preposition Sprawl

Avoid using vague nouns and verbs:

See Empire State College's: Powerful Verbs and Nouns

Adjectives

Are vivid/descriptive words used to describe characters and/or events?
Do they fit into the flow or do they make the reader pause? If pause, is it appropriate and/or effective?

Verbs:

Action/active verbs are more precise or descriptive.

Did she *say* she won the promotion, or did she
whisper, *stress*, or *confide* it?
We investigated the accident is stronger than
We conducted an investigation of the accident
Many reasons account for our success is stronger than
There are many reasons for our success
Avoid *It is* and *There are*
The child slammed the door! is more powerful than
The door was slammed by the child!
Avoid forms of "to be" (as in the second, passive sentence)

MODULE : 88

Writing series

Proofreading writing assginments

Seven stages of writing assignments:

Intentionally separate "proofreading" from the "writing" and "revising" processes.
Writing and revising focus on content, message and style; proofreading focuses on "mechanics."

Work with another:

- **It is twice as hard to detect mistakes in your own work**
  as in someone else's!
- **Get a second opinion!**
  A fresh set of eyes may not only find errors, but also have suggestions for improvement
- **Professional editors proofread as many as ten times.**
  Publishing houses hire teams of readers to work in pairs, reading out loud.
  And still errors occur.

Cultivate a sense of doubt

Take nothing for granted
If you know you repeat certain errors, double check for them.
Most errors in written work are made unconsciously.

These are sources of unconscious, repetitive error:

- **Misspellings:**
  a word like "accommodate" can be checked through a spellchecker in word processing
- **Keyboarding: "form" for "from"**
  A keyboarding error that is common and unthinkingly repeated
- **Usage error "which" for "that"**
  Word processors may locate the problem but it is left to you to decide and choose
- **Inattention**
  The mind works far faster than the pen or keyboarding

Read out loud, word for word:

- **Take advantage of two senses: hearing and seeing**
  It is often possible to hear a mistake, such as an omitted or repeated word that you have not seen
- **Slow down**
  Read what is actually on the page, not what you think is there
  This is difficult, particularly if you wrote what you are reading

Why slow down?

When you read normally, you often see only the shells of words -- the first and last few letters, perhaps. You "fix your eyes" on the print only three or four times per line, or less. You take in the words between these points, and get less accurate the the more you stray from the point. The average reader can only take in six letters accurately with one fixation. This means you have to fix your eyes on almost every word you have written and do it twice in longer words, in order to proofread accurately. You have to look at the word, not slide over it.

Turn in the paper

Celebrate a job well done,

with the confidence that you have done your best.

This last is very important.

4: Developing the project

Considerations:

- **What do I already know in this area?**
- **What are the sources of information?**
  Text books, reference books, manuals, other print material, web sites:
  in-school resources, out-of-school resources
- **Who are the experts?**
  Reference librarians, tutors, teachers, professionals, consultants, etc.
  How did others learn in this area?
- **Are there sequences to learn?**
  Chapters, concepts, skills, levels, etc.
- **How much time am I dedicating to this project?**
  Number of hours? Weekly schedule?
- **What is my timeline?**
- **How will I check what I am learning?**
  Tests, reports, MODULEs, feedback from a group or teacher or expert or professional, pages read, tasks completed, etc.
- **Where do I go if I'm not getting the results I want?**
- **When will I record my progress?**
  Daily/weekly/monthly; when I complete a "section", etc.?
- **What are my rewards as I progress?**
  Rewards should match your effort, the degree of difficulty, or the task.

Post these on your wallboard, or in your notebook.

5: Choosing a mentor

Who will be my mentor?

A mentor will help you monitor your progress, and should

- be a person you trust
- understand your motivation
- understand your project
- ask you how you are doing from time to time
- not test your learning (this is not his/her role!)
- give encouragement without being judging
- be able to suggest ways of getting around obstacles
- confront you if you are avoiding him/her or the project

Preparation

You should feel comfortable about sharing

what you have developed so far with the person: your project description, intrinsic and extrinsic motivations, etc.

Communications:

- How will you communicate and meet with your mentor?
  In person, via email or phone?
- When or how often will you meet?
  Meet at least three times: at the outset, mid-term check in, and wrap up.
- Copy your project name, your intrinsic motivations, project description, and this page for your monitor.

Write out your agreement on the project, and both should initial

Post your mentor's information on your wallboard, your notebook,
or computer.

Writing series

5. Rough drafts:

A rough draft is "a late stage in the writing process".1

It assumes that you have adequate information and understanding,
are near or at the end of gathering research, and have completed an exercise in prewriting.

What you need:

- **Adequate time period** for focus
- **Clear study area**
  to eliminate distractions, whether other school projects or friends' demands,
  in order to concentrate on the task at hand
- **Preparation and research**
  with as much current and historical data and viewpoints as necessary
- **Target audience**
  or a clear idea for whom you are writing:
  your professor, an age group, a friend, a profession, etc.
- **Prewriting exercises**
  and notes on ideas from your research
- **Review** all the above.
  Don't "study" it; just refresh yourself on the main concepts for now

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  derive these from your prewriting exercise
- **Reference works, print-outs, quotes,** etc.
  Rely on your notes, and don't overwhelm yourself with facts.
  Details can be added; you now want to focus on developing your argument
- **Edits!**
  Do not revise as you write, or correct spelling, punctuation, etc.
  Just write, write, write.
  This is the first draft, so what you put down will be revised and organized "after"

Take a break after your prewriting exercise!

Refresh yourself

- **Review the ideas, topics, themes, questions**
  you have come up with in your prewriting exercise. Try reading the prewriting text out loud (a type of self-mediation).
  Listen for patterns that seem most interesting and/or important. Summarize them.
- **Evaluate the ideas, topics, themes, questions**
  whether by scoring, prioritizing, or whatever method seems best.
  Keep this list in case your first choice(s) don't work
- **Sequence**
  what you have prioritized as in outlining, above.

Writing your draft (3):

Your first paragraph

- Introduce the topic; entice the reader (remember: audience)
- Establish perspective and/or point of view!
- Focus on three main points to develop

Establish flow from paragraph to paragraph

- Topic sentences of each paragraph
  define their place in the overall scheme
- Transition sentences, clauses, or words at the beginning of paragraph connect one idea to the next
  (See the page on transitional words and phrases)
- Avoid one and two sentence paragraphs
  which may reflect lack of development of your point
- Continually prove your point of view throughout the essay
  - Don't drift or leave the focus of the essay
  - Don't lapse into summary in developing paragraphs--wait until its time, at the conclusion
- Keep your voice active
  - "The Academic Committee decided..." not "It was decided by..."
  - Avoid the verb "to be" for clear, dynamic, and effective presentation
    (Avoid the verb "to be" and your presentation ~~will be~~ effective, clear, and dynamic)
  - Avoiding "to be" will also avoid the passive voice
- Support interpretations with quotes, data, etc.
  - Properly introduce, explain, and cite each quote

- Block (indented) quotes should be used sparingly;
  they can break up the flow of your argument

Conclusion

- Read your first paragraph, the development, and set it aside
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- Refer back (once again) to the first paragraph(s) as well as the development
  - do the last paragraphs briefly restate the main ideas?
  - reflect the succession and importance of the arguments
  - logically conclude their development?
- Edit/rewrite the first paragraph
  to better set your development and conclusion

Take a day or two off!

Types of writing:

MODULE : 89

Writing assignment series

Writing for effective Webpages

What not to do:

Print this and read it and you will find it is easier than reading it on the screen. Writing for the Web is not like writing on an 8.5 X 11" piece of paper. When you write on a piece of paper your eyes can scan down the discrete print format, jump to headings and paragraphs, turn pages, etc. The document is readily accessible, and our eyes have been trained and have adapted to paper as the medium. It is different for a computer screen's monitor. Small type is difficult to read because of the resolution of the type's display. Sentences fill the width of the monitor, and often are too wide. The writing style differs. Instead, browsers (you) on the web want to know immediately if the page is relevant to what they are looking for. For that reason, a "bottom down" approach is necessary, with the conclusion or summary at the top. This may seem like a superficial treatment of subject matter, and it can be. However, keep in mind that millions of websites compete to deliver information, and if your website is written in a clear, direct manner, you will succeed in delivering information.

Badly designed websites come in several varieties: One of the worst is a page that is text heavy, which reads like "Moby Dick". Interminable text goes on and on demanding perseverance to get to the good parts. "Computer eyes" tire way before they get to this point. This is not to say that a page of heavy text is not appropriate for the web! Rather, the web can be a very effective way of delivering information that is *printed*, and then read. It is said that "reading" webpages is 25% slower than on paper.
Another variety of bad design is graphics heavy: extensive graphics not only take a long time to download, but can obscure your message. Often little ditsy graphics blinking and bouncing across the screen distract the reader. Banners (advertisements?) which have nothing to do with the content similarly overwhelm or obscure the message. Confusing images mislead the browser, confusing where to go in the website for more information, or leaving you in a limbo of irrelevant information. Often graphics take an inordinate time to download, and a long download time yields impatience. The end result: viewers move on.

Writing effective Web pages:

The topic, its main idea, and its conclusion should be immediately
visible, locatable, or knowable

Ideas rule structure
main ideas at the "top" of the screen; supporting and secondary information below

Structure of the content and the website
should be readily recognizable to your visitor

Simple constructions are best;
limit one idea to a group of words, whether sentence, phrase, paragraph

Avoid technical terminology
unless you clearly and intentionally have its purpose in mind and definition available
Data, detail, and complexity
are subjects for subsequent pages and should be logically placed
Each subsequent page's content
should be apparent by its link, and consistent with its predecessor
Detailed information
can be accessed through links for printing
Edit out the superfluous
no matter how clever if it detracts from your message
Spell check,
then have your pages independently proof-read
Always focus on your message.
Invite feedback with a "mailto" for comments, suggestions, questions to enhance the effectiveness of your website; ignore (don't respond to or waste your time on) idiotic responses
The use of graphics can:
reinforce text | elaborate on text | highlight text | replace text |
be meaningless and distracting **(not!)**
Formatting: Each page should be consistent in design
If pages are formatted in standard HTML:
Use a table, one row/one column, to center your text in the monitor's display (80% or so) to create margins left and right. leave white space between paragraphs to enhance readability.
Note: the use of Cascading Style Sheets (CSS) and/or Content Management Systems enable you to create coded templates that can more easily reformat multiple pages at once!

Writing assignment series

MODULE : 90

The Five Paragraph Essay

The five paragraph essay measures a student's basic writing skills, and is often a timed exercise.

Use this Guide to help you practice and succeed at this form of writing.

Getting started means getting organized:
Analyze the assignment; determine what is required.
With a highlighter, note important words that define the topic.
Then organize your plan
For example, you have been given this writing prompt:
You have a present that was really memorable. It could have been given for an important occasion or just for no reason at all. Tell us about the present and why it was memorable. Include the reason it was given, a description of it, and how you felt when you got it.
The objective is to write a narrative essay about this present you were given
The subject is a **memorable present**
The three main subtopics are:

- **the reason it was given**
- **a description of it**
- **and how you felt when you got it**

Outline your five paragraph essay; include these elements:
Introductory Paragraph
General Topic Sentence: **memorable present**

1. Subtopic One: **the reason it was given**

2. Subtopic Two: **a description of it**
3. Subtopic Three: **how you felt when you got it**
4. (Transition)

First Supporting Paragraph

1. Restate Subtopic One
2. Supporting Details or Examples
3. (Transition)

Second Supporting Paragraph

1. Restate Subtopic Two
2. Supporting Details or Examples
3. (Transition)

Third Supporting Paragraph

1. Restate Subtopic Three
2. Supporting Details or Examples
3. (Transition)

Closing or Summary Paragraph

1. Synthesis and conclusion of the thesis
2. Rephrasing main topic and subtopics.

Write the essay!

Think small; build the full essay gradually.
Divide your essay into sections and develop each piece separately and incrementally.

The Introductory Paragraph

- **The opening paragraph sets the tone**
  It not only introduces the topic, but where you are going with it (the thesis). If you do a good job in the opening, you will draw your reader into your "experience." Put effort up front, and you will reap rewards.
- **Write in the active voice**
  It is much more powerful. Do that for each sentence in the introductory essay. Unless you are writing a personal narrative, do not use the pronoun "I."
- **Varying sentence structure**
  Review to avoid the same dull pattern of always starting with the subject of the sentence.
- **Brainstorm to find the best supporting ideas**
  The best supporting ideas are the ones about which you have some knowledge. If you do not know about them, you cannot do a good job writing about them. Don't weaken the essay with ineffective argument.
- **Practice writing introductory paragraphs on various topics**
  Even if you do not use them, they can be compared with the type of writing you are doing now. It is rewarding to see a pattern of progress.

Supporting Paragraphs

- **Write a transition to establish the sub-topic**
  Each paragraph has to flow, one to the next.
- **Write the topic sentence**
  The transition can be included in the topic sentence.
- **Supporting ideas, examples, details must be specific** to the sub-topic
  The tendency in supporting paragraphs is to put in just about anything.
  Avoid this: the work you have made above with details and examples will help you keep focused.
- **Vary sentence structure**
  Avoid repetitious pronouns and lists
  Avoid beginning sentences the same way (subject + verb + direct object).

The Ending or Summary Paragraph

This is a difficult paragraph to write effectively.
You cannot assume that the reader sees your point

- **Restate the introductory thesis/paragraph** with originality
  Do not simply copy the first paragraph
- **Summarize your argument** with some degree of authority
  this paragraph should leave your reader with no doubt as to your position or conclusion of logic

- **Be powerful** as this is the last thought that you are leaving with the reader.

Edit and revise your essay

Check your spelling and grammar

Subjects and verbs agree, and verb tenses are consistent

Examine your whole essay for logic

Thought builds and flows?

Avoid gaps in logic, or too much detail.

Review individual sentences

- **Use active verbs to be more descriptive**
  Avoid passive constructions and the verb "to be"
- **Use transitional words and phrases**
  Avoid sentences beginning with pronouns, constructions as "There are....,"
  Example: "There is a need to proofread all works" becomes "Proofreading is a must."
- **Be concise**
  though vary the length and structure of sentences

Writing assignment series

Essays in Literature Classes

Brainstorm the question/assignment:

- **Restate key words**
  in the assignment with synonyms or in your own words;
- **Use these equivalent terms**
  throughout your paper to keep focused.;
- **Write down everything**
  you can think of that is related to the assignment;
- **Generate two or three specific sentences**
  that answer a question posed by the assignment;
- **Write your introduction last,**
  after you've had a chance to work your way to a conclusion;
  Often it helps to take your conclusion, use what you've learned,
  and then write the introduction in the next draft.

Refine your focus:

- **After writing your initial "guiding sentence"**
  (thesis statement), write a draft, then go back to the thesis and perhaps re-write it;
- **Include in each paragraph an explicit reference**
  to the language you use in your thesis. If the paragraphs are not an extension of something in your thesis, either re-write your thesis statement, edit the paragraph, or cut it. Often you can revise the paragraph by adding words that more explicitly make the connection.

Make sure that your essay is developed
out of your close analysis of selected passages found in the readings:

- **Choose one or two short passages**
  from the text(s) to help focus your paper;
- **If using a quote, elaborate**
  on its meaning using words from it. Don't leave it up to the reader to figure out how to interpret the language quoted.

Think about how to organize your paragraphs
to create an effective argument.

- **Is there a "scheme"**
  you can use to organize your thoughts to help structure your paper?
- **How will your examples**
  "build" upon each other? Think of logical possibilities:
  less important to more important, or vice versa;
  similar ideas versus contrasting ideas;

- **Is there a central concept**
  or metaphor you can weave throughout your paper to add coherence?

For short papers, start fast.

- **Provide an immediate, specific answer**
  to a question posed by the assignment.

Writing assignment series

Expository essays

When writing your expository essay, follow these eight basic steps:

- **Select a topic:**
  Be sure the topic is narrow enough to make it manageable within the space of an essay
- **Write a thesis sentence:**
  Be sure the thesis statement(or sentence) expresses a controlling idea that is neither too broad nor too specific to be developed effectively
- **Select a method of development:**
  Check through all the methods before you finally settle on the one
  which will best serve your thesis:

definition | example | compare and contrast |
cause and effect | classification | process analysis

- **Organize the essay:**
  Begin by listing the major divisions which the body paragraphs in your essay will discuss; then fill in the primary supports that each body paragraph of the essay will contain
- **Write topic sentences for the body paragraphs of the essay:**
  For each body paragraph, furnish a topic sentence that directly relates to the thesis sentence
- **Write the body paragraphs of the essay:**
  Each body paragraph should develop the primary support covered in that paragraph's topic sentence
- **Furnish a paragraph of introduction:**
  An introductory paragraph should state the thesis of the essay, introduce the divisions in the body paragraphs of the essay, and gain the interest of the reader
- **Write a paragraph of conclusion:**

  - Restate the thesis and divisions of the essay
  - Bring the essay to an appropriate and effective close
  - Avoid digressing into new issues

MODULE : 91

Writing assignment series

Persuasive or argumentative essays

In persuasive or argumentative writing, we try to convince others to agree with our facts, share our values, accept our argument and conclusions, and adopt our way of thinking.

Elements toward building a good persuasive essay include

- **establishing facts**
  to support an argument
- **clarifying relevant values**
  for your audience (perspective)
- **prioritizing, editing, and/or sequencing**
  the facts and values in importance to build the argument
- **forming and stating conclusions**

- **"persuading" your audience** that your conclusions are based upon the agreed-upon facts and shared values
- **having the confidence** to communicate your "persuasion" in writing

Here are some strategies to complete a persuasive writing assignment:

Write out the questions in your own words.

Think of the questions posed in the assignment

while you are reading and researching. Determine

- facts
- any sources that will help you determine their reliability (as well as for further reference)
- what prejudices lie in the argument or values that color the facts or the issue
- what you think of the author's argument

List out facts; consider their importance:

prioritize, edit, sequence, discard, etc.

Ask yourself "What's missing?"

What are the "hot buttons" of the issue?

List possible emotions/emotional reactions and recognize them for later use

Start writing a draft! (refer to: *Writing essays, the basics*)

Start as close as possible to your reading/research

Do not concern yourself with grammar or spelling

- **Write your first paragraph**
  - Introduce the topic
  - Inform the reader of your point of view!
  - Entice the reader to continue with the rest of the paper!
  - Focus on three main points to develop
- **Establish flow from paragraph to paragraph**
  - **Keep your voice active**
  - **Quote sources** to establish authority
  - **Stay focused** on your point of view throughout the essay
  - **Focus on logical arguments**
  - **Don't lapse into summary** in the development--wait for the conclusion
- **Conclusion**

  Summarize, then conclude, your argument

  Refer to the first paragraph/opening statement as well as the main points
  - does the conclusion restate the main ideas?
  - reflect the succession and importance of the arguments
  - logically conclude their development?
- **Edit/rewrite the first paragraph** to better telegraph your development and conclusion.
- **Take a day or two off!**
- **Re-read your paper** with a fresh mind and a sharp pencil
  - **Ask yourself:**
    Does this make sense? Am I convinced?
    Will this convince a reader?
    Will they understand my values, and agree with my facts?
  - **Edit, correct, and re-write** as necessary
  - **Check spelling and grammar!**
  - **Have a friend read it** and respond to your argument.
    Were they convinced?
  - **Revise** if necessary

- **Turn in the paper**
- **Celebrate a job well done,**
  with the confidence that you have done your best.

How to respond to criticism:
Consider criticism as a test of developing your powers of persuasion.
Try not to take it personally.
If your facts are criticized,
double check them, and then cite your sources.
If your values are criticized,
sometimes we need agree "to disagree". Remember: your success in persuading others assumes that the other person is open to being persuaded!
Fear: If you are not used to communicating,
especially in writing, you may need to overcome fear on several levels. Writing, unlike unrecorded speech, is a permanent record for all to see, and the "context" is not as important as in speech where context "colors" the words. For example: your readers do not see you, only your words. They do not know what you look like, where you live, who you are.
Hopefully in school, and class, we have a safe place
to practice both the art of writing and of persuasion. Then later, when we are in our communities, whether work, church, neighborhoods, and even families, we can benefit from this practice.
Persuasion also has another dimension:
it is built with facts, which illustrate conclusions. Of course, this means you need to know what you are talking about, and cannot be lazy with your facts, or you will not succeed in convincing anyone. This shows another level of fear: Fear of making a mistake that will make your argument or persuasion meaningless. Since you are writing, and the words are on paper for all to see (or on a web site!), you need to work to make sure your facts are in order.

MODULE : 92

Writing assignment series

Writing Position Papers

Write a position paper to

- Organize and outline your viewpoint on an issue
- Formally inform others of your position
  as a foundation to build resolution to difficult problems
- Present a unique, though biased, solution
  or a unique approach to solving a problem
- Frame the discussion in order to define the "playing field."
  This can put you in an advantageous position with those who may not be so well prepared as regards the issues behind their positions
- Establish your credibility
  Here you are demonstrating that you have a command of the issues and the research behind them, and can present them clearly
- Let your passion be demonstrated in the force of your argument
  rather than in the use of emotional terms
- Guide you in being consistent in maintaining your position in negotiation

The better prepared you are
the more disadvantaged are your opponents and more likely they will defer to you

Guidelines:

- Format should be consistent with guidelines determined by the sponsoring organization or committee
- Include topic, date, purpose, etc., and should readily identify you as the author
- If the paper represents a group, organization, committee, do not write in the first person (not I, my, mine, etc. but rather we, our, etc.)
- Limit yourself to two pages following the format established by previous successful position papers

Research:

- Develop supporting evidence for both sides
  including factual knowledge, statistical evidence, authoritative testimony
- Identify the issues and prejudices keeping in mind your audience
  List these as appropriate and anticipate counterclaims
- Assume familiarity with basic concepts
  but define unfamiliar terms/concepts or state meanings that define your point of departure
- Refer to those who agree with your position to assist you in developing your argument
- Familiarize yourself with those who disagree with you to prepare your defense.
  Summarize their argument and evidence, then refute

Introduction:

Consider your audience:
start with a topic sentence or two that attracts attention and summarizes the issue
Inform the reader of your point of view

Development:

Focus on three main points to develop
Each topic is developed with

- a general statement of the position
- an elaboration that references documents and source data
- past experiences and authoritative testimony
- conclusion restating the position

Establish flow from paragraph to paragraph

- **Keep your voice active**
- **Quote sources** to establish authority
- **Stay focused** on your point of view throughout the essay
- **Focus on logical arguments**
- **Don't lapse into summary**
  in the development--wait for the conclusion

Conclusion

- **Summarize, then conclude, your argument**
- **Refer to the first paragraph/opening statements**
  as well as the main points
  - does the conclusion restate the main ideas?
  - reflect the succession and importance of the arguments
  - logically conclude their development?

Testing with success series

Open book exams

In an open book exam
you are evaluated on understanding rather than recall and memorization.

You will be expected to

- apply material to new situations
- analyze elements and relationships
- synthesize, or structure
- evaluate using your material as evidence

Access to content (books, notes, etc.) varies by instructor.
The exam can be take home or in the classroom
with questions seen or unseen before exam time

Do not underestimate the preparation needed for an open book exam:
your time will be limited, so the key is proper organization in order to quickly find data, quotes, examples, and/or arguments you use in your answers.

Preparation:

- Keep current
  on readings and assignments in class
- Prepare brief,
  concise notes on ideas and concepts being tested
- Carefully select
  what you intend to bring with you to the exam,
  and note anything significant about what you do not
- Include your own commentary on the information
  that will provide fuel for your arguments,
  and demonstrate that you have thought this through
- Anticipate with model questions, but not model answers.
  Challenge yourself instead with how you would answer questions,
  and what options and resources you may need to consider.

Organize your reference materials, your "open book:"
Make your reference materials as user-friendly as possible so that you don't lose time locating what you need

- **Familiarize yourself**
  with the format, layout and structure of your text books and source materials
- **Organize these with your class notes**
  for speedy retrieval, and index ideas and concepts with pointers and/or page numbers in the source material
  (Develop a system of tabs/sticky notes, color coding, concept maps, etc. to mark important summaries, headings, sections)
- **Write short, manageable summaries**
  of content for each grouping
- **List out data and formulas**
  separately for easy access

Test taking:

- **Read the questions carefully**
  to understand what is expected.
  Refer to our guide on *Essay exam terms/directives*
- **Make good use of time**
  Quickly review the number of questions and note how much time each could take.
  First answer the questions that you are confident of and/or for which you will not need much time checking out the resources.
  Leave more complex and difficult questions for later
- **Don't over-answer**
  Aim for concise, accurate, thoughtful answers that are based in evidence.

Use quotations

- to illustrate a point, or act as a discussion point
- to draw on the authority of the source
- because you could not say it better

Quotations can be short
Three or four words can be extremely effective when they are worked into the structure of your sentence

A reference to a quote
may be as effective as the quote itself

Guard against over-quoting
It is your words and your argument;
extensive quoting may detract from your point or argument

Testing with success series

The Essay Exam

Organization and neatness have merit

Before writing out the exam:

- **Write down their key words**, listings, etc, as they are fresh in your mind.
  Otherwise these ideas may be blocked (or be unavailable) when the time comes to write the later questions. This will reduce "clutching" or panic (anxiety, actually fear which disrupts thoughts).

Set up a time schedule
to answer each question and to review/edit all questions

- If six questions are to be answered in sixty minutes,
  allow yourself only seven minutes for each
- If questions are "weighted",
  prioritize that into your time allocation for each question
- When the time is up for one question, stop writing,
  leave space, and begin the next question. The incomplete answers can be completed during the review time
- Six incomplete answers will usually receive more credit than three, complete ones

Read through the questions once and note if you have any choice in answering questions

- Pay attention to how the question is phrased,
  or to the "directives", or words such as "compare", "contrast", "criticize", etc. See their definitions in "Essay terms"
- Answers will come to mind immediately for some questions

Before attempting to answer a question, put it in your own words

- Now compare your version with the original.
  Do they mean the same thing? If they don't, you've misread the question. You'll be surprised how often they don't agree.

Think before you write:
Make a brief outline for each question
Number the items in the order you will discuss them

- **Get right to the point**
  State your main point in the first sentence
  Use your first paragraph to provide an overview of your essay.
  Use the rest of your essay to discuss these points in more detail.
  Back up your points with specific information, examples, or quotations from your readings and notes
- **Teachers are influenced by compactness,**
  completeness and clarity of an organized answer
- **Writing in the hope**
  that the right answer will somehow turn up is time-consuming and usually futile
- **To know a little and to present that little well is,**
  by and large, superior to knowing much and presenting it poorly--when judged by the MODULE received.

Writing & answering:
Begin with a strong first sentence
that states the main idea of your essay.
Continue this first paragraph by presenting key points
Develop your argument

- **Begin each paragraph**
  with a key point from the introduction
- **Develop each point**
  in a complete paragraph
- **Use transitions,**
  or enumerate, to connect your points
- **Hold to your time**
  allocation and organization
- **Avoid very definite statements**
  when possible; a qualified statement connotes a philosophic attitude, the mark of an educated person
- **Qualify answers when in doubt**.
  It is better to say "toward the end of the 19th century" than to say "in 1894" when you can't remember, whether it's 1884 or 1894. In many cases, the approximate time is all that is wanted; unfortunately 1894, though approximate, may be incorrect, and will usually be marked accordingly.

Summarize in your last paragraph
Restate your central idea and indicate why it is important.
Review:

Complete questions left incomplete,
but allow time to review all questions
Review, edit, correct
misspellings, incomplete words and sentences, miswritten dates and numbers.
Not enough time?
Outline your answers
See also: **Essay terms and directives**
For teachers: **Writing essay exams**
Workplace and writing series

Writing white papers

White papers
Form the foundation for a marketing strategy for your products for your potential clients
as well as the products' technical documentation

- Demonstrate your knowledge of client technology and its challenges
- Introduce your product or technology as innovative
- Emphasize the uniqueness and advantages of your solution
- Influence customer purchasing decisions

However, in this document, success is demonstrated in the force of your solution, not the hype around your product

Audience:

- Define characteristics of the targeted audience
- Highlight their concerns and problems
- Consider their time and method of reading such papers
- Provide an engaging though succinct initial overview/summary/abstract
  - Conclude with reviewing your solution
  - How it addresses the client's problem
  - follow up procedure

Format:

- Review successful papers for models of development
- Consider the venue for publishing
  Web site based presentations are written differently than paper published documents
- Keep the narrative positive, in active voice, and non-technical:
  Technical treatments are best left to the documentation
  Marketing language is best left to subsequent strategies

Begin with a
Well developed overview/executive summary/abstract

- Must capture your target audience's attention
- Content: A critical one-paragraph summary
  Provide material that gives them a good reason to read further,
  keeping in mind that busy executives may jump to the end paragraphs/conclusion

State the Problem
Two-to-three paragraphs demonstrating your knowledge of your clients' challenges and industry trends
Avoid hidden assumptions and agendas
Avoid technical complexity, acronyms, etc.
Define that which cannot be avoided and must be understood
Identify the main objectives of the paper
Describe your product
Incorporate design decisions; industry standards, testing and reliability;
best practices and ease of use
Liberally illustrate with simple and well-labeled diagrams and illustrations
(Rely on a graphic designer!)
Address how your product resolves the problem; tie the two together
Demonstrate with evidence
Illustrate with case studies and expert testimonials

Entice with

- benefits and returns on investment (ROI)
- future applications, developments, and timelines

Conclude: with confidence and credibility

Refer to the abstract and summarize your main advantages

Conduct an independent review of the paper before publishing

Publish

Seek out the most appropriate venues of your clients to promote your work.

MODULE : 93

Science and math learning series

Writing Lab Reports & Scientific Papers

What lab reports and scientific papers do:

- **Persuade others**
  to accept or reject hypotheses by presenting data and interpretations
- **Detail data, procedures, and outcomes**
  for future researchers
- **Become part of the accepted body of scientific knowledge**
  when published unless later disproved
- **Provide an archival record**
  for reference and document a current situation for future comparison

Format:

The typical lab report includes: title, abstract, introduction, materials and methods, results, discussion, references and literature cited

Title:

- Reflect the factual content with less than ten words in a straightforward manner
- Use keywords researchers and search engines on the Internet will recognize

Abstract:

Summarize in a concise paragraph the purpose of the report,
data presented, and major conclusions in about 100 - 200 words.

Introduction:

- Define the subject of the report: "Why was this study performed?"
- Provide background information and relevant studies: "What knowledge already exists about this subject?"
- Outline scientific purpose(s) and/or objective(s): "What are the specific hypotheses and the experimental design for investigation?"

Materials and methods:

- List materials used, how were they used, and where and when was the work done (especially important in field studies)
- Describe special pieces of equipment and the general theory of the analyses or assays used
- Provide enough detail for the reader to understand the experiment without overwhelming him/her. When procedures from a lab book or another report are followed exactly, simply cite the work and note that details can be found there.

Results

- Concentrate on general trends and differences and not on trivial details.
- Summarize the data from the experiments without discussing their implications
- Organize data into tables, figures, graphs, photographs, etc. Data in a table should not be duplicated in a graph or figure
- Title all figures and tables; include a legend explaining symbols, abbreviations, or special methods

- Number figures and tables separately
  and refer to them in the text by their number, i.e.
  1. Figure 1 shows that the activity....
  2. The activity decreases after five minutes (fig. 1)

Discussion

- Interpret the data; do not restate the results
- Relate results to existing theory and knowledge
- Explain the logic that allows you to accept or reject your original hypotheses
- Speculate as necessary but identify it as such
- Include suggestions for improving your techniques or design, or clarify areas of doubt for further research

References & literature cited

- Cite only references in your paper and not a general bibliography on the topic
- Alphabetize by last name of the author
- Follow the recommended format for citations

General style

- Strive for logic and precision and avoid ambiguity, especially with pronouns and sequences
- Keep your writing impersonal; avoid the use of the first person (i.e. I or we)
- Use the past tense and be consistent within the report
  note: "data" is plural and "datum" is singular; species is singular and plural
- Italicize all scientific names (genus and species)
- Use the metric system of measurement and abbreviate measurements without periods (i.e. cm kg) spell out all numbers beginning sentences or less than 10 (i.e. "two explanations of six factors").
- Write numbers as numerals when greater than ten (i.e. 156) or associated with measurements (i.e. 6 mm or 2 g)
- Have a neutral person review and critique your report before submission

Writing assignment series

How to write a research proposal*

These recommendations do not guarantee a successful research application!
They are intended to help you conceptualize and prepare a research proposal,
giving the process structure and a timetable for you to develop. Good luck!

When applying for a research grant or a study scholarship, you are expected to
hand in a "detailed and precise description of study or research proposal as well as information on any previous study or research projects of particular relevance to a decision of award."

The purpose of the proposal is to ensure that

- the candidates have done sufficient preliminary reading/research
  in the area of their interest
- that they have thought about the issues involved and are able to provide more than a broad description of the topic which they are planning to research.

The proposal is not a fixed blueprint. One cannot predict one's findings beforehand or mechanically stick to an argument since the research will inevitably alter or even unseat one's initial expectations. There is no fixed formula for writing a proposal.

However, your challenge is to convince members of the scientific community that you

- have identified a scientific problem
- have a theoretical background and a methodical approach to solve the problem
- within a realistic time frame and at reasonable expenses.

With your research you will add a new aspect to the scientific discourse.

First, consult your advisor on length, layout (typeface, line spacing, font, etc.), format, as well as a table of contents and page numbers. Members of the selection committee may have to read a large number of research proposals so good construction and legibility of your proposal is to your advantage.

Title Page:

- Personal data (name, academic title, your position at your own university, date of birth, nationality, your contact information, institutional contact.
- (Working) Title of your planned dissertation or research report.
  words in the title should be chosen with great care, and their association with one another must be carefully considered. While the title should be brief, it should be accurate, descriptive and comprehensive, clearly indicating the subject of the investigation.

In order to develop a clear title, you must also be clear about the focus of your research!
Strive for the title to be ten words or 60 characters: focus on or incorporate keywords that reference the classification of the research subject

- Indicate a realistic time frame toward project completion,
  followed by the name(s) of your supervisor(s), the university department where you hope to do your research and, if applicable, information about other academics with whom you plan to collaborate.
- Refer to successfully funded projects to determine whether your topic fits with the granting organization's mission and to mimic their title/proposal structure

Abstract/summary statement of the research project:

This one page summary focuses on the research topic, its new, current and relevant aspects. Strive for clarity; your greatest challenge might be narrowing the topic

Review of research literature

A short and precise overview about the current state of research that is immediately connected with your research project.

- Reference the most important contributions of other scientists.
- Discuss the theoretical scope or the framework of ideas that will be used to back the research.
- Demonstrate that you are fully conversant with the ideas you are dealing with and that you grasp their methodological implications.
- Indicate the open problem which then will be the motive for your project. State clearly how your research will contribute to the existing research.

Your history/preparation

Summarize the most important impact of your own work on the topic (if applicable).
Attach copies of your own publications that might be seen in relation to your research project.

Objective of the research project

Give a concise and clear outline of the academic (possibly also non-academic, e.g. social and political) objectives that you want to achieve through your project. Your proposal needs to show why the intended research is important and justifies the search effort. Here you outline the significance (theoretical or practical) or relevance of the topic.
Such justification may either be of an empirical nature (you hope to add to, or extend an existing body of knowledge) or of a theoretical nature (you hope to elucidate contentious areas in a body of knowledge or to provide new conceptual insights into such knowledge). All research is part of a larger scholarly enterprise and candidates should be able to argue for the value and positioning of their work.

Outline the project

This is the central part of your research outline.

- Detail your research procedure within the given time.
- List sources and quality of evidence you will consult, the analytical technique you will employ, and the timetable you will follow.
  Depending on the topic, suitable research strategies should be defined to ensure that enough and adequate empirical data will be gathered for a successful research project.
- Describe the intended methods of data gathering, the controls you will introduce, the statistical methods to be used, the type of literature or documentary analysis to be followed, etc.

Consider your work to be a Work-in-Progress and allow yourself a flexible planning:
Stay ready to revise the proposal according to new insights and newly aroused questions and keep on modifying the working hypothesis according to new insights while formulating the proposal and the working hypothesis. Once you have a useful working hypothesis, concentrate on pursuing the project within the limits of the topic.

Timetable

Develop a time table (if possible in table form), indicating the sequence of research phases and the time that you will probably need for each phase. Take into account that at this stage, it can only be estimated, but make clear that you have an idea about the time span that will be needed for each step.

Selective research bibliography

List academic works mentioned in your research outline as well as other important works to which you will refer during your research

Attachments:

List other documents attached to your proposal.
References, CV, etc.

Editing:

Once you have finished the conceptual work on your proposal, go through a careful
editing stage

Writing/presentation style:

1. Verify that the title, the abstract and the content of your proposal clearly correspond to each other!
2. Maintain a clear structure,
   an intuitive navigational style throughout the document with headings and summaries, enabling the reader to quickly reference where they are for future commenting;
   (Have a reader skim your document to verify)
3. Summarize significant issues and make no assumptions where possible.
4. Keep a reasonable, clear, declarative writing style (active verbs!) throughout the document;
5. Breakup the narrative with bulleted lists, visuals, etc. demonstrating a command of abstract concepts and relationships
   Use white space to highlight and emphasize important sections
6. Make sure your proposal does not contain any grammatical/spelling mistakes or typos; engage a proofreader;
7. Request an experienced academic to proofread your proposal in order to ensure the proposal conforms to institutional and international academic standards.

Partially adapted with permission from

Olk, Dr. Harald. (October 2009). How to Write a Research Proposal. In *Deutscher Akademischer Austauschdienst Dienst* (DAAD). Retrieved January 28, 2011

*Common rejection reasons **

The National Institute of Health (NIH) analyzed the reasons why over 700 research proposal applications were denied. Their findings as to the cause of rejection are worth reviewing:

I. Nature of the Problem (18%)

A. It is doubtful that new or useful information
will result from the project (14%).

B. The basic hypothesis is unsound (3.5%).

C. The proposed research is scientifically premature due to the present inadequacy of supporting knowledge (0.6%).

II. Approach to the Problem (38.9%)

. The research plan is nebulous, diffuse
and not presented in concrete detail (8.6%).

A. The planned research is not adequately controlled (3.7%).

B. Greater care in planning is needed (25.2%).

1. The research plan has not been carefully designed (11.8%).
2. The proposed methods will not yield accurate results (8.8%).
3. The procedures to be used should be spelled out
in more detail (4.6%).

C. A more thorough statistical treatment is needed (0.7%).

D. The proposed tests require more individual subjects
than the number given (0.7%).

III. Competence of the Investigators (38.2%)

. The applicants need to acquire greater familiarity with the
pertinent literature (7.2%).

A. The problems to be investigated are more complex than the
applicants realize (10.5%).

B. The applicants propose to enter an area of research for which they are not adequately trained (12.8%).
C. The principal investigator intends to give actual responsibility for the direction of a complex project to an inexperienced co-investigator (0.9%).
D. The reviewers do not have sufficient confidence in the applicants to approve the present application, largely based on the past efforts of the applicants (6.8%).

IV. Conditions of the Research Environment (4.8%)

. The investigators will be required to devote too much time to teaching or other non-research duties (0.9%).
A. Better liaison is needed with colleagues in collateral disciplines (0.4%).
B. Requested expansion on continuation of a currently supported research project would result in failure to achieve the main goal of the work (3.5%).

Based on the above analysis,
a carefully designed, well reasoned proposal will overcome these common pitfalls. It also represents and important credibility statement about the investigator.

The Bureau of Occupational and Vocational Education comparable study.

Based on a sample of 353 research grant applications:

-- 18% forgot to number the pages.
-- 73% forgot to include a table of contents.
-- 81% had no abstract.
-- 92% failed to provide resumes of proposed consultants.
-- 25% had no resume for the principal investigator.
-- 66% included no plan for project evaluation.
-- 17% forgot to identify the project director by name.
-- 20% failed to list the objectives of the project.

Helpful

MODULE : 95

Citing Websites series:

Citing Websites

Guidelines and examples

Each style has its own characteristics.
Example, guidelines, and a link to each style of citation exercise will help you build your own citation.

- Generally these entries are for reference lists or bibliographic citations at the end of a document.
- Refer to your department or instructor as to the type of style required.
- Refer to respective style manuals for sequencing the list, page notes, and for other detailed information

(Create your) American Psychological Association (APA) style

Example:

Landsberger, J. (n.d.). Citing Websites. In *Study Guides and Strategies.* Retrieved May 13, 2005, from http://www.studygs.net/citation.htm .

(Create your) American Medical Association (AMA) style

Example:

Landsberger J. Citing Websites. *Study Guides and Strategies*. May 12 2005. Available at http://www.studygs.net/citation.htm, Accessed May 13 2005.

(Create your) Chicago style

Example:

Joseph Landsberger. "Citing Websites." (2004). http://www.studygs.net/citation.htm (Accessed 13 May, 2005).

General guidelines:

- General format:
  Author, "Webpage title." date published, < URL > (date accessed)
  -- quotes " " angle brackets <> parentheses ( )
- List entries alphabetically by author's name in the order of appearance in the document, first name before surname
- Separate items of entries by periods (commas are used for page notes)
- Use hanging indents following the first lin
- Date accessed is included only if important

(Create your) Modern Language Association (MLA) style

Example:

Landsberger, Joseph. "Citing Websites." *Study Guides and Strategies* . 12 May 2005. 13 May 2005. < http://www.studygs.net/citation.htm >.

General guidelines:

- List entries alphabetically by author (if no author list title first)
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- General format:
  Author, last name first. "Webpage title." *Website title*. Organization/publisher. Date published/updated. Date accessed. < URL >

MODULE : 96

Writing series

Writing under deadline

Don't panic: organize!

Whether you are meeting a publication deadline, over-booked, or procrastinating

Step 1: Get in the zone

- **Think about it**
  Mentally organize and think about developing your "story"
  Turn off the cell phone when driving, walking, waiting, etc.
- **Keep a notebook to jot down**
  thoughts on development and good phrases
- **Talk about the topic**
  Your approach can benefit from having a live person react to your "story" or project
  If the feedback is unclear, ask for clarification
  Don't get defensive, don't argue--make a note and move on
  (you don't have time to debate: it's a writing project!)
- **Designate a distraction-free area to help you write**
- **Organize all you will need**
  to avoid hunting and disrupting your process
- **Make a rough schedule *working backwards* from the deadline**
  Highlight major steps: due date, revision, draft, workspace organization, resource and information gathering
  If dependent on others, make your timeframe clear

Step 2: Write

It's as simple as that

- **Don't interrupt your writing process to edit or research**
  Avoid over-working a problem area and leave it to the revision
  Don't get distracted by minor points--keep focus on the whole
- **Draw up a quick outline or concept map**

- **Write out your thesis to be developed**
  Specific and suitable to the assignment
- **Introduce your topic sentence in the first paragraph**
  Build it up with basic, relevant facts and context: who, what, when, where, why, how
  Appeal to and involve your readers
- **Development:**
  Anchor your paper and each paragraph with a topic sentence. Revise later.
- **As you write, note in bold, or color what you are unsure of**
  Revisit all comments when you revise
- **Keep the "navigation" clear**
  In the introduction, tell your audience what you are going to do,
  then do it

Revising

- **Take the place of your editor or teacher:** critique your own writing.
  Treat your assignment as someone else's product for review
- **Spell check.**
  Use search function to find words you overuse
- **Print and read your project aloud**
  Printed text is easier to edit.
  Does it sound right?
  Highlight problem areas to revise after you finish.
  (If you run out of breath reading a sentence, it is probably too long)
- **Review sentences**:
  Focus on one idea in each
  Short, focused sentences are clearer and reduce the need for commas
  Ideal structure: subject - verb - object.
  Avoid too many prepositional phrases
  Convert negatives to positives
- **Keep your voice active and verbs strong**
  Control/limit your vocabulary
  Beware acronyms, slang, jargon
  Special vocabulary should be kept limited, introduced early, defined, used consistently
- **Limit the use of numbers in each sentence**
  Double check numbers!
- **Add graphics, illustrations, etc. with captions.**
  Visual information should reinforce verbal information, and vice versa

MODULE : 97

Writing series

Stephen Wilburs' lessons learned

from 200 Columns on Writing

Techniques and strategies for writing:
Stephen Wilburs' reflections or blog on writing

- **Writing helps clarify your thinking:**
  You don't really know what you think until you write it
- **Writing on a regular basis makes you a better writer**:
  Like anything else, the more you practice, the better you get
- **Deadlines can be helpful;**
  They can give you the energy and concentration you need to write
- **Length limits are good for your style:**
  Eliminating wordiness improves your emphasis and impact

- **Good writing is edited writing:**
  You never outgrow your need for a good editor
- **Letting your first draft "rest,"**
  will help you edit it more effectively:
  Certain problems become obvious if you allow time to pass between drafting and editing
- **Some stages of writing are inefficient and sloppy:**
  Accepting the imperfection of the first draft is a wonderful freedom
- **Making it fun keeps it fresh:**
  As with most things, a column on business writing doesn't need to be dry and boring
- **Writing counts**:
  Writing is a reflection of your personality and style,
  a statement of your professional standards.
  It counts as much as anything else you do

A digest of Stephen Wilbers' "*Effective Writing*" column
as printed in the Business Section, *Minneapolis Star Tribune*,
Friday, February 23, 1996. Digested with permission.

Vocabulary

Vocabulary and spelling series

Transitional Words & Phrases

Using transitional words and phrases
helps papers read more smoothly, and at the same time allows the reader to flow more smoothly from one point to the next.

Transitions enhance logical organization and understandability
and improve the connections between thoughts. They indicate relations,
whether within a sentence, paragraph, or paper.

This list illustrates categories of "relationships" between ideas,
followed by words and phrases that can make the connections:

Addition:
also, again, as well as, besides, coupled with, furthermore, in addition, likewise, moreover, similarly

When there is a trusting relationship coupled with *positive reinforcement, the partners will be able to overcome difficult situations.*

Consequence:
accordingly, as a result, consequently, for this reason, for this purpose,
hence, otherwise, so then, subsequently, therefore, thus, thereupon, wherefore

Highway traffic came to a stop as a result of *an accident that morning.*

Contrast and Comparison:
contrast, by the same token, conversely, instead, likewise,
on one hand, on the other hand, on the contrary, rather,
similarly, yet, but, however, still, nevertheless, in contrast

The children were very happy. On the other hand, *and perhaps more importantly, their parents were very proactive in providing good care.*

Direction:
here, there, over there, beyond, nearly, opposite, under, above,
to the left, to the right, in the distance

She scanned the horizon for any sign though in the distance *she could not see the surprise coming her way.*

Diversion:
by the way, incidentally

He stumbled upon the nesting pair incidentally *found only on this hill.*

Emphasis
above all, chiefly, with attention to, especially, particularly, singularly

The Quakers gathered each month with attention to *deciding the business of their Meeting.*

Exception:
aside from, barring, beside, except, excepting, excluding, exclusive of, other than, outside of, save
Consensus was arrived at by all of the members exclusive of *those who could not vote.*
Exemplifying:
chiefly, especially, for instance, in particular, markedly, namely,
particularly, including, specifically, such as
Some friends and I drove up the beautiful coast chiefly *to avoid the heat island of the city.*
Generalizing:
as a rule, as usual, for the most part, generally, generally speaking, ordinarily, usually
There were a few very talented artists in the class, but for the most part *the students only wanted to avoid the alternative course.*
Illustration:
for example, for instance, for one thing, as an illustration,
illustrated with, as an example, in this case
The chapter provided complex sequences and examples illustrated with *a very simple schematic diagram.*
Similarity:
comparatively, coupled with, correspondingly, identically, likewise, similar, moreover, together with
The research was presented in a very dry style though was coupled with *examples that made the audience tear up.*
Restatement:
in essence, in other words, namely, that is, that is to say, in short, in brief, to put it differently
In their advertising business, saying things directly was not the rule. That is to say, *they tried to convey the message subtly though with creativity.*
Sequence:
at first, first of all, to begin with, in the first place, at the same time,
for now, for the time being, the next step, in time, in turn, later on,
meanwhile, next, then, soon, the meantime, later, while, earlier,
simultaneously, afterward, in conclusion, with this in mind,
The music had a very retro sound but at the same time *incorporated a complex modern rhythm.*
Summarizing:
after all, all in all, all things considered, briefly, by and large, in any case, in any event,
in brief, in conclusion, on the whole, in short, in summary, in the final analysis,
in the long run, on balance, to sum up, to summarize, finally
She didn't seem willing to sell the car this week, but in any case *I don't get paid until the end of the month.*

MODULE : 99

Writing and testing series

for essays, reports, tests..

"Directives" ask you to answer, or present information, in a particular way.
Review these, and most of all note that there are different ways
of answering a question or writing a paper!

Compare:
Examine qualities, or characteristics, to discover resemblances. "Compare" is usually stated as "compare with": you are to emphasize similarities, although differences may be mentioned.
Contrast:
Stress dissimilarities, differences, or unlikeness of things, qualities, events, or problems.
Criticize:
Express your judgment or correctness or merit. Discuss the limitations and good points or contributions of the plan or work in question.
Define:
Definitions call for concise, clear, authoritative meanings. Details are not required but limitations of the definition should be briefly cited. You must keep in mind the class to which a thing belongs and whatever differentiates the particular object from all others in the class.

Describe:
In a descriptive answer you should recount, characterize, sketch or relate in narrative form.
Diagram:
For a question which specifies a diagram you should present a drawing, chart, plan, or graphic representation in your answer. Generally you are expected to label the diagram and in some cases add a brief explanation or description.
Discuss:
The term discuss, which appears often in essay questions, directs you to examine, analyze carefully, and present considerations pro and con regarding the problems or items involved. This type of question calls for a complete and entailed answer.
Enumerate:
The word enumerate specifies a list or outline form of reply. In such questions you should recount, one by one, in concise form, the points required.
Evaluate:
In an evaluation question you are expected to present a careful appraisal of the problem stressing both advantages and limitations. Evaluation implies authoritative and, to a lesser degree, personal appraisal of both contributions and limitations.
Explain:
In explanatory answers it is imperative that you clarify and interpret the material you present. In such an answer it is best to state the "how or why," reconcile any differences in opinion or experimental results, and, where possible, state causes. The aim is to make plain the conditions which give rise to whatever you are examining.
Illustrate:
A question which asks you to illustrate usually requires you to explain or clarify your answer to the problem by presenting a figure, picture, diagram, or concrete example.
Interpret:
An interpretation question is similar to one requiring explanation. You are expected to translate, exemplify, solve, or comment upon the subject and usually to give your judgment or reaction to the problem.
Justify:
When you are instructed to justify your answer you must prove or show grounds for decisions. In such an answer, evidence should be presented in convincing form.
List:
Listing is similar to enumeration. You are expected in such questions to present an itemized series or tabulation. Such answers should always be given in concise form.
Outline:
An outline answer is organized description. You should give main points and essential supplementary materials, omitting minor details, and present the information in a systematic arrangement or classification.
Prove:
A question which requires proof is one which demands confirmation or verification. In such discussions you should establish something with certainty by evaluating and citing experimental evidence or by logical reasoning.
Relate:
In a question which asks you to show the relationship or to relate, your answer should emphasize connections and associations in descriptive form.
Review:
A review specifies a critical examination. You should analyze and comment briefly in organized sequence upon the major points of the problem.
State:
In questions which direct you to specify, give, state, or present, you are called upon to express the high points in brief, clear narrative form. Details, and usually illustrations or examples, may be omitted.
Summarize:
When you are asked to summarize or present a summarization, you should give in condensed form the main points or facts. All details, illustrations and elaboration are to be omitted.
Trace:
When a question asks you to trace a course of events, you are to give a description of progress, historical sequence, or development from the point of origin. Such narratives may call for probing or for deduction.

Grammar: Commas & Modifiers

Grammar refers to the rules regarding the current standard of correctness in speech and writing. Advances in word processing software have included grammar-checking features.

Using Commas:; **Do these sentences need commas?**

My father went to the store for some dessert and bought ice cream.

No: Two verb phrases describing the action of the same subject do not need a comma if the conjunction separating them is "and."

My father went to the store for some dessert, bought ice cream, and came home in time to see his favorite TV show.

Yes: Three or more verb phrases describing the action of the same subject need commas to separate them.

The text Who Built America? describes reconstruction as a noble failure.

No: if *Who Built America?* was taken out of the sentence, when readers read "text," they would not know which text the writer means, so commas are not used when the title is in the sentence. (This is called a restrictive appositive.)

Practice using commas.;

Copy these sentences into word processing and insert commas where needed;
then read the explanations below.

1. ***The restaurant dessert tray featured carrot cake coconut cream pie and something called death-by-chocolate.***
2. ***Because I was three hours short of graduation requirements I had to take a course during the summer.***
3. ***The weather according to last night's forecast will improve by Saturday.***
4. ***Students hurried to the campus store to buy their fall textbooks but several of the books were already out of stock.***
5. ***My sister asked "Are you going to be on the phone much longer?"***

---

1. **The restaurant dessert tray featured carrot cake, coconut cream pie, and something called death-by-chocolate.**
   The comma separates the items in a series.
2. **Because I was three hours short of graduation requirements, I had to take a course during the summer.**
   The comma separates an introductory phrase or dependent clause from the rest of the sentence.
3. **The weather, according to last night's forecast, will improve by Saturday.**
   The phrase "*according to last night's forecast*" interrupts the main clause, so it is set off by commas.
4. **Students hurried to the campus store to buy their fall textbooks, but several of the books were already out of stock.**
   The comma separates an independent clause from a dependent clause.
5. **My sister asked, "Are you going to be on the phone much longer?"**
   The comma separates a direct quotation from the rest of the sentence.

Misplaced/dangling modifiers

A modifier is a word or group of words;
that describes another word and makes its meaning more specific. Often modifying phrases add information about "where", "when", or "how" something is done. A modifier works best when it is right next to the word it modifies. For example, consider the modifiers in the following sentence (they are underlined for you):

The awesome dude rode a wave breaking on the shore.

The word "awesome" is an adjective (or, a one-word modifier);
it sits right next to the word "dude" it modifies.
The phrase "breaking on the shore" tells us where he rode the wave.

Thus, "breaking on the shore" is a modifying phrase
that must be placed next to the "wave" it modifies.

Below are some examples of poorly placed modifiers.
See if you can identify the problems:

Roger looked at twenty-five sofas shopping on Saturday.

Obviously twenty-five sofas were not shopping on Saturday. Because "shopping on Saturday" is meant to modify Roger, it should be right next to Roger, as follows:

Shopping on Saturday, Roger looked at twenty-five sofas.

The woman tore open the package she had just received with her fingernails.

Had the woman really received the package with her fingernails? The writer meant that she tore open the package with her fingernails.

With her fingernails, the woman tore open the package she had just received.

The waiter brought the pancakes to the table drenched in blueberry syrup.

What's drenched according to the sentence? The waiter, the table, or the pancakes?; Actually, the pancakes were drenched:

The waiter brought the pancakes, drenched in blueberry syrup, to the table.

Lying in a heap on the closet floor, Jean found her son's dirty laundry.

It sounds as if Jean was lying on the closet floor when she found her son's laundry!

Jean found her son's dirty laundry lying in a heap on the closet floor.

Spelling exercises:

Vocabulary and spelling guides

American spelling exercises:

Knowing how to spell English words can be a very challenging task for students
and writers. It is made even more complicated with today's abbreviated communications with email and handheld devices.
Look through the index at left for particular issues, resources and exercises
to improve your spelling. Note that there are also spelling differences in the English-writing world! For example (*US first* - Great Britain second): *center* - centre; *traveled* - travelled;*color* - colour. *Study Guides and Strategies* follows American usage.

Here are additional strategies to follow:

As a foundation:

Compile the following in a book to help you track your spelling and usage challenges:

- Practice your spelling
  While texting and emailing friends have texted shortcuts,
  remember that your education and employment require formal types of writing,
  and these abbreviations are not appropriate.
- Keep a "spelling notebook" and list words you commonly misspell or or that you have trouble with
- Be aware of, or keep this list of commonly misspelled words,
  or words that may be spelled correctly, but misused (e.g. who's * whose)
- Keep a list of rules for spelling

As regards important documents you send, or turn in to others:

- **Spell check the document if it is electronic**
  Note: Some e-mail software (i.e. MS Outlook) can be set to automatically check spelling and grammar as you write, or before you send

- **Re-read the printed document carefully for errors:**
  Pay attention to words you commonly misspell or that are spelled correctly but misused; note these words in your spelling notebook
- **Have someone you trust and respect review the document.**
  This is often difficult for us since often we get comments regarding text as well as spelling. But that is a plus, since we don't have to take the advice, but rather appreciate the suggestions, and then make your own decisions on the advice.
- Footnote the national rules for spelling
  if what you write has an international readership
- **If your school has a center for writing assistance,**
  take advantage of it

Use a dictionary:
a dictionary contains more than the spelling of a word!
It also contains the spelling of its derivatives: plural forms and participles.
On line resources include

- **Dictionary.com**
  Dictionary, thesaurus, and access to foreign dictionaries
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  A straightforward presentation of definitions and synonyms from a variety of resources
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Since the English language is so exceptional in its spellings, any dictionary will help you in finding exceptions to the rules of spelling. Alternative spellings, especially British vs. American, should also be noted.

Spell checkers in word processing**:**

- Spell check each and every word-processed document as a habit
- Proof-read each document after spell-checking!
  A spell checker will only find words incorrectly spelled.
  It will not find words correctly spelled but misused.

Common challenges--but there are so many more!
from and **form:** a common typing inversion;
of, **or:** another case of mistaken keyboarding;
to, **too**, **two; there, their; whether, weather**: common confusion of usage;
foreign, physical: When is an "f" really a "ph"?
Vocabulary and spelling guides

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to, **too**, **two; there, their; whether, weather**: common confusion of usage;
foreign, physical: When is an "f" really a "ph"?
Vocabulary and spelling guides

Commonly misspelled words (American)

Words commonly misspelled,
or spelled correctly but not used properly:
Note: these are American spellings!
A: absence, accidentally, accommodate/accommodation, according, ache, acquit/acquire, again, against, aisle, allegory, almost, always, although, ancient, airplane, aging, agonize, apologize
B: beautiful, beginning, believe, bellwether, body, build, business
C: calendar, consensus, cemetery, changeable, confidence, conscience/conscientious/conscious, coolly, criticize
D: decided, defendant, describe, despair, difference, dilemma, disappear, disappoint, disguise, distance, divide, double, drunkenness, dumbbell
E: easiness, embarrass, exceed, exhilarate, existence
F: familiar, famous, finish, foreign, forest, from/form
G: gauge, government, grateful, guarantee, guardian, guest, guilty

H: halve, happened, harass, height, here/hear, high
I: illegible, imagine, immediately, independent, indispensable, information, inoculate, instead, interest, irresistible
J: jewelry, judgment, juice
K: kernel/colonel, knowledge
L: language, league, leisure, license, liquefy, a lot, listen
M: machine, maintenance, meant, measure, medieval, memorandum, merchandise, millennium, mischievous, misspell, month, mountain
N: necessary, neighbor, neither, nighttime, noticeable
O: occurrence, occasion/occasionally
P: paragraph, pastime, period, phrase, playwright, possible, precede, preferred, pressure, principal/principle, privilege, prominent, purchase, purpose, pursue
Q: quite, quiet, queue, questionnaire
R: receipt, receive, recommend, reference, referred, region, relevant, remember, rhyme, rhythm
S: says, separate, sergeant, several, similar, sincerely, soldier, sugar, sure,
T: temperature, theater, there/their/they're, thousands, thorough, threshold, to/two/too, tomorrow, tournament, truly, tyranny
U: unanimous, unforgettable, unfortunately, until, usually
V: vacuum, variety, various, vary, vehicle, vicious, village, villain
W: wear/where/we're, weird, weather/whether
X:
Y: yacht, yield
Z: zucchini

Vocabulary and spelling series

They're, their, there; American spelling practice

"They're - There - Their" are pronounced the same,
but spelled differently according to usage:

"There" refers to a place.
Examples: There is a library in the first building. It is over there.
Hint: If you can use the word "here," you have it right!
"They're" is a contraction of "they are"
Example: They're not in this building.
Hint: "They" is a pronoun and "are" is the verb.
If you can substitute "We are" you have it right!
"Their" is the posessive pronoun.
Example: Their library is located on the next street.
Hint: If you can substitute "our" you have it right!
"they're, there, their " practice!

1.	..... coming tonight.		
2.	Do you have ..... books?		
3.	I always thought they were		
4.	No, ...always placed on the table.		
5.	My friends said they weren't		
6.	Is that where they place..... supplies?		

7.	Not really. Usually they are over		
8.	So, do you think ..... happy to have them?		
9.	..... still waiting for the test scores.		
10.	..... challenge is to arrive before sunset.		
11.	We found the medallion over		
12.	I thought .... near the edge of the table		
13.	Is ..... a place for the group to meet?		
14.	If ..... group does research, I will be happy.		
15.	.... are more things in Heaven and Earth, Horatio		
16.	Was ..... first son born at home?		

Vocabulary and spelling series

American spelling exercise:

Too * Two * To

"Too - Two - To" are pronounced the same,
but spelled differently according to usage:

"Two" is a number, as "There were two books on the table".
Hint: Think twice (or twenty) for the number!
"Too" means
"more than enough" as "I am too pleased."
"also" as "I am going too."
"very" as "I wasn't too angry with him."
"To" indicates
"direction" as "We are going to the library."
"action" as "We are going to walk."
"two, to, too" practice!

1.	I am going ..... buy them.		
2.	How many? I will get ..... books.		
3.	Isn't that .....many?		
4.	No, I always get ..... of everything.		

5.	My friends weren't .....impressed with them.		
6.	Is that where they go..... return the supplies?		
7.	Not really. Usually they are ..... busy.		
8.	We work from nine ..... five?		
9.	We applied several coats of paint ..... the wall.		
10.	.....has many properties in mathematics		
11.	Isn't that .....many?		
12.	..... is a prime number.		
13.	He live ..... far from work so he moved closer.		
14.	He grew up ..... six feet?		
15.	She was standing ..... near the entrance for comfort. busy.		
16.	So, are you happy ..... have them?		

MODULE : 100

Vocabulary and spelling series

American spelling exercises: "y" with suffixes

When "y" is the last letter in a word and the "y" is preceded by a consonant,
change the "y" to "i" before adding any suffix except those beginning with "i"
Examples: beauty--beautiful; fry--fries; hurry--hurried; lady--ladies
Try spelling these:

1.	carry + ed =		
2.	fancy + ful =		
3.	pry + ed =		

When a word ends with a "y" and is preceded by a vowel,

to form the plural of its noun, or to form the third person singular (he, she, it) of its verb, add "s" Examples: toy--toys; play--plays; monkey--monkeys			
4.	deploy + s =		
5.	tray + s =		
6.	bey + s =		

Write "i" before "e" except after "c," or when sounding like "a" as in "neighbor" and "weigh." When the "ie/ei" combination is not pronounced "ee," it is usually spelled "ei."

Examples: fiery, friend, mischief, view, believe

Examples: reign, foreign, weigh, neighbor, weird, receive

Choosing between <-el><-le><-ile><-al><-il>
Options must be memorized, and no rules apply:
<-le> is more frequent than <-el>:
axle, battle, bottle, tackle, tickle, single, double, triple...
angel, bushel, parcel...
<-al> is common for adjectives and nouns
biblical, burial, genial, habitual...
<-il> is rare: civil
Vocabulary and spelling series

American spelling: prefixes

Here are some spelling rules for applying prefixes to root words:

Words have been categorized in grammar on how they are used, or as parts of speech:

verb, noun, pronoun, adjective, adverb, preposition, conjunction, and interjection.

Words also have "roots" which convey their basic meaning.
Prefixes are groups of letters (affixes!) placed before a root word to form a new word, change its part of speech, and/or modify its meaning.

For example:

Prefix	Root	New word	Meaning...
ante	room (noun)	anteroom(noun)	a room that leads to a larger one; waiting room
auto	biography (noun)	autobiography (noun)	a self-written biography.
trans	national) (adjective)	transnational (adjective)	across nations.
un	happy (adjective)	unhappy (adjective)	a "not" happy state

un	scripted (adjective)	unscripted (adjective)	not written before acted or performed; adlibbed
pre	scripted (adjective)	prescripted (adjective)	established as a rule; established as a rule
mis	spell (verb)	misspell (verb)	to not spell correctly!
anti	clockwise (adverb, adjective)	anticlockwise (adverb, adjective)	to rotate in the opposite direction of the hands of a clock
re	consider	reconsider	to review or consider again

Vocabulary and spelling series

American spelling: suffixes

Words have been categorized in grammar on how they are used, or as parts of speech:
verb, noun, pronoun, adjective, adverb, preposition, conjunction, and interjection.

Words also have "roots" which convey their basic meaning. Suffixes are groups of letters (afixes!) placed after a root word to form a new word, change its part of speech, and modify its meaning. For example:

change (noun) + able (suffix) = Changeable (adjective) or the ability to be changed.
work (noun) + able (suffix) = workable (adjective) or the ability to be worked.
week (noun) + ly (suffix) = weekly (adverb), or an action or activity done by the week.
happy (adjective) + ly (suffix) = happily (adverb) an action is done in a happy state
moprh (verb) + ology (suffix) = morphology (noun), or the study of how words change

Here are some spelling rules for applying suffixes to root words:

More:

If a word ends with a silent "e,"
drop the "e" before adding a suffix which begins with a vowel (-ing, -able, -:
Examples: make--making, makable; time--timing, oblige--obliging.
Try spelling these:

1.	state + ing =		
2.	like + able =		
3.	indulge + ing =		

Do <u>not</u> drop the "e"
when the suffix begins with a consonant:
Examples: state--statement; like--likeness; use--useful; definite--definitely
Try spelling these:

4.	base + ment =		
5.	home + ward =		

6.	peace + ful =		
Silent "e" practice!			
7.	notice + able =		
8.	advertise + ment =		
9.	change + less =		
10.	shine + ing =		
11.	conceive + able =		
12.	fascinate + ing =		
13.	encourage + ment =		
14.	encourage + ing =		
Adding suffixes to words ending -ce and -ge **Keep the silent e before -able and -ous** Examples; enforceable, serviceable, courageous, outrageous			
15.	notice + able =		
16.	courage + ous =		
17.	change + able =		

MODULE : 101

Vocabulary and spelling series

Mapping vocabulary exercise: Remember * use * understand

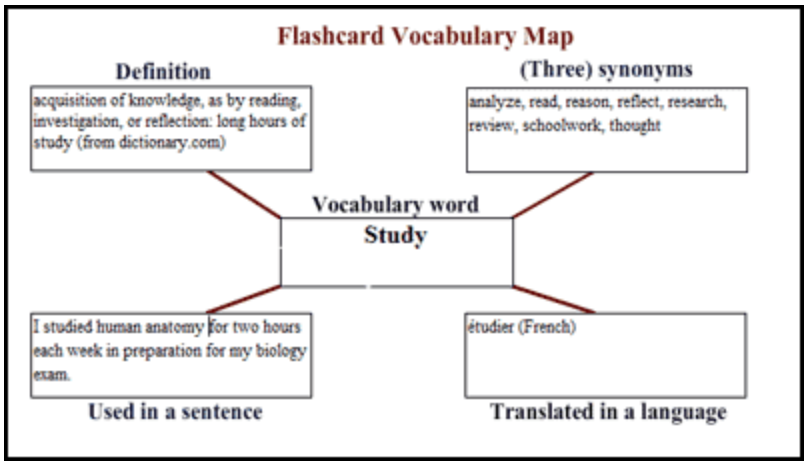
The exercise below will help you remember, use and understand a vocabulary word.

After you print your map with the word's definitons, synonyms, translation, and use is to draw a picture or illustrate the word!

Text of exercise:

One strategy for more fully understanding a vocabulary word is to map out its usage. This exercise will help you remember, use and understand a vocabulary word:

As an exercise, define your word, find synonyms and antonyms, use it in a sentence, and even translate it into another language you are familiar with. Another strategy is to capture or *draw your own images of the word*, or your interpretations of it.



Vocabulary series

Picturing vocabularyand remembering words

Use your mouse to draw
what comes to mind about the given word.
It will help you both understand and remember the word.

Click the lower circle to change words.
Click the middle circle to erase your board.
Click the top circle to print your board!

There is no "correct" image, just what you picture!

MODULE : 102

Vocabulary series

American alphabet recited

James Earl Jones on Sesame Street 1. 5 minutes

Actor James Earl Jones recited the alphabet in 1.5 minutes as a test pilot for *Sesame Street*, an American children's program featuring the Muppets.
It aired in episode 0002 on November 11, 1969 when Ernie teased Bert for drawing a tree instead of a "3"!

Jones exaggerated each letter for pronunciation,
and the letter itself appeared briefly after its pronunciation.

MODULE : 103

Guides: Thinking and evaluation

Thinking

Learning to learn series

The role of silence in learning

Stresses and responsibilities can negatively impact your preparation and performance before engaging with a critical task and/or considering longer range options in your life.

Before consideration and engagement, pause to clear your mind of distractions.

Create an environment, beginning with silence,
concentrate and focus forward your energies.
Remove as many disturbances as possible: cell phone and live conversations, music and extraneous noise, visual distractions, etc.

This short one minute exercise is a beginning:

Applications:

Immediate tasks:
Use silence to focus on performing your best on an immediate task to the level of your preparation, and perhaps beyond.
Specifically it is not concentrating on the task itself, but rather clearing your mind in preparation to concentrating on the task, and gathering your energies to maximize performance.
Note: It is no substitute for inadequate preparation!

Reference the following guides on performing well in their situations, then incorporate silence, either in your preparation, or just before the event itself to eliminate distractions in order to focus on the task at hand:

- Taking one test
- Oral exams
- Interviews
- Sporting/performing events
- Collective class exercises

Long range planning:

Centering yourself through silence can help you determine the right path for what you are considering and need to plan for.

This step precedes concentrating or considering and developing options. However, silence, and openness to alternatives that may arise out of this silence, can play a role in the *problem solving process*.

Logistics of finding "silence"

When:
Early mornings or late nights can provide times when all is still, even in busy dorms and households. Daytimes can provide breaks: schedule your calendar and develop a routine.
So also, if your schedule allows for group exercise, meditation, etc. you can intentionally allocate part of this time to clear your mind.

Where:
Socrates, Augustine and Gauguin praised the outdoors as a natural environment away from distractions of a busy life (but don't take your cell phone with you!). Locations include gardens, near-by woods, river walks, etc.
Residential retreats include a soothing hot bath, even out-of-the-way spots like work and laundry rooms where few like to go.
Urban oases include museums, libraries, even lesser-used public spaces.
Create your own space: even using headphones with the sound off, or adjusting furnishings of your *study space* or bedroom can make a difference.
Even in busy, noisy spaces you can find silence: focus on times between sounds or on still objects--even tables, chairs, walls, etc. that are fixed that can initiate your process.
How:
Creating silence takes practice, even discipline.
There are classes in meditation in (spiritual) centers that can offer guidance.
There are techniques in breathing that can assist: breathe in through your nose, out through your mouth, deeply but comfortably.
Posture can facilitate, and also impede, striving for silence. Uncross your legs and arms, rest your hands in your lap, straighten your back, and gain a comfortable position to avoid fidgeting, etc.
Careful reading of spiritual texts, poetry, etc. can inspire silence, but also distract from the centering and creating the silent space within.

Study skills series

Concentrating while studying

Concentration: the ability to direct your thinking
The art or practice of concentration,
no matter if studying biology or playing pool,
is to focus on the task at hand and eliminate distraction
We all have the ability to concentrate -- sometimes. Think of the times when you were "lost" in something you enjoy: a sport, playing music, a good game, a movie. Total concentration.

But at other times,

- Your mind wanders from one thing to another
- Your worries distract you
- Outside distractions take you away before you know it
- The material is boring, difficult, and/or not interesting to you.

These tips may help: They involve

1. What you can control in your studies
2. Best practices

Before engaging in your studies, and concentrating,
try to *center yourself with silence*, clearing your mind of distractions
that may disrupt your productivity.
What you can control in your studies:

- "**Here I study**"
  Get a dedicated space, chair, table, lighting and environment
  Avoid your cellphone or telephone
  Put up a sign to avoid being disturbed or interrupted
  If you like music in the background, OK, but don't let it be a distraction.
  (Research on productivity with music versus without music is inconclusive)
- **Stick to a routine, efficient study schedule**
  Accommodate your day/nighttime energy levels
  See our Guide on *Setting goals and making a scheduling*
- **Focus**
  Before you begin studying, take a few minutes to summarize a few objectives, gather what you will need, and think of a general strategy of accomplishment
- **Incentives**
  Create an incentive if necessary for successfully completing a task,

such as calling a friend, a food treat, a walk, etc.
For special projects such as term papers, design projects, long book reviews, set up a special incentive

- **Change topics**
  Changing the subject you study every one to two hours for variety
- **Vary your study activities**
  Alternate reading with more active learning exercises
  If you have a lot of reading, try the SQ3R method
  Ask yourself how you could increase your activity level while studying? Perhaps a group will be best? Creating study questions?
  Ask your teacher for alternative strategies for learning. The more active your learning, the better.
- **Take regular, scheduled breaks that fit you**
  Do something different from what you've been doing (e.g., walk around if you've been sitting), and in a different area
- **Rewards**
  Give yourself a reward when you've completed a task

Best Practices:

- **You should notice improvement in a few days**
  But like any practice, there will be ups, levels, and downs:
- **It will benefit other activities you do!**

Be here now | Worry time | Tally Card | Energy level | Visualize

Be Here Now

This deceptively simple strategy is probably the most effective.
When you notice your thoughts wandering astray, say to yourself *"Be here now"* and gently bring your attention back to where you want it.

For example:
You're studying and your attention strays to all the other homework you have, to a date, to the fact that you're hungry. Say to yourself
"Be here now"
Focus back on subject with questions, summarizing, outlining, mapping, etc. and maintain your attention there as long as possible.
When it wanders again, repeat

"Be here now"
and gently bring your attention back, and continue this practice, repeatedly. It will work!

Do not try to keep particular thoughts out of your mind. For example, as you sit there, close your eyes and think about anything you want to for the next three minutes except cookies. Try not to think about cookies...When you try not to think about something, it keeps coming back. ("I'm not going to think about cookies. I'm not going to think about cookies.")

You might do this hundreds of times a week. Gradually, you'll find that the period of time between your straying thoughts gets a little longer every few days. So be patient and keep at it. You'll see some improvement!

Do not constantly judge your progress. Take it easy on yourself. Good practice is enough to say that you did it, and that you are on the road. The mind is always different and the practice unfolds over time with many ups and downs.

Worry or Think Time

Research has proven that people who use a worry time find themselves worrying 35 percent less of the time within four weeks.

1. **Set aside a specific time each day to think about**
   the things that keep entering your mind and interfering with your concentration.

2. **When you become aware of a distracting thought,**
   remind yourself that you have a special time to think about them,
3. **Let the thought go,**
   perhaps with "Be here now,"
4. **Keep your appointment**
   to worry or think about those distracting issues

For example, set 4:30 to 5 p.m. as your worry/think time. When your mind is side-tracked into worrying during the day, remind yourself that you have a special time for worrying. Then, let the thought go for the present, and return your focus to your immediate activity.

Tallying your mental wanderings.

Have a 3 x 5 inch card handy. Draw two lines dividing the card into three sections. Label them "morning," "afternoon," and "evening."

Each time your mind wanders, make a tally in the appropriate section. Keep a card for each day. As your skills build, you'll see the number of tallies decrease

Maximize your energy level

When is your energy level at its highest? When are your low energy times?
Study your most difficult courses at your high energy times. Sharpest early in the evening? Study your most difficult course then. Later in the evening? Work on your easier courses or the ones you enjoy the most.

Most students put off the tough studies until later in the evening when they become tired, and it is more difficult to concentrate. Reverse that. Study hard subjects at peak energy times; easier ones later. This alone can help to improve your concentration

Visualize

As an exercise before you begin studying,
think of those times when concentration is not a problem for you--no matter what situation. Now try to feel or image yourself in that situation. Recapture that experience immediately before your studies by placing yourself in that moment.
Repeat before each study session.

MODULE : 104

Critical thinking I

Strategies for critical thinking in learning and project management

Critical thinking studies a topic or problem with open-mindedness.
This exercise outlines the first stage of applying a critical thinking approach to developing and understanding a topic. You will:

- Develop a statement of the topic
- List what you understand, what you've been told and what opinions you hold about it
- Identify resources available for research

- Define timelines and due dates
  and how they affect the development of your study
- Print the list as your reference

Here is more on the first stage:

Define your destination, what you want to learn

Clarify or verify with your teacher or an "expert" on your subject

Topics can be simple phrases:

"The role of gender in video game playing"
"Causes of the war before 1939"
"Mahogany trees in Central America"
"Plumbing regulations in the suburbs"
"Regions of the human brain"

- **Develop your frame of reference, your starting point,**
  by listing what you already know about the subject
- **What opinions and prejudices do you already have about this?**
  What have you been told, or read about, this topic?
- **What resources**
  are available to you for research
  When gathering information, keep an open mind
  Look for chance resources that pop up!
  Play the "reporter" and follow leads
  If you don't seem to find what you need, ask librarians or your teacher.
- **How does your timeline and due dates affect your research?**
  Keep in mind that you need to follow a schedule.
  Work back from the due date and define stages of development,
  not just with this first phase, but in completing the whole project.

Summary of critical thinking:

- Determine the facts of a new situation or subject without prejudice
- Place these facts and information in a pattern so that you can understand them
- Accept or reject the source values and conclusions based upon your experience, judgment, and beliefs

Thinking and recall series

Critical thinking II

Second stage exercise in critical thinking:

Critical thinking studies a topic or problem with open-mindedness.
This exercise outlines the second stage of applying a critical thinking approach to developing and understanding a topic.
With the second stage:

- **Refine/revise the topic**
  either narrowing or broadening it according to outcomes of research
- **Rank or indicate the importance**
  of three sources of research
- **Clarify any opinion, prejudice, or bias their authors have**
  While an opinion is a belief or attitude toward someone or some thing,
  a prejudice is preconceived opinion without basis of fact
  while bias is an opinion based on fact or research.
- **Identify key words and concepts that seem to repeat**
  Is there vocabulary you need to define?
  Are there concepts you need to understand better?
- **In reviewing your research, are there**
  Sequences or patterns that emerge?
  Opposing points of view, contradictions, or facts that don't "fit?"
  Summarize two points of view that you need to address
- **What questions remain to be answered?**

Critical thinking, first stage helped you to

- Develop a statement of the topic
- List what you understand, what you've been told
  and what opinions you hold about it
- Identify resources available for research
- Define timelines and due dates
  and how they affect the development of your study
- Print the list as your reference

With this second exercise,
think in terms of how you would demonstrate your learning for your topic
How would you create a test on what you have learned?
How would you best explain or demonstrate your findings?
From simple to more complex (1-6) learning operations:

1. **List, label, identify:** demonstrate knowledge
2. **Define, explain, summarize in your own words:** Comprehend/understand
3. **Solve, apply to a new situation:** Apply what you have learned
4. **Compare and contrast,** differentiate between items: analyze
5. **Create, combine, invent:** Synthesize
6. **Assess, recommend, value:** Evaluate and explain why

Summary of critical thinking:

- Determine the facts of a new situation or subject
  without prejudice
- Place these facts and information in a pattern
  so that you can understand and explain them
- Accept or reject your resource values and conclusions
  based upon your experience, judgment, and beliefs

Thinking and recall series

Radical thinking

Are you looking for new ideas? Has your path reached a dead-end?
Are your options limited, or just invisible?

Often the way we experience the world is built on and bordered by our experiences! When we find ourselves in a situation, we form solutions with "shortcuts" based upon patterns we have "learned" in our lives.

Most of the time, these shortcuts serve us well by providing answers based upon how we have solved problems in our past. They provide efficient rules that guide us in decision making and problem solving. This is also called a heuristic approach to learning, discovery, and problem solving.

However, these rules also can lock us into stereotypes, pre-conceived ideas, and uncritical analysis. When they are not helpful, one strategy or approach can be radical thinking, an approach to creatively engage with options!

Perhaps radical thinking may help you generate new ideas? Let's try this radical three-screen process.

1. First, briefly summarize your situation or challenge.
2. Now list three radical "O's" or options
   Think quickly and creatively. Think in terms of opposites, even contradictions.
   Brainstorm your way out-of-the-box!
3. For each radical O, 1 - 3, enter up to three middle "O's" or options.
4. Prioritize the M-O's after printing to consider the best solutions.

Situation example 1:
My elderly grandmother can't get to the phone in emergencies.
Opposite mode: Move her out of her house to assistive living.
One option mode: get a wireless device for her to wear that calls.
Situation example 2:
I talk too much

Opposite mode: I will be silent.
One option mode: I will practice active listening.
Situation example 3:
I am disorganized.
Opposite mode: I will do nothing.
One option mode: I will create and prioritize a "to-do list" for a few items and ignore the rest.

MODULE : 106

Learning to learn series

Thinking aloud/private speech

When we learned as infants and children,
thinking aloud or saying what we are thinking was accepted as a way of demonstrating our knowledge, or of opening ourselves to "get it right."
We sounded out words, expressed ideas, formed sentences.
When corrected, we practiced until we imitated correctly, or conformed to the model of our family, neighborhood, school, etc.
Thinking aloud was essential to our early learning.
Thinking aloud is also called private speech.
As we grow older and mature, thinking aloud is internalized, and speech shifts to communicating with others.
"Nevertheless, the need to engage in private speech never disappears. Whenever we encounter unfamiliar or demanding activities in our lives, private speech resurfaces. It is a tool that helps us overcome obstacles and acquire new skills". **1**

We tend to use only phrases and incomplete sentences in private speech. What is said reflects our thoughts, but only what is puzzling, new, or challenging. We omit what we already know or understand. So also private speech decreases as our performance or understanding improves.
Applications of private speech in learning include planning, monitoring progress, or guiding ourselves in working through challenging tasks and mastering new skills. It can help us manage situations and control our behavior by verbalizing our feelings, or venting to ourselves.
Private speech is a useful tool in learning. The more we engage our brain on multiple "levels," the more we are able to make connections and retain what we learn. We read, create images or diagrams, listen, use music or motion, talk with others (collaborative learning) and with ourselves. Some of us like to talk things through with someone or in a group, either to help us understand or to remember better. And some of us don't need another person around to talk with in this process! This can be a learning style, and a very effective one.
We use multiple senses and experiences to process and reinforce our learning, and the combination of these strategies is very individual.
Applications of private speech in learning include;

- memorizing vocabulary by saying the words
- appreciating poetry by "dramatizing" it
- editing papers by reading the text aloud
- talking through math problems to arrive at solutions

"Nevertheless, the need to engage in private speech never disappears. Whenever we encounter unfamiliar or demanding activities in our lives, private speech resurfaces. It is a tool that helps us overcome obstacles and acquire new skills".
Berk. L.E, "Why Children Talk to Themselves", Scientific American, November 1994, pp 78 - 83 as seen at http://www.abacon.com/berk/ica/research.html 10/23/00"In a think-aloud activity, the teacher shares with students the thinking process..." U.S. Department of Education, 4. Modeling is an important form of classroom support for literacy learning. (http://www.ed.gov/pubs/StateArt/Read/idea4.html, October 30, 2000) State of the Art: Transforming Ideas for Teaching and Learning To Read, November 1993"Adults who are not smooth readers also read out loud, but they have learned to muffle it for social purposes - they subvocalize, or just move their lips when they read, because they know that other people will think less of them if they read out loud. However, it is the easiest and most natural way to absorb concepts."
Wenger, Susan, Image-Streaming, http://www.geocities.com/Athens/Acropolis/1179/ 10/25/00"As stated in Child

Development, “Research has confirmed that children, like adults, use private speech when they find tasks difficult or when they made errors, and that when they use task-relevant private speech, their performance on a variety of tasks improves” Agres, Jaime, Why do Children Talk to Themselves?, http://cla.calpoly.edu/~jbattenb/ling/ Student Research Papers, 10/25/00

Directing your thinking series

Basics of mind/concept mapping

Many of us have learned to outline information in our studies, as:

I. First item
II. Second item
  A. sub item
  B. sub item
    1. sub sub item
    2. sub sub item
III. Third item

Alternatives to outlining are mind- and concept-mapping.

How do I map?

First reject the idea of an outline,
or of paragraphs using sentences.

Think in terms of key words or symbols
that represent ideas and words:

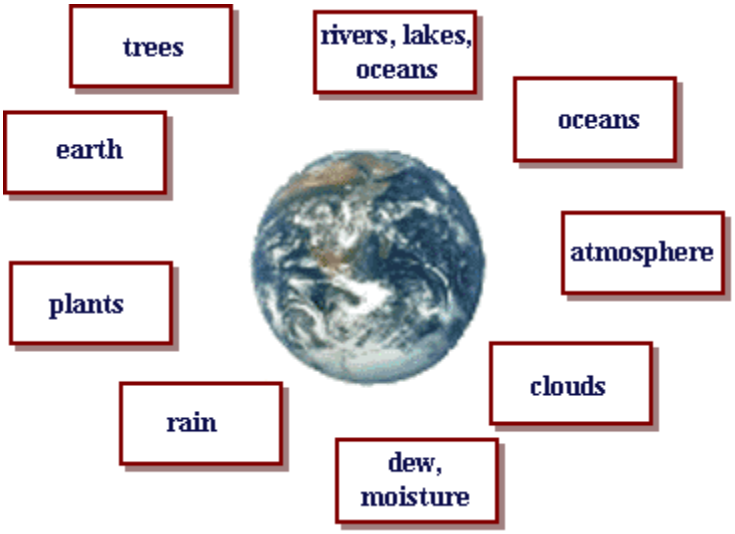
Other options for mind-mapping:

- a pencil (you'll be erasing!) and a blank (non-lined) big piece of paper
- a blackboard and (colored) chalk
- "post-it" notes

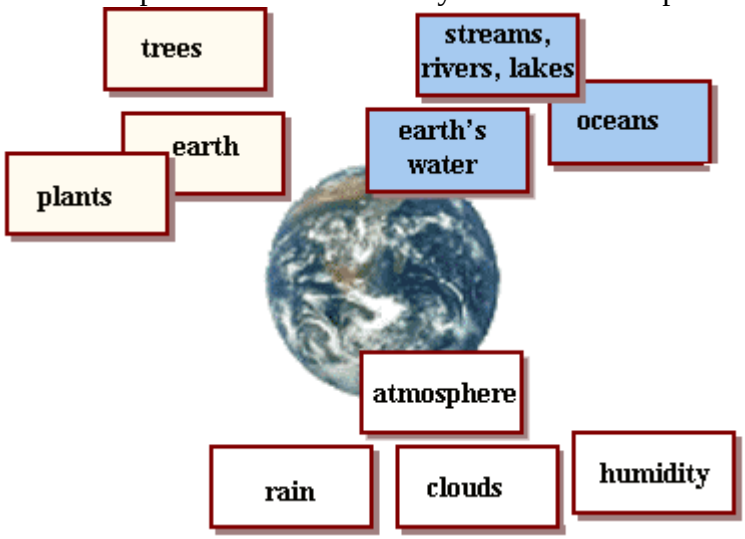
Earth's water cycle

Write down the most important word or short phrase or symbol for the center.
Think about it; circle it.

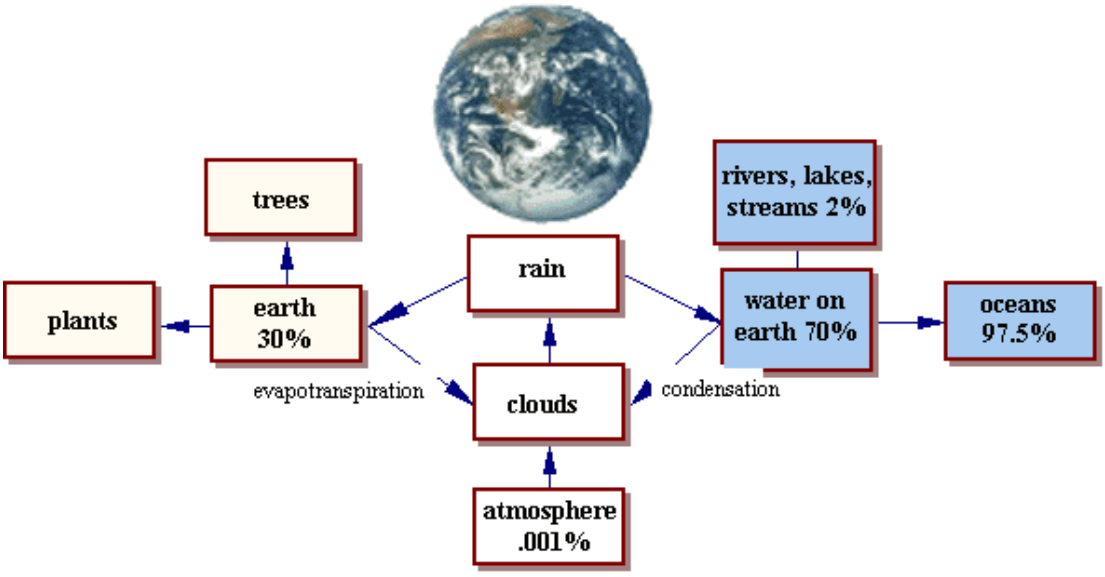
Post other important concepts and their words outside the circle



Edit this first phase
Think about the relation of outside items to the center item
Erase, edit, and/or shorten words to key ideas
Relocate important items closer to each other for better organization
If possible, use color to organize information
Link concepts with words to clarify their relationships



Continue working outward
Freely and quickly add other key words and ideas (you can always erase!)
Think weird: combine concepts to expand your map or; break boundaries
Develop in directions the topic takes you--not limited by how you are doing the map
As you expand your map, tend to become more specific or detailed
Set the map aside
Later, continue development and revision
Stop and think about relationships you are developing
Expand the map over time (right up to an exam if necessary!)
This map is your personal learning document
It combines what you knew with what you are learning
and what you may need to complete your "picture"



Note the descriptive links for the arrows
for "evapotranspiration" and "condensation"

MODULE : 107

Directing your thinking series

An exercise in building a mind or concept map

1. In the center *Topic* circle, enter a word or phrase that best summarizes your topic
2. Click on the red button to add a related key idea-- words, phrases, etc.
3. Add supporting ideas by clicking on their red buttons within the key idea
4. Add additional key and supporting ideas
5. Edit Think about the relation of outside items to the center.
   Delete, replace, and shorten words for key and supporting ideas.
6. Print!
   for your review and use in organizing your writing, developing projects,
   studying for tests, brainstorming ideas, and in general apply a more meaningful learning exercise to what you are studying.

Directing your thinking series

Basics of mind/concept mapping

Creating your concept map I (instructions below)

- Mouse click the

  +

  sign to add a concept
- Move concept onto the "stage" or within the gray field
- Enter text, then use the arrows to increase or decrease text
- Continue to add, move and arrange concepts
- Select one concept as the central or most important one
- With lower right corner, increase or decrease concept rectangles
- Click lower left corner on two boxes to link them
- Print your map!

Directing your thinking series

Basics of mind/concept mapping

Creating your concept map II:

1. Launch concept.
   (Scroll down if concept isn't visible)
2. Drag concept to field and position; enter/edit & save text.
3. Repeat and add concepts to build map.
4. Arrange your concepts.
5. Link concepts (click both green buttons).

Follow this color scheme: **Use buttons to**

MODULE : 108

Thinking and recall series

Thinking like a genius

Problem solving: creative solutions

"Even if you're not a genius, you can use the same strategies as Aristotle and Einstein to harness the power of your creative mind and better manage your future."

The following strategies encourage you to think productively,
rather than reproductively, in order to arrive at solutions to problems. "These strategies are common to the thinking styles of creative geniuses in science, art, and industry throughout history."

Nine approaches to creative problem solving:

1. Rethink! Look at problems in many different ways.
2. Visualize! Utilize diagrams and imagery to analyze your dilemma.
3. Produce! Genius is productive.
4. Combine! Make novel combinations...
5. Form! Form relationships.
6. Opposite! Think in opposites.
7. Metaphor/simile! Think metaphorically.
8. Failure! Learning from your mistakes is one example of using failure.
9. Patience! Don't confuse inspiration with ideas.

Exercise #2 illustrates how famous thinkers used these approaches.
Exercise/blog #3 contains selected thoughts on *thinking like a genius.*
Exercise #1: illustrates applications of the nine approaches.

Text of exercise:

Nine approaches to creative problem solving:

1. Rethink!
   Look at problems in many different ways.
   Find new perspectives that no one else has taken.
   Solutions example: Finding a job or internship:
   a. Ask friends or colleagues for potential leads
   b. Over-sell yourself
      Send samples of your work or portfolio to anyone that might respond.
   c. Check local resources like Craigslist or your school's job search
   d. Broaden your target audience.
      What other fields could you specialize in?
2. Visualize!
   Utilize diagrams and imagery to analyze your dilemma.
   a. How can you use pictures, images, graphs, etc. in your studies?
   b. Visit guides on *concept or mind maps*, *picturing vocabulary*, *flashcards*, etc.
   c. Write out one example of how you can use imagery, then print and post it in your study area.
3. Produce!
   Genius is productive.
   a. Perhaps originality is not the key, but rather constant application of thought and tools to arrive a solutions.
   b. *Geniuses are the luckiest of mortals because what they must do is the same as what they most want to do.*
      W. H. Auden (1907–1973) Anglo-American poet
   c. *Genius is nothing but a great aptitude for patience*.
      George-Louis Leclerc de Buffon (1707–1788) French naturalist
4. Combine!
   Make novel combinations...

Combine and recombine ideas, images, and thoughts into different combinations no matter how incongruent or unusual.

5. Form!
   Form relationships. Make connections between dissimilar subjects.
   a. This doesn't always apply to objects: form relationships with people and ask them questions!
   b. Get to know people in your field that can help you excel to the best of your ability.
   c. Write down one person that you could get in contact with, why you think this person can help, and print/post it for reference!
6. Opposite!
   Think in opposites. Don't always stick with the obvious solutions.
   Get outside of your comfort zone.
   a. "Opposites" bring two approaches to a situation but they do share a basic similarity.
      Example: "right" and "left" are both directions, but which is the right choice?
   b. The Sesame Street Muppet *Elmo* teaches small children the concept of opposites!
7. Metaphor/simile!
   Think metaphorically.
   a. Metaphors are connections that are unusual or not an ordinary way of thinking:
      A sea of troubles; the heart of a lion; raining cats and dogs.
   b. Similes use "like" or "as" to illustrate
      The boy was as agile as a monkey. *The miner's face was like coal*.
      The task was as easy as ABC. *Dry like a raisin in the sun*.
8. Failure!
   Learning from your mistakes is one example of using failure.
   a. As strange as it seems the human brain is failure machine: it generates models of reality, acts on them, and adjusts or creates new, successful models based on failures.
   b. From Daniel Coyle's *the Talent Code* on Adam Bryant's weekly interview: "*every single CEO shares the same nugget of wisdom: the crucial importance of mistakes, failures, and setbacks*… mistakes create unique conditions of high-velocity learning that cannot be matched by more stable, "successful" situations."
9. Patience!
   Don't confuse inspiration with ideas.
   Apply your ideas with patience for the reward they may deserve.

MODULE : 109

Thinking and recall series

Thinking like a genius

Famous thinkers

"Even if you're not a genius, you can use the same strategies as Aristotle and Einstein to harness the power of your creative mind and better manage your future."

Nine approaches to creative problem solving:

1. Rethink! Look at problems in many different ways.
2. Visualize! Utilize diagrams and imagery to analyze your dilemma.
3. Produce! Genius is productive.
4. Combine! Make novel combinations...
5. Form! Form relationships.
6. Opposite! Think in opposites.
7. Metaphor/simile! Think metaphorically.
8. Failure! Learning from your mistakes is one example of using failure.
9. Patience! Don't confuse inspiration with ideas.

Exercise #1: illustrates applications of the nine approaches.
Exercise/blog #3 contains random thoughts on *thinking like a genius.*
Exercise #2 illustrates how famous thinkers used these approches.
Exercise text:

1. **Look at problems in many different ways.**
   Find new perspectives that no one else has taken (or no one else has publicized!)
   Leonardo da Vinci believed that, to gain knowledge about the form of a problem, you begin by learning how to restructure it in many different ways. He felt that the first way he looked at a problem was too biased. Often, the problem itself is reconstructed and becomes a new one.

2. **Visualize!**
   When Einstein thought through a problem, he always found it necessary to formulate his subject in as many different ways as possible, including using diagrams. He visualized solutions, and believed that words and numbers as such did not play a significant role in his thinking process.

3. **Produce!**
   A distinguishing characteristic of genius is productivity.
   Thomas Edison held 1,093 patents. He guaranteed productivity by giving himself and his assistants idea quotas. In a study of 2,036 scientists throughout history, Dean Keith Simonton of the University of California at Davis found that the most respected scientists produced not only great works, but also many "bad" ones. They weren't afraid to fail, or to produce mediocre in order to arrive at excellence.

4. **Make novel combinations.**
   Combine, and recombine, ideas, images, and thoughts into different combinations no matter how incongruent or unusual.
   The Austrian monk Grego Mendel combined mathematics and biology
   to create a new science of heredity. The modern science of genetics is based upon his model.

5. **Form relationships.**
   Make connections between dissimilar subjects.
   Da Vinci forced a relationship between the sound of a bell and a stone hitting water. This enabled him to make the connection that sound travels in waves. Samuel Morse invented relay stations for telegraphic signals when observing relay stations for horses.

6. **Think in opposites.**
   Physicist Niels Bohr believed that if you held opposites together, then you suspend your thought, and your mind moves to a new level. His ability to imagine light as both a particle and a wave led to his conception of the principle of complementarity. Suspending thought (logic) may allow your mind to create a new form.

7. **Think metaphorically.**
   Aristotle considered metaphor a sign of genius, and believed that the individual who had the capacity to perceive resemblances between two separate areas of existence and link them together was a person of special gifts.

8. **Prepare yourself for chance.**
   Whenever we attempt to do something and fail, we end up doing something else. That is the first principle of creative accident. Failure can be productive only if we do not focus on it as an unproductive result. Instead: analyze the process, its components, and how you can change them, to arrive at other results. Do not ask the question "Why have I failed?", but rather "What have I done?"

9. **Have patience**
   Paul Cézanne (1839 – 1906) is recognized as one of the 19th century's greatest painters, and is often called the father of modern art, an *avant garde* bridge between the impressionists and the cubists. During his life he only had a few exhibitions though his influence on subsequent artists was great as an innovator with shape and form. His genius, however, was not evident until late in life. He was refused admission to the *Ecole des Beaux-Arts* at age 22 and his first solo exhibition was at age 56. His genius was the product of many years' practice and experimental innovation.

MODULE : 110

Thinking and recall series

Thinking like a genius

Selected thoughts

As we grow older and wiser,
we learn to recognize our strengths and weaknesses, and accept them. We work to align our lives with the gifts we were born with, and cultivate them. This is a process of finding our place within the world.

As we recognize and organize our strengths,
we discover and expose ourselves as to who we truly are. Our discovered place in the world becomes the opportunity for the expression of our genius: our special set of gift(s) that we can contribute. It lies within all of us.

Some may say that they have little to contribute.
However, if we contribute small things greatly, true to our purpose, we will exceed those people who do great things poorly. For the small thing done greatly can be picked up, and magnified by another, and so by another.

True prophets and leaders want us to work towards
an honest recognition and admission of who we are, to see the beauty and strength in each of us, as well as for each of us to see and admit the beauty of others. With this honest perception of the self, the exercise of genius takes one to a higher spiritual plane.

By its nature, genius pushes against the boundaries
of culture, religion, society, environment. Boundaries serve a purpose and should be honored for what they are: a context that tests.

A nation or people or society is only as strong
as its individuals are empowered to rise to the level of their individual genius. When prophets and leaders encourage us to follow them, they are asking us to hear their message and empower our lives.

As social animals, our tendency is to institutionalize
the message and to build belief systems and rituals. However, we need to be alert to when our spirituality, and genius, is limited by these constraints and that context. It may be that what is built up after the prophet and leader is contrary to his or her message.

Genius recognizes that we must honestly recognize
and meet with humility, even confront, those conditions in which we are placed. We set aside distracting influences and things of our youth since they are not true to who we are. Should we succumb to weakness, that which we are not, we need to recognize the test for what it is: either a miscalculation of our power, or an inappropriate response to our environment. If we go astray, act contrary to our purpose (we are not perfect) we must learn the lesson provided.

We hold steady, we join hands with those walking with us
on our spiritual paths, learning that the genius of others will also guide us. Others will be there to lift us up. With them, our full genius takes us to the place where we can overcome digressions and transgressions. There is a super genius at work, that of we as people.

Don't restrict yourself to the standards!
Consider them standards and build on them. Practice the basics, then don't be afraid to move away from the normal and think outside of the box, or the textbook!" (Colin.C.Saxton)

Read widely and deeply.
In addition to being a statesman, diplomat, author of the Declaration of Independence and President of the United States, Thomas Jefferson was a notable agriculturalist, horticulturist, architect, etymologist, mathematician, cryptographer, surveyor, author, lawyer, inventor, paleontologist, and founder of the University of Virginia. As a 16-year-old college student, he studied 15 hours a day. His insatiable curiosity and disciplined study of a broad range of academic and practical disciplines were the basis for his exceptional accomplishments. President John F. Kennedy welcomed 49 Nobel Prize winners to the White House in 1962, saying, "I think this is the most extraordinary collection of talent, of human knowledge, that has ever been gathered at the White House, with the possible exception of when Thomas Jefferson dined alone." (Gavin Ehringer)

Testing with success series

MODULE : 114

General test preparation

To do well on tests you must first learn the material,
and then review it before the test.

These are techniques to better understand your material:

Learning

- Take good notes in your class lectures and textbooks
  See the Guides on Taking notes in Lectures
  (and Taking notes from a textbook!)
- Review your notes soon after class/lecture
- Review notes briefly before the next class
- Schedule some time at the end of the week for a longer review

Reviewing

- **Take good notes**
  about as your teacher tells you what will be on the test
- **Organize your notes, texts, and assignments**
  according to what will be on the test
- **Estimate the hours** you'll need to review materials
- **Draw up a schedule**
  that blocks units of time and material
- **Test yourself** on the material
- **Finish your studying** the day before the exam

Testing with success series

Mastering one test

Establishing good habits for taking tests can be as simple as exercising, eating the right foods, and getting a good night's sleep!
However, you also have to study!
Here are some steps that will help you personalize
your approach to taking a test:

Mastering one test guidelines

Prepare!

- **Summarize which chapters, vocabulary, formulas etc.**
  you expect will be on the test:
- **Personalize success with good strategies!**
  What one test preparation strategy has worked for you in the past?
- **Organize what you will need to take the test.**
  Avoid the panic of not having your materials: What will you need?
  (Pen/pencil, calculator, etc.)

Health

- **Exercise can sharpen the mind**
  For this test, what is one "exercise" you can do beforehand?
- **A good night's sleep will help.**
  For this test, what time will you go to bed?
- **Eat right; avoid an empty or too-full stomach.**
  Fresh fruits and vegetables can reduce stress.
  Processed and heavy foods can build stress.

For this test, what one food item will you avoid?
For this test, what healthy snack will you have before?

Attitude

- **Relax before the exam**
  Avoid students who are not prepared, are negative, cramming, or will distract you.
  What relaxation technique will help you? Deep breaths? A short walk? A few minutes clearing your mind?
  Name one:
- **Approach this exam with confidence.**
  View it as an opportunity to demonstrate what you have learned.
  What is one reward you can provide yourself for your good efforts?

Test day

- **Allow yourself plenty of time before the test,**
  gather what you need and arrive a little early.
- **Choose a comfortable location for taking the test**
  Pick a spot with good lighting and minimal distractions.
- **Avoid thinking you need to cram just before.**
  You've prepared well enough!

MODULE : 116

Writing and testing series

for essays, reports, tests..

"Directives" ask you to answer, or present information, in a particular way.
Review these, and most of all note that there are different ways
of answering a question or writing a paper!

Compare:
Examine qualities, or characteristics, to discover resemblances. "Compare" is usually stated as "compare with": you are to emphasize similarities, although differences may be mentioned.

Contrast:
Stress dissimilarities, differences, or unlikeness of things, qualities, events, or problems.

Criticize:
Express your judgment or correctness or merit. Discuss the limitations and good points or contributions of the plan or work in question.

Define:
Definitions call for concise, clear, authoritative meanings. Details are not required but limitations of the definition should be briefly cited. You must keep in mind the class to which a thing belongs and whatever differentiates the particular object from all others in the class.

Describe:
In a descriptive answer you should recount, characterize, sketch or relate in narrative form.

Diagram:
For a question which specifies a diagram you should present a drawing, chart, plan, or graphic representation in your answer. Generally you are expected to label the diagram and in some cases add a brief explanation or description.

Discuss:
The term discuss, which appears often in essay questions, directs you to examine, analyze carefully, and present considerations pro and con regarding the problems or items involved. This type of question calls for a complete and entailed answer.

Enumerate:
The word enumerate specifies a list or outline form of reply. In such questions you should recount, one by one, in concise form, the points required.

Evaluate:
In an evaluation question you are expected to present a careful appraisal of the problem stressing both advantages and limitations. Evaluation implies authoritative and, to a lesser degree, personal appraisal of both contributions and limitations.

Explain:
In explanatory answers it is imperative that you clarify and interpret the material you present. In such an answer it is best to state the "how or why," reconcile any differences in opinion or experimental results, and, where possible, state causes. The aim is to make plain the conditions which give rise to whatever you are examining.

Illustrate:
A question which asks you to illustrate usually requires you to explain or clarify your answer to the problem by presenting a figure, picture, diagram, or concrete example.

Interpret:
An interpretation question is similar to one requiring explanation. You are expected to translate, exemplify, solve, or comment upon the subject and usually to give your judgment or reaction to the problem.

Justify:
When you are instructed to justify your answer you must prove or show grounds for decisions. In such an answer, evidence should be presented in convincing form.

List:
Listing is similar to enumeration. You are expected in such questions to present an itemized series or tabulation. Such answers should always be given in concise form.

Outline:
An outline answer is organized description. You should give main points and essential supplementary materials, omitting minor details, and present the information in a systematic arrangement or classification.

Prove:
A question which requires proof is one which demands confirmation or verification. In such discussions you should establish something with certainty by evaluating and citing experimental evidence or by logical reasoning.

Relate:
In a question which asks you to show the relationship or to relate, your answer should emphasize connections and associations in descriptive form.

Review:
A review specifies a critical examination. You should analyze and comment briefly in organized sequence upon the major points of the problem.

State:
In questions which direct you to specify, give, state, or present, you are called upon to express the high points in brief, clear narrative form. Details, and usually illustrations or examples, may be omitted.

Summarize:
When you are asked to summarize or present a summarization, you should give in condensed form the main points or facts. All details, illustrations and elaboration are to be omitted.

Trace:
When a question asks you to trace a course of events, you are to give a description of progress, historical sequence, or development from the point of origin. Such narratives may call for probing or for deduction.

Testing with success series

Succeeding with standardized tests*

> A standardized test is a test that is administered and scored in a consistent, or "standard", manner. Standardized tests are designed in such a way that the questions, conditions for administering, scoring procedures, and interpretations are consistent and are administered and scored in a predetermined, standard manner.

Popham, W.J. (1999). Why standardized tests don't measure educational quality.*Educational Leadership, 56*(6), 8–15.

Their use has expanded from assessing and ranking students, to evaluating curriculum, teachers, schools, and even school systems. However, as a student, these twelve tips will help you succeed and perform your best:

Before the test day

Give yourself adequate time to prepare
Standardized tests are performance tests. Each standardize test has its own strategy for assessment. The more familiar you are with each of its sections, the types of questions, time restraints, etc. the better off we are the more focus you can apply to answering questions rather than organizing your strategy.

Pace your preparation
Give yourself a break from time to time so that your mind can absorb what you've learned during your preparation.

By creating a *study checklist* and timeline, and holding to it, you will be better positioned to succeed. Another strategy is to seek advice at your school especially if you feel you need an accommodation for effectively taking the test. (Research on effective strategies for determining which students get which accommodations is still being done, and should be based on your individual characteristics.)

Familiarize yourself with the structure and directions (or instructions) beforehand

This will free up your time at the testing site to focus on the test items themselves.

Take practice tests under timed conditions

As you prepare, practice tests under timed conditions to simulate the conditions you encounter on test day. This will also aid you in building up your mental stamina.

Practice using relevant practice questions

Practice using questions and authorized sample tests by authorized sources of the particular standardize test. For example, if you are taking the The SAT or the SAT Subject Tests to assess your academic readiness for college, use practice questions made by the College Board that produces the test in collaboration with the Educational Testing Service (ETS). Practicing on these questions will be the best investment of your time. If you chose to practice through other test preparation companies, be sure to verify their success statistics!

Avoid cramming

Cramming for a standardized test will lead to minimal or no improvements. If you adequately prepare, it will be better to get adequate rest, food and exercise the day of the test to sharpen your mind. Cramming can also increase your stress and thus affect your performance on test day. See our guide on *mastering one test*.

Taking the test

Make use of your test booklet

Make use of your test booklet, scratch paper, etc. as permitted. Again, if permitted, use the test booklet as a workbook to best answer the question – underline sentences, circle key words, cross out incorrect answers to help arrive at correct ones, work out your math, etc. Don't forget to mark your answer on the answer sheet though!

Read test questions actively

Passive reading is reading for entertainment. Active reading is necessary when taking standardized tests. When responding to a particular question, understanding words or concepts, and their relationship to each other, can reveal the answer. With active reading, be on the lookout for any clues or context that leads you to the correct answer. By better understanding what is expected, you will succeed in arriving at the correct answer.

Pace yourself

Pacing yourself is extremely important on standardized tests. Standardized tests can be designed to be tight for time so as to access your ability to work under time sensitive conditions. If a question seems too difficult, move on and return as time permits.

Complete easy questions first

Answer easy questions first in order to build confidence as you proceed, and even to put yourself in a mindset of the content and test. Scanning the test will help you identify and answer the easy questions, and familiarize yourself with difficult ones and let your brain mull them over as you scan and answer. If the timed test is MODULEd on the number of questions answered, you also gain points by completing those easy ones quickly. You can always return to more difficult questions after the first go-round.

Multiple choice testing: the process of elimination

Many standardized tests, or portions of them, are made up of multiple choice questions. With the process of elimination you first eliminate wrong answer choices on difficult questions towards evaluating the correction option from those remaining. This will also help you avoid careless mistakes. See also our guide on *multiple choice testing*.

Bring something to eat and drink during breaks (if there are breaks)

If your standardized test has breaks in between them, bring a piece of candy, vegetable or fruit snack to eat as well as soft drink or juice to drink--though nothing heavy. This will also help you relieve stress!

Testing with success series

Anticipating test content

Pay particular attention to any study guides

that the instructor hands out in class before the exam, or even at the beginning of the course! For example: key points, particular chapters or parts of chapters, handouts, etc.

Ask the instructor what to anticipate on the test

if he/she does not volunteer the information

Pay particular attention--just prior to the exam--
to points the instructor brings up during class lectures
Generate a list of possible questions
you would ask if you were making the exam, then see if you can answer the questions
Review previous tests
MODULEd by the instructor
Confer with other students
to predict what will be on the test
Pay particular attention to clues
that indicate an instructor might test for a particular idea, as when an instructor:

- says something more than once
- writes material on the board
- pauses to review notes
- asks questions of the class
- says, "This will be on the test!"

Includes information adapted from *On Becoming a Master Student* by David B. Ellis and *How to Study in College* by Walter Pauk

MODULE : 117

Testing with success series

Review tools for tests

Create study checklists
Identify all of the material that you will be tested on-- list notes, formulas, ideas, and text assignments you are accountable for.
This checklist will enable you to break your studying into organized, manageable chunks, which should allow for a comprehensive review plan with minimal anxiety
Create summary notes and "maps"
Briefly map out (see mapping) the important ideas of the course and the relationships of these ideas. Summary notes should display lists and hierarchies of ideas.
Creativity and a visual framework will help you recall these ideas.
Record your notes
and significant portions of text on audio tapes so you can review material with a walk-man.
Having a tape of important information will enable you to study while walking or relaxing in a nonacademic environment
Create flashcards
for definitions, formulas, or lists that you need to have memorized--put topics on one side of the card, answers on the other.
Flashcards will enable you to test your ability to not only recognize important information, but also your ability to retrieve information from scratch

Testing with success series

Overcoming test anxiety

Most students experience some level of anxiety during an exam

However, when anxiety affects exam performance it has become a problem.

General preparation/building confidence:

Review your personal situation and skills

Academic counselors can help you in these areas, or refer to our Guides on the topic:

- Developing good study habits and strategies (a link to our directory)
- Managing time
  (dealing with procrastination, distractions, laziness)
- Organizing material to be studied and learned
  Take a step by step approach to build a strategy and not get overwhelmed
- Outside pressures
  success/failure consequences (MODULEs, graduation), peer pressure, competitiveness, etc.
- Reviewing your past performance on tests
  to improve and learn from experience

Test preparation to reduce anxiety:

- **Approach the exam with confidence:**
  Use whatever strategies you can to personalize success: visualization, logic, talking to your self, practice, team work, journaling, etc.
  View the exam as an opportunity to show how much you've studied and to receive a reward for the studying you've done
- **Be prepared!**
  Learn your material thoroughly and organize what materials you will need for the test. Use a checklist
- **Choose a comfortable location for taking the test**
  with good lighting and minimal distractions
- **Allow yourself plenty of time,**
  especially to do things you need to do before the test and still get there a little early
- **Avoid thinking you need to cram just before**
- **Strive for a relaxed state of concentration**
  Avoid speaking with any fellow students who have not prepared, who express negativity, who will distract your preparation
- **A program of exercise**
  is said to sharpen the mind
- **Get a good night's sleep**
  the night before the exam
- **Don't go to the exam with an empty stomach**
  Fresh fruits and vegetables are often recommended to reduce stress.
  Stressful foods can include processed foods, artificial sweeteners, carbonated soft drinks, chocolate, eggs, fried foods, junk foods, pork, red meat, sugar, white flour products, chips and similar snack foods, foods containing preservatives or heavy spices
- **Take a small snack, or some other nourishment**
  to help take your mind off of your anxiety.
  Avoid high sugar content (candy) which may aggravate your condition

During the test:

- Read the directions carefully
- Budget your test taking time
- Change positions to help you relax
- If you go blank, skip the question and go on
- If you're taking an essay test
  and you go blank on the whole test, pick a question and start writing. It may trigger the answer in your mind
- Don't panic
  when students start handing in their papers. There's no reward for finishing first

Use relaxation techniques

If you find yourself tensing and getting anxious during the test:

Relax; you are in control.
Take slow, deep breaths
Don't think about the fear
Pause: think about the next step and keep on task, step by step
Use positive reinforcement for yourself:
Acknowledge that you have done, and are doing, your best
Expect *some* anxiety
It's a reminder that you want to do your best and can provide energy
Just keep it manageable
Realize that anxiety can be a "habit"
and that it takes practice to use it as a tool to succeed
After the test, review how you did

- List what worked, and hold onto these strategies
  It does not matter how small the items are: they are building blocks to success
- List what did not work for improvement
- Celebrate that you are on the road to overcoming this obstacle

Check out local centers and resources in your school for assistance!
If you are aware that you have a problem with test anxiety,
be sure your teacher or instructor knows before any testing begins
(and not the hour before!).
There may be other options to evaluate your knowledge or performance within the subject matter.

Testing with success series

Organizing for test taking

Begin reviewing early
This will give your brain time to get comfortable with the information
Conduct short daily review sessions
You can ease into a more intense review session prior to major exams
Read text assignments before lectures
This will help you identify concepts that the professor considers important and that are already somewhat familiar
Review notes immediately after lectures
This will help you identify information that you do not understand while the lecture is still fresh in your memory--and other students' memories as well. When you review immediately, you'll have time to clarify information with other students
Review with a group
This will enable you to cover important material that you may overlook on your own
Conduct a major review early enough to allow for a visit to the instructor during his office hours if necessary
Break up the study tasks into manageable chunks,
especially during major reviews prior to exams.
Studying three hours in the morning and three in the evening will be more effective than studying at a six hour stretch. *Studying while you are mentally fatigued is usually a waste of time*
Study the most difficult material when you are alert

Testing with success series

Cramming

Cramming is useful in emergencies;
it is not good for long term learning.
See Emergency test preparation
for an alternative, structured approach to cramming
Strategies for cramming include:

- Preview material
  to be covered
- Be selective:
  skim chapters for main points
- Concentrate on reviewing
  and learning main points
- Don't read information
  you won't have time to review

MODULE : 118

Testing with success series

Emergency test preparation

A structured approach to cramming

- Preview material to be covered
- Be selective: skim chapters for main points
- Concentrate on the main points

Begin with 5 sheets of paper:

1. **Identify 5 key concepts** or topics that will be covered on the test
   Enter one at the top of each page
   Use only key words or short phrases
2. In your own words, **write an explanation, definition, answer**, etc
   of several lines or so for the key concept
   Do NOT use the text or your notes
3. **Compare your response of** (2)
   with the course source information (text and lecture notes)
4. **Edit or re-write your understanding** of each topic
   considering this course information
5. **Sequence and number each page of your topics**
   1 - 5 in order of importance; 1 = most important
6. **Follow the above process** for two additional concepts
   if you have time
7. **Place them in the 1 - 5 sequence** and change numbering to 1 - 7
8. Follow the above process for one or two more concepts
   for **a total of nine**.
   Follow your comfort level; add topics only as necessary
9. **Try not to exceed nine concepts;**
   focus on the most important
10. **Review the day of the test,**
    but try to relax just before
    see 10 tips on terrific test taking

Derived from Miller, George A., *The Magical Number Seven, Plus or Minus Two: Some Limits on our Capacity for Processing Information*, (1956) Harvard University First published in Psychological Review, 63, pp. 81-97 as seen in Green, Christopher D. Green, Classics in the History of Psychology, York University, Toronto, Ontario, http://www.yorku.ca/dept/psych/classics/Miller/ (10/13/1999).

Testing with success series

Emergency test preparation

A structured approach to cramming

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- Be selective: skim chapters for main points
- Concentrate on the main points

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9. **Try not to exceed nine concepts;**
   focus on the most important
10. **Review the day of the test,**
    but try to relax just before
    see 10 tips on terrific test taking

MODULE : 110

Memorizing:

Guides for memorizing series

Using Memory Effectively

The following techniques with their exercises use associations with letters, images, maps, etc. to help you remember.

As you proceed through this list of techniques, try to think of strategies that would be useful to you!
Some people use letters, some images, even songs.
Each depends on how comfortable you are with, or how useful they are to, your way of thinking!

1. **Acronyms**
   An acronym is an invented combination of letters.
   Each letter is a cue to, or suggests, an item you need to remember.
   PEMDAS, sequence in solving or evaluating math equations
   Parenthesis | **E**xponents | **M**ultiplication | **D**ivision | **A**ddition | **S**ubtraction

ROY G. BIV, the colors of the visible spectrum
Red, **O**range, **Y**ellow, **G**reen, **B**lue, **I**ndigo, **V**iolet
IPMAT, the stages of cell division
Interphase, **P**rophase, **M**etaphase, **A**naphase, **T**elephase
Practice your acronym

2. **An acrostic** is an invented sentence or poem with a first letter cue:
The first letter of each word is a cue to an idea you need to remember.
Please Excuse My Dear Aunt Sally (PEMDAS, above**)**
Sequence in solving or evaluating math equations
Parenthesis | **E**xponents | **M**ultiplication | **D**ivision | **A**ddition | **S**ubtraction
Acrostic exercise GARBAGE | **Acrostic exercise EGBDF**
3. **Rhyme-Keys: (for ordered or unordered lists)**
First, memorize key words that can be associated with numbers.
example: bun = one; shoe = two, tree = three, door = four, hive = five, etc.
Create an image of the items you need to remember with key words.

Four basic food groups-- diary products; meat, fish, and poultry; grains; and fruit and vegetables

Think of cheese on a bun (one), livestock with shoes on (two),
a sack of grain suspended in a tree (three), a door to a room stocked with fruits and vegetables (four)

Practice your rhymes

4. **The Method of Loci: (for approximately twenty items)**
Select any location that you have spent a lot of time in and know well.
Good for kinesthetic learners!
Imagine yourself walking through the location, selecting clearly defined places--the door, sofa, refrigerator, shelf, etc. Imagine yourself putting objects that you need to remember into each of these places by walking through this location in a direct path.

Again, you need a standard direct path and clearly defined locations for objects to facilitate the retrieval of these objects.

George Washington, Thomas Jefferson, and Richard Nixon, you could imagine walking up to the door of your location and seeing a dollar bill stuck in the door; when you open the door Jefferson is reclining on the sofa and Nixon is eating out of the refrigerator.

Practice your loci

5. **The Keyword Method: (for foreign language vocabulary)**
First, after considering the foreign word you need to remember, select a key word in English that sounds like the foreign word.
Next, imagine an image which involves the key word with the English meaning of the foreign word.
For example, consider the Spanish word "cabina" which means "phone booth." For the English keyword, you might think of "cab in a ... ." You could then invent an image of a cab trying to fit in a phone booth. When you see the word "cabina" on the test, you should be able to recall the image of the cab and you should be able to retrieve the definition "phone booth."
Practice your keywords

6. **The Image-Name Technique: (for remembering names)**
Simply invent any relationship between the name and the physical characteristics of the person. For example, if you had to remember Shirley Temple's name, you might ingrain the name in memory by noticing that she has "curly" (rhymes with Shirley) hair around her temples.

Practice image-naming

7. **Chaining: (for ordered or unordered lists)**
Create a story where each word or idea you have to remember cues the next idea you need to recall. If you had to remember the words Napoleon, ear, door, and Germany, you could invent a story of Napoleon with his ear to a door listening to people speak in German.

Practice your chaining

Guides for memorizing series

Memorizing using acronyms

Invented combinations of letters

Acronyms
An acronym is an invented combination of letters.
Each letter is a cue to, or suggests, an item you need to remember.
PEMDAS, sequence in solving or evaluating math equations
Parenthesis | **E**xponents | **M**ultiplication | **D**ivision | **A**ddition | **S**ubtraction
ROY G. BIV, the colors of the visible spectrum
Red, **O**range, **Y**ellow, **G**reen, **B**lue, **I**ndigo, **V**iolet
IPMAT, the stages of cell division
Interphase, **P**rophase, **M**etaphase, **A**naphase, **T**elephase

Guides for memorizing series

Memorizing using acrostics

Sequences of letters that helps you remember a poem or other text
An acrostic is a sequence of letters
that helps you remember a poem or other text
Exercise text:
GARBAGE a poem by Bruce Lansky (2002, www.GigglePoetry.com)
(Whose job is it to take out the garbage?)
Grounds (coffee)
Apple (core)
Rinds (mellon)
Banana (peel)
Anchovies (from pizza I wouldn't eat)
Grapes (too ripe to eat)
Emptying the stinking bag (my job)
To memorize the planets:

Mercury	My
Venus	Very
Earth	Excellent
Mars	Mother
Jupiter	Just
Saturn	Served
Uranus	Us
Neptune	Nothing

From Wikipedia:
An acrostic poem in English written by Edgar Allan Poe (ELIZABETH):

An Acrostic

Elizabeth it is in vain you say
"Love not" -- thou sayest it in so sweet a way:
In vain those words from thee or L.E.L.
Zantippe's talents had enforced so well:
Ah! if that language from thy heart arise,
Breath it less gently forth -- and veil thine eyes.
Endymion, recollect, when Luna tried
To cure his love -- was cured of all beside --
His follie -- pride -- and passion -- for he died.

Guides for memorizing series

Memorizing using rhyme-keys

Memorizing using rhyme-keys: for ordered or unordered lists
First, memorize key words that can be associated with numbers.
example: bun = one; shoe = two, tree = three, door = four, hive = five, etc.
Create an image of the items you need to remember with key words.

Four basic food groups-- diary products; meat, fish, and poultry; grains; and fruit and vegetables

Think of cheese on a bun (one), livestock with shoes on (two),
a sack of grain suspended in a tree (three), a door to a room stocked with fruits and vegetables (four)

The object to rhyme-keys is to build associations and images with numbers and key rhyming words. This image in turn helps you remember the target word. It takes practice, and the trick is to not remember the rhyme but the association!

MODULE : 120

Guides for memorizing series

Memorizing using loci

Memorizing using the *method of loci, a memory walk, or memory palace* for up to twenty items
Select any location that you have spent a lot of time in and know well.
Good for kinesthetic learners!
Imagine yourself walking through the location, selecting clearly defined places--the door, sofa, refrigerator, shelf, etc. Imagine yourself putting objects that you need to remember into each of these places by walking through this location in a direct path.

Again, you need a standard direct path and clearly defined locations for objects to facilitate the retrieval of these objects.

George Washington, Thomas Jefferson, and Richard Nixon, you could imagine walking up to the door of your location and seeing a dollar bill stuck in the door; when you open the door Jefferson is reclining on the sofa and Nixon is eating out of the refrigerator.

...a memory palace. This ancient mnemonic device was used by orators in Greece and Rome, and is still a trade secret of modern memory-contest champions. A practitioner visualizes a large edifice with a warren of rooms that she furnishes with familiar objects. She then attaches the items or thoughts that she wishes to recall to the objects. As she walks mentally through the edifice, they act as prompts.
Thurman, Judith. (April 23, 2012). Drawn From Life The world of Alison Bechdel. The New Yorker. page 54.

Select any location that you have spent a lot of time in and know well.
Use its locations to cue memory

Memorization techniques:

Guides for memorizing series

Memorizing using loci

Memorizing using the *method of loci, a memory walk, or memory palace* for up to twenty items
Select any location that you have spent a lot of time in and know well.
Good for kinesthetic learners!
Imagine yourself walking through the location, selecting clearly defined places--the door, sofa, refrigerator, shelf, etc. Imagine yourself putting objects that you need to remember into each of these places by walking through this location in a direct path.

Again, you need a standard direct path and clearly defined locations for objects to facilitate the retrieval of these objects.

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Thurman, Judith. (April 23, 2012). Drawn From Life The world of Alison Bechdel. The New Yorker. page 54.

These suggestions and links at left may help you succeed in having your abilities properly evaluated and efforts rewarded!

1. **Analyze how you did on a similar test in the past.**
   Review your previous tests and sample tests provided by your teacher.
   Each test you take prepares you for the next one!
2. **Arrive early for tests.**
   List what you need beforehand to avoid panic.
   Good preparation prepares you for the task at hand.
3. **Be comfortable but alert.**
   Choose a comfortable location with space enough that you need
   Don't slouch; maintain good posture.
4. **Stay relaxed and confident.**
   Keep a good attitude and remind yourself that you are going to do your best.
   If you find yourself panicking, take a few deep breaths
   Don't talk to other students right before: stress can be contagious.
5. **Read directions carefully!**
   and avoid careless errors.
6. **If there is time, quickly look through the test for an overview.**
   Scan for keywords. If permitted, jot any notes that come to mind.
7. **Answer questions in a strategic order:**
   Easy questions first to build confidence.
   Then those with the most point value.
   On objective tests, eliminate obvious incorrect answers.
   On essay tests, broadly outline your answer and sequence of points.
8. **Review! if you have time.**
   Resist the urge to leave when you complete the exam--
   check if you have answered all the questions,
   and not made any errors or mis-marked any answers.
9. **Change answers to questions if you erred, or misread the question!**
   You may also find information in the test that will correct a previous answer.
10. **Decide on and adopt study strategies that work best for you.**
    Review where you succeed and where you are challenged.
    Check out your academic support center or a trusted teacher for advice.

MODULE : 120

The online learning series

Taking online tests

An online exam has several variations,
but all involve technology! These are a few variations:

1. In a classroom, computer resource center or at home
2. Open or closed book
3. Timed or not timed
4. Scheduled or not scheduled
5. Continuous or saved and returned for completion
6. Part of an online course, traditional classroom, or blended option
7. MODULEd or not MODULEd
8. Scores immediately returned for feedback, or posted later

These variations all have technology in common. Here are suggestions to consider, and questions to ask, to master the process of taking an online exam:

Mastering or navigating technology should be your first concern:

- **Make sure your computer, especially at home,**
  - is technically capable and has the appropriate connection speed.
    (One advantage of taking the test at your school's computer resource center is that a computer consultant may assist you)
    Computer issues: cache, security settings, monitor/screen display, Internet connection, browser Internet options, etc.
  - **Master the login process to access the test**
    Taking the test is not the time to experiment with passwords and/or navigating a course website to find the test!
    Can you review the test instructions in class before taking the test?
    Do you need to create a login for the test, or use your student account?
    What is the test website address (URL),
    your student identification login, your test login?
    If you take the test in a controlled environment,
    what identification do you need?
    If you need assistance taking the test, alert the teacher beforehand!
- **Once at the test index page, carefully read the instructions**
  for answering questions:
  Is the time you take to complete the test tracked?
  If so, is there a clock you can access for your time?
  Can you save and return if interrupted?
  Must you answer the questions in sequence?
  Can you change answers?
  Is there a review feature that lets you check your work, or check for unanswered questions?
- **After you have finished answering the questions:**
  How do you save and exit so your work is not lost?
  Is there a separate sequence from saving to turn in the test?
  Will you get an alert about unanswered questions?
  How do you access your score, or is your score immediately returned?
- **Can you make a paper-backup of your responses?**
- **For short answer and essay questions,**
  can you create and format your answer in word processing, then copy and paste into the test question?

These questions are meant to specifically address procedural or technology issues.

For strategies on taking different types or formats of tests,
or components of online e-learning,
please see the *test taking index*, or the directory below.

The online learning series

Descriptions of online courses

"Distance education is based on the premise that students are at the center of the learning process, take responsibility for their own learning, and work at their own pace and in their own place. It is about ownership and autonomy." *****
The good news: studies have shown that below MODULE students perform better in distance education courses if they finish them; and that at-MODULE or better students perform about the same.
The bad news: students tend to procrastinate and drop out at higher levels than in traditional courses, especially below MODULE students

There are many delivery methods of online courses in an institution's "Virtual Learning Environment":

- Via the Internet,
  conducted either synchronously or asynchronously
- Telecourse/Broadcast
  where content is delivered via radio or television
- CD-ROM
  where the student interacts with computer content stored on a CD-ROM,
  especially in locations without or unreliable Internet access
- Pocket PC/Mobile Learning where the student accesses course content stored on a mobile device or through a wireless server (see *M-learning guide*)
- Correspondence conducted through regular mail(!)
- Required attendance at certain times during the semester or even class day/week, as for seminars or taking tests is considered to be a hybrid or blended course or program.
- Electronic classrooms on campus as well as in satellite locations off campus
- Levels of accreditation vary;
  (Some institutions offering distance education in the United States receive little outside oversight, and may be fraudulent diploma mills.)
- Courses that meet in multiple locations at a specific time for lectures, course information delivery, and/or student interaction
- Courses that do not meet at any specific time, in one or many locations

If you are taking distance learning courses as part of a formal degree program, before getting started:

- Research why accreditation is important to higher education and online learning (see the government accreditation website)
- Research the specific accreditation bodies for your area of study, as well as the accreditation requirements for practicing as a professional
- Research whether the specific online degree programs that your course is part of has the appropriate accreditations at the school and program level (see database for searching online degree programs)
- Call your department advisor to ensure that the online course actually counts toward your degree program

If you wish to succeed in an online course, here are some details to collect:

Course information:

- Course website address
- Instructor's name, office location and hours, telephone number, fax number, e-mail address
- Teaching assistant name, office location and hours, telephone, fax, e-mail address
- Tutor name, office location and hours, telephone, fax, e-mail address
- Librarian/research assistant name, office location and hours, telephone, fax, e-mail address
- Resource center (RC) location and hours, telephone number; RC manager with e-mail address

Logistics

- Course materials you can expect
- How you will receive the course materials

- How you will be notified, or learn, of course announcements and class cancellations

Technical requirements:

- computing and internet hardware, platform, and specifications
- software type and version
- multimedia accessibility

Schedule yourself, and stick to an assignment schedule, that

- coincides with the course syllabus, or that
- is negotiated or verified with the instructor
- or both. See guide on Setting goals and making a schedule

Schedule yourself daily/weekly for course communications for

- peer learning/fellow student interaction via listservs, discussion groups, case studies, etc.
  Often you will be required to work on group projects or case studies, whether at one location or through the Internet. See the guides on group projects, or case studies.
- feedback to the instructor
  In a face-to-face course, an instructor relies on feedback from students, whether with questions or facial/physical expressions. In a distance situation this is most difficult, and you carry the responsibility to inform the instructor how you are doing in the course, whether by appointment or through phone conversations or e-mail..
- assignment progress and submission
- progress reports: The instructor must provide feedback to you on your progress through the course. Request an evaluation schedule, conditions, and methods for your progress through the material. Methods include
  - tests reflecting knowledge acquisition or performance of tasks
  - reports, projects, case studies, course portfolio, etc.
  - qualitative and quantitative input into course discussions and projects

MODULE : 121

Testing with success series

True/false tests

Every part of a true sentence must be "true"
If any one part of the sentence is false,
the whole sentence is false despite many other true statements.
Pay close attention to
negatives, qualifiers, absolutes, and long strings of statements
Negatives can be confusing.
If the question contains negatives, as "no, not, cannot"
Drop the negative and read what remains.
Decide whether that sentence is true or false.
If it is true, its opposite, or negative, is usually false
Qualifiers are words that restrict or open up general statements.
Words like "sometimes, often, frequently, ordinarily, generally" open up the possibilities of making accurate statements. They make more modest claims, are more likely to reflect reality, and usually indicate "true" answers.
Absolute words restrict possibilities.
"No, never, none, always, every, entirely, only"
imply the statement must be true 100% of the time and usually indicate "false" answers
Long sentences often include groups of words set off by punctuation.
Pay attention to the "truth" of each of these phrases.
If one is false, it usually indicates a "false" answer
Guessing:
Often true/false tests contain more true answers than false answers. You have more than 50% chance of being right with "true". However, your teacher may be the opposite. Review pasts tests for patterns...
For teachers: Constructing true-false tests

Testing with success series

Multiple choice tests

Multiple choice questions usually include a phrase or stem followed by three to five options:

Test strategies:

- Read the directions carefully
  Know if each question has one or more correct option
  Know if you are penalized for guessing
  Know how much time is allowed (this governs your strategy)
- Preview the test
  Read through the test quickly and answer the easiest questions first
  Mark those you think you know in some way that is appropriate
- Read through the test a second time and answer more difficult questions
  You may pick up cues for answers from the first reading, or become more comfortable in the testing situation
- If time allows, review both questions and answers
  It is possible you mis-read questions the first time

Answering options

Improve your odds, think critically:

Cover the options, read the stem, and try to answer

Select the option that most closely matches your answer

Read the stem with each option

Treat each option as a true-false question, and choose the "most true"

Strategies for answering difficult questions:

1. **Eliminate options you know to be incorrect**
   If allowed, mark words or alternatives in questions that eliminate the option
2. **Give each option of a question the "true-false test:"**
   This may reduce your selection to the best answer
3. **Question options that grammatically don't fit with the stem**
4. **Question options that are totally unfamiliar to you**
5. **Question options that contain negative or absolute words.**
   Try substituting a qualified term for the absolute one.
   For example, *frequently* for *always;* or *typical* for *every* to see if you can eliminate an option
6. **"All of the above:"**
   If you know two of three options seem correct, "all of the above" is a strong possibility
7. **Number answers:**
   toss out the high and low and consider the middle range numbers
8. **"Look alike options"**
   probably one is correct; choose the best but eliminate choices that mean basically the same thing, and thus cancel each other out
9. **Double negatives:**
   Create the equivalent positive statement
10. **Echo options:**
    If two options are opposite each other, chances are one of them is correct
11. **Favor options that contain qualifier**s
    The result is longer, more inclusive items that better fill the role of the answer
12. **If two alternatives seem correct,**
    compare them for differences,
    then refer to the stem to find your best answer

Guessing:

- **Always guess when there is no penalty**
  for guessing or you can eliminate options
- **Don't guess if you are penalized for guessing**
  and if you have no basis for your choice
- **Use hints from questions you know**
  to answer questions you do not.

- **Change your first answers**
  when you are sure of the correction, or other cues in the test cue you to change.

Remember that you are looking for the best answer,
not only a correct one, and not one which must be true all of the time, in all cases, and without exception.

Testing with success series

Short answer tests

A teacher's primary purpose
in giving a short-answer test is to test whether you have a foundation of knowing the material, usually factual.

Prepare for the test
Develop summary sheets of the course material information.
Focus on key words, events, vocabulary, concepts
Organize and categorize the material, then review

When taking the test

- **Respond directly to the question or directive**
  Focus on keywords and ideas called for
  Eliminate those that do not directly address the information requested in the test item
- **Respond and write concise answers**
  Connect key facts into short sentences according to the test instructions
- **If you can think of several answers**
  let the instructor know. The instructor may give you a clue to the correct answer he/she's looking for
- **A guess made with common sense**
  could get you more test points than if you leave an answer blank

MODULE : 123

Testing with success series

Open book exams

In an open book exam
you are evaluated on understanding rather than recall and memorization.

You will be expected to

- apply material to new situations
- analyze elements and relationships
- synthesize, or structure
- evaluate using your material as evidence

Access to content (books, notes, etc.) varies by instructor.
The exam can be take home or in the classroom
with questions seen or unseen before exam time

Do not underestimate the preparation needed for an open book exam:
your time will be limited, so the key is proper organization in order to quickly find
data, quotes, examples, and/or arguments you use in your answers.

Preparation:

- Keep current
  on readings and assignments in class
- Prepare brief,
  concise notes on ideas and concepts being tested
- Carefully select
  what you intend to bring with you to the exam,
  and note anything significant about what you do not

- Include your own commentary on the information
  that will provide fuel for your arguments,
  and demonstrate that you have thought this through
- Anticipate with model questions, but not model answers.
  Challenge yourself instead with how you would answer questions,
  and what options and resources you may need to consider.

Organize your reference materials, your "open book:"

Make your reference materials as user-friendly as possible so that you don't lose time locating what you need

- **Familiarize yourself**
  with the format, layout and structure of your text books and source materials
- **Organize these with your class notes**
  for speedy retrieval, and index ideas and concepts with pointers and/or page numbers in the source material
  (Develop a system of tabs/sticky notes, color coding, concept maps, etc. to mark important summaries, headings, sections)
- **Write short, manageable summaries**
  of content for each grouping
- **List out data and formulas**
  separately for easy access

Test taking:

- **Read the questions carefully**
  to understand what is expected.
  Refer to our guide on *Essay exam terms/directives*
- **Make good use of time**
  Quickly review the number of questions and note how much time each could take.
  First answer the questions that you are confident of and/or for which you will not need much time checking out the resources.
  Leave more complex and difficult questions for later
- **Don't over-answer**
  Aim for concise, accurate, thoughtful answers that are based in evidence.

Use quotations

- to illustrate a point, or act as a discussion point
- to draw on the authority of the source
- because you could not say it better

Quotations can be short

Three or four words can be extremely effective when they are worked into the structure of your sentence

A reference to a quote
may be as effective as the quote itself

Guard against over-quoting
It is your words and your argument;
extensive quoting may detract from your point or argument

MODULE : 124

Testing with success series

Preparing for and taking oral exams

The oral exam is an opportunity for you to demonstrate your knowledge, your presentation/speaking skills, as well as your ability to communicate. They can also be good practice for job interviews!

The exam can be formal, or informal, but you should consider all exams formal exchanges in order to make a good impression. For both types, you must listen carefully to the question, and answer directly.

Formal exams follow a list of questions in a prepared format. The criteria for evaluation is usually set in a right/wrong format, and can be competitive. For this type of exam, if you wish to add "related" or qualified information, ask permission first as a courtesy.
Informal exams are more open, your responses are usually longer, and evaluations can be more subjective. Answers are often less exact (right/wrong), and value is added for problem solving analysis and method, as well as interpersonal communication and presentation.

There are three components to a successful oral exam:

Preparation

Ask your teacher what will be on the exam.
Study. If you do not study, you will not do well.
See the Guide "**Test Preparation**" in this web site.
See the Guide "**Anticipating Test Content**" in this web site
Write out questions you expect to be asked, then

- **Discuss answering techniques with people in the field**
  or who have had the test.
  Practice answering with classmates
  Practice in a similar setting, in front of a mirror, to evaluate your "manner"
- **Verify the date, time and location;**
  confirm these with your instructor
- **If you use computing**, projection, or media systems,
  practice with the equipment the day before,
  and verify an hour or so before the test if possible.

The Exam

- **Look and act professional!**
  Create a good impression.
  Dress well and appropriately, turn off cell phones and pagers;
- **Arrive at the location early**
  to collect yourself and check out the situation, but wait until your scheduled time to keep the appointment.
  This is a time for relaxed focus, not cramming or review.
- **The exam begins** the minute you walk in:
  Introduce yourself immediately
  Give the instructor all of your attention; look interested and smile!
  Keep good posture and eye contact;
  If there are distractions (noise outside, etc,) you may mention your distraction and/or nervousness.
- **Stay focused** through the interview.
  Be an intelligent listener as well as talker.
- **Do not ramble**
  if you do not know an answer.
  State directly that you do not know the answer but ask if you could outline how you would find the answer, solve the problem, or the method you would employ.
- **Maintain your self-confidence and composure**
  if you feel the interview is not going well. The interviewer may be testing you.
- **Answer questions with more** than "yes" or "no".
  Stress the positive and not the negative.
  Use two or three key points or examples to demonstrate your knowledge
- **Watch for signs that the test is over**
  (i.e., the interviewer looks at the clock, moves the chair back, or completes a set of questions)
- **Ask if there is anything**
  you could answer that would add to your evaluation

Thank the instructor

Follow-up

- **Summarize your performance**;
  where you did well or poorly
  Keep a written record
- **Note how you could do better**
  for the next time

- **Note if there was a significant "event"**
  during the interview
- **If you have questions or comments**
  on either the material or your performance, do not hesitate to speak with the instructor. Do not challenge the teacher, but seek to understand your performance.
- **If you have concerns**
  about an inappropriate evaluation after raising concerns with your teacher, discuss them with that department's, or your school's, academic counseling center or a higher authority.

MODULE : 125

Testing with success series

The Essay Exam

Organization and neatness have merit

Before writing out the exam:

- **Write down their key words**, listings, etc, as they are fresh in your mind.
  Otherwise these ideas may be blocked (or be unavailable) when the time comes to write the later questions. This will reduce "clutching" or panic (anxiety, actually fear which disrupts thoughts).

Set up a time schedule
to answer each question and to review/edit all questions

- If six questions are to be answered in sixty minutes,
  allow yourself only seven minutes for each
- If questions are "weighted",
  prioritize that into your time allocation for each question
- When the time is up for one question, stop writing,
  leave space, and begin the next question. The incomplete answers can be completed during the review time
- Six incomplete answers will usually receive more credit than three, complete ones

Read through the questions once and note if you have any choice in answering questions

- Pay attention to how the question is phrased,
  or to the "directives", or words such as "compare", "contrast", "criticize", etc. See their definitions in "Essay terms"
- Answers will come to mind immediately for some questions

Before attempting to answer a question, put it in your own words

- Now compare your version with the original.
  Do they mean the same thing? If they don't, you've misread the question. You'll be surprised how often they don't agree.

Think before you write:
Make a brief outline for each question
Number the items in the order you will discuss them

- **Get right to the point**
  State your main point in the first sentence
  Use your first paragraph to provide an overview of your essay.
  Use the rest of your essay to discuss these points in more detail.
  Back up your points with specific information, examples, or quotations from your readings and notes
- **Teachers are influenced by compactness,**
  completeness and clarity of an organized answer
- **Writing in the hope**
  that the right answer will somehow turn up is time-consuming and usually futile
- **To know a little and to present that little well is,**
  by and large, superior to knowing much and presenting it poorly--when judged by the MODULE received.

Writing & answering:

Begin with a strong first sentence
that states the main idea of your essay.
Continue this first paragraph by presenting key points

Develop your argument

- **Begin each paragraph**
  with a key point from the introduction
- **Develop each point**
  in a complete paragraph
- **Use transitions,**
  or enumerate, to connect your points
- **Hold to your time**
  allocation and organization
- **Avoid very definite statements**
  when possible; a qualified statement connotes a philosophic attitude, the mark of an educated person
- **Qualify answers when in doubt**.
  It is better to say "toward the end of the 19th century" than to say "in 1894" when you can't remember, whether it's 1884 or 1894. In many cases, the approximate time is all that is wanted; unfortunately 1894, though approximate, may be incorrect, and will usually be marked accordingly.

Summarize in your last paragraph
Restate your central idea and indicate why it is important.

Review:

Complete questions left incomplete,
but allow time to review all questions

Review, edit, correct
misspellings, incomplete words and sentences, miswritten dates and numbers.

Not enough time?

Outline your answers

See also: **Essay terms and directives**
For teachers: **Writing essay exams**

Writing and testing series

for essays, reports, tests..

"Directives" ask you to answer, or present information, in a particular way.
Review these, and most of all note that there are different ways
of answering a question or writing a paper!

Compare:
Examine qualities, or characteristics, to discover resemblances. "Compare" is usually stated as "compare with": you are to emphasize similarities, although differences may be mentioned.

Contrast:
Stress dissimilarities, differences, or unlikeness of things, qualities, events, or problems.

Criticize:
Express your judgment or correctness or merit. Discuss the limitations and good points or contributions of the plan or work in question.

Define:
Definitions call for concise, clear, authoritative meanings. Details are not required but limitations of the definition should be briefly cited. You must keep in mind the class to which a thing belongs and whatever differentiates the particular object from all others in the class.

Describe:
In a descriptive answer you should recount, characterize, sketch or relate in narrative form.

Diagram:
For a question which specifies a diagram you should present a drawing, chart, plan, or graphic representation in your answer. Generally you are expected to label the diagram and in some cases add a brief explanation or description.

Discuss:
The term discuss, which appears often in essay questions, directs you to examine, analyze carefully, and present

considerations pro and con regarding the problems or items involved. This type of question calls for a complete and entailed answer.

Enumerate:
The word enumerate specifies a list or outline form of reply. In such questions you should recount, one by one, in concise form, the points required.

Evaluate:
In an evaluation question you are expected to present a careful appraisal of the problem stressing both advantages and limitations. Evaluation implies authoritative and, to a lesser degree, personal appraisal of both contributions and limitations.

Explain:
In explanatory answers it is imperative that you clarify and interpret the material you present. In such an answer it is best to state the "how or why," reconcile any differences in opinion or experimental results, and, where possible, state causes. The aim is to make plain the conditions which give rise to whatever you are examining.

Illustrate:
A question which asks you to illustrate usually requires you to explain or clarify your answer to the problem by presenting a figure, picture, diagram, or concrete example.

Interpret:
An interpretation question is similar to one requiring explanation. You are expected to translate, exemplify, solve, or comment upon the subject and usually to give your judgment or reaction to the problem.

Justify:
When you are instructed to justify your answer you must prove or show grounds for decisions. In such an answer, evidence should be presented in convincing form.

List:
Listing is similar to enumeration. You are expected in such questions to present an itemized series or tabulation. Such answers should always be given in concise form.

Outline:
An outline answer is organized description. You should give main points and essential supplementary materials, omitting minor details, and present the information in a systematic arrangement or classification.

Prove:
A question which requires proof is one which demands confirmation or verification. In such discussions you should establish something with certainty by evaluating and citing experimental evidence or by logical reasoning.

Relate:
In a question which asks you to show the relationship or to relate, your answer should emphasize connections and associations in descriptive form.

Review:
A review specifies a critical examination. You should analyze and comment briefly in organized sequence upon the major points of the problem.

State:
In questions which direct you to specify, give, state, or present, you are called upon to express the high points in brief, clear narrative form. Details, and usually illustrations or examples, may be omitted.

Summarize:
When you are asked to summarize or present a summarization, you should give in condensed form the main points or facts. All details, illustrations and elaboration are to be omitted.

Trace:
When a question asks you to trace a course of events, you are to give a description of progress, historical sequence, or development from the point of origin. Such narratives may call for probing or for deduction.

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MODULE : 125

Guides: Reading and research

Reading

Reading and research series

Critical reading

Summarize, review and study your reading assignment, whether book, chapter, handout, article, whitepaper, etc.:

Characteristics of Critical Readers

- They are honest with themselves
- They resist manipulation
- They overcome confusion
- They ask questions
- They base judgments on evidence
- They look for connections between subjects
- They are intellectually independent

Ask yourself the following questions as you read:

- What is the topic of the book or reading?
  What issues are addressed?
- What conclusion does the author reach about the issue(s)?
- What are the author's reasons for his or her statements or belief?
  Is the author using facts, theory, or faith?

Facts can be proven
Theory is to be proved and should not be confused with fact
Opinions may or may not be based on sound reasoning
Faith is not subject to proof by its nature

- Has the author used neutral words or emotional words?
  Critical readers look beyond the language to see if the reasons are clear
- Be aware of why you do, or do not, accept arguments of the author

Reading and research series

Pre-reading Strategies

What you bring to the printed page
will affect how you understand what you read,
and may be what is most important in understanding what you read
Organize yourself before you read
Strategies to activate your prior knowledge:
Brainstorming:
Examine the title of the selection you are about to read
List all the information that comes to mind about this title

Use these pieces of information to recall and understand the material
Use this knowledge to reframe or reorder what you know, or to note what you disagree with, for further research

Group discussions:

Group discussions in and out of class will help you to discover what you bring to your reading, what your fellow students bring, as well as shared experiences
If you find they have new background information, ask for more information from them

Concept or mind mapping:

This is a type of brainstorming where you place the title/subject as the main idea,
then develop a "mind map" around it. It can be effective either in a group or by yourself

Pre-questions:

Often chapters in texts provide organizing questions.
You can also write out a series of questions you expect to be answered when reading:
Examples:

Definition:
What is....? Where does ... fit? What group does ... belong to?
Characteristics:
How would I describe...? What does ... look like? What are its parts?
Examples
What is a good example of ...?
What are similar examples that share attributes but differ in some way?
Experience
What experience have I had with ....? What can I imagine about ...?

Visual Aids:

Pictures and other visual material can activate your prior knowledge.
Use the Internet to search for pictures related to your title/topic to give you visual images of what you are about to read.

Advance Organizers:

Relate new reading material to something you already know, to your background or experiences. Ask your teacher for assistance in developing these.

Additional Pre-reading Strategies:

Overviews:

Discussing information about the selection or assignment prior to reading must take place.
This may take the form of class discussions, printed previews, photographs, outlines, or films. Spend enough time before the students begin the assignment to ensure understanding of it.

Vocabulary Previews:

Unfamiliar key words need to be taught to students before reading so that new words, background information, and comprehension can improve together.

List all words in the assignment that may be important for students to understand. Arrange words to show the relationships to the learning task. Add words students probably already understand to connect relationships between what is known and the unknown. Share information with students. Verbally quiz them on the information before assigned reading begins.

Structural Organizers: Before reading an assignment, basic frameworks which are included in the text should be pointed out such as cause-effect or problem-solution. It can be beneficial to call attention to specific plans of paragraph or text organization such as signal words, main idea sentences, highlighted phrases, headings and subtitles. A review of skimming techniques might also be appropriate as these various areas are covered.

A Purpose for Reading: When students have a purpose for reading a selection, they find that purpose not only directs their reading towards a goal, but helps to focus their attention. Purposes may come from teacher directed questions, questions from class discussions or brainstorming, or from the individual student. Along with the question, it is a good idea to pose predictions of the outcome and problems which need to be solved. These may be

generated by the student or the teacher, but the teacher should use these to guide students in the needed direction for the assigned selection.

Author Consideration: Depending upon the content area, a discussion of the author of the particular work can be helpful to the understanding of it. What is the author trying to say? What is his point of view and his reason for writing the particular work?

KWL: This strategy consists of three steps for students to use with expository text:
What do I **K**now? What do I **W**ant to learn? What did I **L**earn?
A good strategy for group discussions.
Develop a three column poster with each question in a column and list out responses.
See also: K - W - L

MODULE : 126

Reading and research series

SQ3R reading method

SQ3R is a reading strategy formed from its letters:

Survey! Question! Read! Recite! Review!

SQ3R will help you build a framework to understand your reading assignment.

Before you read, Survey the chapter:

- the title, headings, and subheadings
- captions under pictures, charts, graphs or maps
- review questions or teacher-made study guides
- introductory and concluding paragraphs
- summary

Question while you are surveying:

- Turn the title, headings, and/or subheadings into questions
- Read questions at the end of the chapters or after each subheading
- Ask yourself,
  "What did my instructor say about this chapter or subject
  when it was assigned?"
- Ask yourself,
  "What do I already know about this subject?"
  Note: If it is helpful to you, write out these questions for consideration.
  This variation is called SQW3R

When you begin to Read:

- Look for answers to the questions you first raised
- Answer questions at the beginning or end of chapters or study guides
- Reread captions under pictures, graphs, etc.
- Note all the underlined, italicized, bold printed words or phrases
- Study graphic aids
- Reduce your speed for difficult passages
- Stop and reread parts which are not clear
- Read only a section at a time and recite after each section

Recite after you've read a section:

- Orally ask yourself questions about what you have just read, or summarize, in your own words, what you read
- Take notes from the text but write the information in your own words
- Underline or highlight important points you've just read
- Reciting:
  The more senses you use the more likely you are to remember what you read Triple strength learning: Seeing, saying,

hearing
Quadruple strength learning: Seeing , saying , hearing, writing!!!

Review: an ongoing process

Day One

- After you have read and recited the entire chapter,
  write questions in the margins for those points
  you have highlighted or underlined.
- If you took notes while reciting,
  write questions for the notes you have taken
  in the left hand margins of your notebook.
- Complete the form for a *critical reading review*

Day Two

- Page through the text and/or your notebook to re-acquaint yourself
  with the important points.
- Cover the right hand column of your text/note-book
  and orally ask yourself the questions in the left hand margins.
- Orally recite or write the answers from memory.
- Develop mnemonic devices for material which need to be memorized.
  Make flash cards for those questions which give you difficulty.

Days Three, Four and Five

- Alternate between your flash cards and notes and test yourself
  (orally or in writing) on the questions you formulated.
- Make additional flash cards if necessary.

Weekend

- Using the text and notebook, make a Table of Contents - list all the topics and sub-topics you need to know from the chapter.
- From the Table of Contents, make a Study Sheet/ Spatial Map.
- Recite the information orally and in your own words as you put the Study Sheet/Map together.
- As you have consolidated all the information you need for this chapter, periodically review the Sheet/Map so that at test time
  you will not have to cram.

Reading and research series

KWL reading method

KWL is intended to be an exercise for a study group or class
that can guide you in reading and understanding a text.
You can adapt it to working alone, but discussions definitely help.
It is composed of only three stages that reflect
a worksheet of three columns with the three letters:

What we **K**now	what we **W**ant to know	what we **L**earned

K stands for Know

This first stage may surprise you:
Think first about, then list, what you know about the topic before reading!
This advanced organizer provides you with a background to the new material,
building a scaffold to support it.
Think of it as a pre-reading inventory.

- Brainstorm!
  Before looking at the text, think of keywords, terms, or phrases about the topic, either in your class or a study group.

- Record these in the *K* column of your chart until you cannot think of more.
- Engage your group in a discussion about what you wrote in the *K* column.
- Organize the entries into general categories.

W stands for Will or Want

The second stage is to list a series of questions of what you want to know more of the subject, based upon what you listed in **K**.

- Preview the text's table of contents, headings, pictures, charts etc.
  Discuss what you want to learn
- List some thoughts on what you want, or expect to learn, generally or specifically.
  Think in terms of what you will learn, or what do you want to learn about this.
- Turn all sentences into questions before writing them down.
  They will help you focus your attention during reading.
- List the questions by importance.

L stands for Learned

The final stage is to answer your questions,
as well as to list what new information you have learned.
Either while reading or after you have finished.

- List out what you learn as you read,
  either by section, or after the whole work, whichever is comfortable for you.
- Check it against the W column, what you wanted to learn
- Create symbols to indicate main ideas, surprising ideas, questionable ideas, and those you don't understand!

Expand this exercise beyond K W L:

Add an H!

Stands for **HOW** you can learn more.

- Pose new questions about the topic
- How can I learn more or answer questions not answered in my worksheet
  These include other sources of information, including: organizations, experts, tutors, websites, librarians, etc.

5 W's and an H

Another reading strategy is to answer the questions
that form the basis of good journalism:

Who What When Where Why and How

- Who are the main characters?
- What does the author say happened?
- Where did the action occur?
- When did it happen or what is the span of time?
- Why did this happen?
- How did it happen?

I keep six honest serving-men
(They taught me all I knew);
Their names are What and Why and When
And How and Where and Who.
I send them over land and sea,
I send them east and west;
But after they have worked for me,
I give them all a rest.

Kipling, Rudyard. (1902). "The Elephant's Child." In The Kipling Society.
Retrieved August 14, 2007, from http://www.kipling.org.uk/poems_serving.htm.

MODULE : 126

Reading series

Reading textsMarking & Underlining

Read a section of your text (that you own!)
that you consider "manageable" but make no entries
Review the section:
Number important or sequential ideas in the margins
Underline or highlight:

- **main subjects**
- **examples of these main ideas**
  that help you understand them
- **unfamiliar vocabulary and/or definitions**

Jot down paraphrases, questions, and summaries
in available space within the text
Develop a system to coordinate various sources
of information: workbooks, CDs, Web sites, classroom notes, etc.

Taking notes

First: read a section of your textbook chapter

Read just enough to keep an understanding of the material.
Do not take notes, but rather focus on understanding the material.

It is tempting to take notes as you are reading the first time, but this is not an efficient technique: you are likely to take down too much information and simply copy without understanding

Second: Review the material

Locate the main ideas, as well as important sub-points

- Set the book aside
- Paraphrase this information:
  Putting the textbook information in your own words forces you to become actively involved with the material

Third: write the paraphrased ideas as your notes

- Do not copy information directly from the textbook
- Add only enough detail to understand

Review, and compare your notes with the text,
and ask yourself if you truly understand

See also Concept mapping for a system of writing and organizing notes.

Reading and research series

Reading difficult material

Reading difficult material can be a matter of concentration
or of simply organizing the challenge into steps:

- Choose a moderate amount of material or a chapter to begin
- Get a grasp of how the material is organized:
  Scan the section for titles, headings, sub-headings, and topic sentences to get its general idea; pay attention to graphs, charts, and diagrams
- If there is a summary at the end of a chapter, read it.
- Check the beginning and the end for leading questions and exercises
- Read first for what you do understand, and to determine difficulty.
- Mark what you do not understand to review later

As you read, practice *the look-away method*:

- Periodically look away from the text
  and ask yourself a stimulus question relating to the text

- Phrase the question positively!
- Respond, or restate, in your own words

Make connections and associations,
but don't use this exercise to memorize--but rather understand

- **Look up words**
  Look up words whose meanings are important to your understanding of the material, but you cannot discern from the context.
- **Read to the end**
  Do not get discouraged and stop reading.
  Ideas can become clearer the more you read. When you finish reading, review to see what you have learned, and reread those ideas that are not clear.
- **Organize your notes by connecting ideas**
  you choose into an outline or *concept map*.
  Pay attention to relationships between ideas.

Do not confine yourself to words!
Use representations, graphics, pictures, colors, even movement to visualize and connect ideas. Use whatever techniques work to help you understand

At this point, if you do not understand your reading, do not panic!
Set it aside, and read it again the next day.
If necessary, repeat. This allows your brain to process the material, even while you sleep. This is referred to as *distributed reading*.

- **Re-read the section you have chosen with the framework**
  (outline or concept map) you have constructed in mind
  Separate out what you do understand from what you do not.
- **If the reading is still a challenge,**
  consult with either your teacher, academic counselors, or reading specialists.

Good luck!

MODULE : 127

Reading and research series

Interpretive or dramatic reading

Basically the reader is sharing an interpretation of an author with an audience, literally read and not memorized.

- Selections include stories, essays, speeches, raps, plays and scenes of plays.
- The reader communicates meaning and emotions to the listener,
  relying only on the spoken word through reading,
  without props, costumes, lighting or sound effects, or other devices including digital presentations, or wandering about a stage
- The reader assumes the identity of a character and portrays the dramatic, physical and emotional aspects of this character or of the situation
- External music or sound effects are to be avoided unless critical to the piece
- Stools and podiums for scripts may be used
- If there are several characters,
  each is identified through voice changes, gestures, and posture
- If there are more than one reader,
  there is no physical or eye contact between readers as in a play

Interpretive reading begins with a good understanding of the material

- The selection is focused and not too complex that the audience can identify with and understand it in one presentation
- The piece stands on its own: does it sound right? Will it be understood?
- What is the (your) emotional connection;
  how does it affect your reading and interpretation?

Once a reading is selected, analyze and study its sequence of thought:

- Summarize the general theme, or dominant meaning, you wish to convey

- Visualize or imagine a word picture that will help you relate your experience with the reading

What will be your introduction?

Capture the audience's attention, and set the stage for the reading, point of view, context, etc.

- From what work is this selection taken? What is the title? Who is the author?
- What is the context, and role of any character?
- If two or more pieces are read, transitions should set the stage and connect the pieces

Practice reading aloud for continuity and smoothness:

- Keep your mind on the connected thought as you read
- Do the sequences of sentences build the theme or story?
- Practice reading the story out loud to a trial audience

Format your oral presentation to the audience's ability to identify with, understand and enjoy the piece

Create an atmosphere or context with your voice:

expressive reading uses many vocal tools. Vocal qualities show differences in characters, development of the action, and indications of emotions

- Rhythm, pace and cadence include pauses and effective spacing for words
- Pronunciation of words pays attention to the enunciation of sounds. Practice difficult words and their sounds as vowels and consonants, especially leading and ending sounds.

Hear James Earl Jones recite the *American alphabet*

Emphasize prominent words or groups of words in order to make the meaning clear. Enunciate the final word in sentences

Pay attention to punctuation (comma, question, exclamation, etc.) and expressions

- Inflection: raising and lowering pitch, as loudness and softness
  For example, a rising inflection is used in asking a question and expressing happiness, an expression of joyousness and life. A falling inflection expresses seriousness, completing a thought, or an indirect question.

One strategy can be to read the sentences but in place of words use only a sound as mmm or ahhhh.

- Use facial expressions and gestures, and timely, effective eye contact with the audience
- Bring out the music of the rhythm, but avoid sing-song reading.
  Adjust your voice in order to interpret the "music" and thought of the reading
  Deliberate or fast reading can convey emotion.

Reading and research series

How to read an essay *

Note: this excellent process can be applied to books, chapters in books, articles, and all manner of reading.

What is the title?

What does it tell you about what the essay is about?
What do you already know about the subject?
What do you expect the essay to say about it--especially given when it was written and who the author was (see next questions)?

When was the essay written?

Do you know anything about the state of the historical literature on the subject at that time?
If so, what do you expect the essay to say?

Who wrote it? What do you expect him or her to say?
What are the author's credentials, or affiliations?
What are his/her prejudices?
Are you familiar with the authors' other work related to the subject?

Read the essay, marking the information that is crucial to you.
When the text gives you crucial information, mark and note it:
What exactly is the subject?
How does it correspond to the title?
What are the main points--the theses?
What is the evidence that the author gives to sustain the thesis or theses?

What is the factual information that you want to retain?
Is there a good description of something you knew, or did not know, that you want to remember its location. If so, mark it. If for research, make out a research note on it.

Does the author cite some important source that you want to retain for future reference?
If so, mark it. If for research, make out a bibliographic note either now or on reviewing the article for such citations.

Once you have finished the article, reflect on:
What have you learned?
How does it relate to what you already know?
Did you find the argument convincing on its own terms?
Given what you know about the subject, do you think the main point(s) might be correct even if the argument was not convincing?
Can you think of information that makes you doubt the main point(s), even if the essay argued it well?
How does the essay relate to other things you have read--that is, how does it fit in the historical literature?

Make out a summary sheet on the essay

Reading and research series

Reading fiction

Many types of fiction give us great reading pleasure:
novels and short stories can be historic, westerns, science fiction, thrillers, romance, horror, etc. The following can provide a framework for discussing these in book clubs and for writing book reports.
Point of view: ***test your knowlege*** **(narrator and character types)**
An author creates a person to tell the story, and this person is the narrator.
The narrator delivers the point of view of the story.
Multiple narrators of the story can also present multiple points of view.
A first person narrator
uses the pronoun "I" to tell the story, and can be either a major or minor character.
It may be easier for a reader to relate to a story told in a first person account.
A subjective narrator is generally unreliable
because he/she is in the story,
and can only speak to his/her experience within it.
A second person narrator
uses the pronoun "you" and is not used very often since it makes the reader a participant in the story (and you, as reader, may be reluctant to be in the action!).
A third person narrator
uses the pronoun "he" or "she" and does not take part in the story.
An objective narrator is an observer
and describes or interprets thoughts, feelings, motivations, of the characters. Details such as setting, scenes, and what was said is stronger with an objective observer
An omniscient (omniscient = all knowing) **narrator has access to all**
the actions and thoughts within fiction
A limited narrator has a restricted view of events,
and doesn't "know" the whole story
Questions:

- **How much does the narrator know?**
  Does he or she know everything, including the thoughts, feelings, motivations, etc. or present just limited information?
  Do you (the reader) know more?

- **Time?**
  Do events take place "now" (verbs in the present tense)?
  or in the past (verbs are in the past tense)?
  Are past recollections fresh, or distant, and maybe hazy?
- **Is the narrator a participant in, or a witness to, the action?**
  Is the story second-hand, related "as told to" the narrator?
  Think of yourself telling someone something that happened:
  How much of the event do you know, and how does that affect the story?
- **Why is the story being told, and why now?**
  What is the motivation?

Character types in fiction

Characters are the people of a story, or the opposing forces.
A protagonist or hero/heroine is the central character of the story.
An antagonist is the counterpart to the protagonist
Tension between the protagonist and antagonist creates the story.
Speech, thoughts, actions, appearance, desires, and relationships reveal characters, and each undergoes development and/or change as the story unfolds.
Static characters are role players, and may not "develop."

Questions:

- Can the protagonist and antagonist be the same person?
- Can events or situations act as an antagonist?
- How do your characters speak? How does it affect the dialogue?
- What effect has the social class of the characters?

Environment

Environment consists of the time, place, and mood of a story.

- How does the setting affect the story?
  Are the situations happy, unhappy, mysterious, joyful, what?
- Where does the story take place: in nature, in a city, within a room?
  How does location affect the story?
- How is emotion created?
  Is it dramatic at the outset, or build in intensity?
  Maybe the effect is to maintain a certain evenness throughout: creating its own type of tension?
- How would you change the setting of a story to change it?

MODULE : 128

Reading and research series

Reading fiction: narrator and character types

An exercise in narrator types or point of view in fiction:

First person | Second person | Third person
Limited | Omniscient

Summary of exercise:

Point of view: narrator and character types

An author creates a person to tell the story, and this person is the narrator.
The narrator delivers the point of view of the story.
Multiple narrators of the story can also present multiple points of view.

A first person narrator

uses the pronoun "I" to tell the story, and can be either a major or minor character.
It may be easier for a reader to relate to a story told in a first person account.

A subjective narrator is generally unreliable

because he/she is in the story,
and can only speak to his/her experience within it.

A second person narrator
uses the pronoun "you" and is not used very often since it makes the reader a participant in the story (and you, as reader, may be reluctant to be in the action!).
A third person narrator
uses the pronoun "he" or "she" and does not take part in the story.
An objective narrator is an observer
and describes or interprets thoughts, feelings, motivations, of the characters. Details such as setting, scenes, and what was said is stronger with an objective observer
An omniscient (omniscient = all knowing) **narrator has access to all**
the actions and thoughts within fiction
A limited narrator has a restricted view of events,
and doesn't "know" the whole story
Questions:

- **How much does the narrator know?**
  Does he or she know everything, including the thoughts, feelings, motivations, etc. or present just limited information?
  Do you (the reader) know more?
- **Time?**
  Do events take place "now" (verbs in the present tense)?
  or in the past (verbs are in the past tense)?
  Are past recollections fresh, or distant, and maybe hazy?
- **Is the narrator a participant in, or a witness to, the action?**
  Is the story second-hand, related "as told to" the narrator?
  Think of yourself telling someone something that happened:
  How much of the event do you know, and how does that affect the story?
- **Why is the story being told, and why now?**
  What is the motivation?

Reading and research series

Reading speed & comprehension

Reading rates

- **Each type of reading has a different rate;**
  an exciting novel is a quicker read than a text in biology.
- **Text books vary in how well they are written;**
  as a consequence some are more difficult to read.
- **Each semester, time yourself reading a chapter**
  in each of your text books. See how many pages an hour you can read. Once you have an accurate estimate of your reading rate, you can better plan your reading time and studying time.
- Test your reading speed

Comprehension

Scan the chapter first.
Identify the sections to which the author devotes the most amount of space. If there are lots of diagrams for a particular concept, then that must also be an important concept. If you're really pressed for time, skip the sections to which the least amount of space is devoted.
Read the first sentence of every paragraph
more carefully than the rest of the paragraph.

- **Take notes on headings and first sentence**
  of each paragraph before reading the chapter itself.
  Then close your book and ask yourself what you now know about the subject that you didn't know before you started.
- **Focus on nouns and main propositions in each sentence**. Look for the noun-verb combinations, and focus your learning on these.
- **For example, consider the following text:**

Classical conditioning is learning that takes place when we come to associate two stimuli in the environment. One of these stimuli triggers a reflexive response. The second stimulus is originally neutral with respect to that response, but after it has been paired with the first stimulus, it comes to trigger the response in its own right.
Rather than read every word, you might decode this text graphically:

Classical conditioning = learning = associating two stimuli
1st stimulus triggers a response
2nd stimulus = originally neutral, but paired with 1st --> triggers response.

Rather than reading and re-reading your text, take notes in this form, so that you've re-written the important parts of the text. Once you have written notes, you don't have to worry about the text itself.

MODULE : 129

Research

Elements of a Research Paper

Set the stage; state the problem (introduction)

- **Topic:**
  generally describe the topic and how it fits into your field of study
- **Set the scene**
  Describe the environment and its conditions
  Get permission before using personal information
- **Introduce and describe the problem**
  Describe what you intend to show/argue and why
  What is its significance?
  Illustrate the problem with an interesting example
  (Remember you are writing for an audience and want to capture their interest)
- **Begin to define terms, concepts, vocabulary**
  If possible, use one authoritative source or combine definitions and footnote your sources
  Later in the development of your paper, be conscious of using new terms and their definitions
- **Since *tasks begun well, likely have good finishes*** (Sophocles)
  review the topic, scene, and problem with your teacher or supervisor to verify if you are on the right path

Review the Literature

What research is relevant?
How is it organized? c.f.: Writing Center/University of Wisconsin's Review of literature

Develop your Hypotheses

Your hypothesis is your proposed explanation that you will test to determine whether it is true or false
It will contain measurable variables (those that change or can be manipulated)
with results that can be compared with each other.
Avoid over-generalizing, and reference the research findings of others to support why you think this will work
C.F. National Health Museum's Writing Hypotheses: a student lesson

Methods

Give enough information so that others can follow your procedure,
and can replicate it (and hopefully come up with the same findings and conclusions as you did!)

- Describe your procedure as completely as possible so that someone can duplicate it completely
- Define your sample and its characteristics
  These should be consistent throughout the test
- List the variables used
  These are what change, or that you manipulate, throughout the test
- Try to anticipate criticism that affects either your internal or external validity
  These might be considered "flaws"

Findings

This is descriptive and numeric data

Discussion

Develop your argument based upon your findings.
While the data may read for itself, you will need to interpret

- how it validates your hypothesis
- what falls outside of validity
- how it impacts the literature you cited
- where further research is needed

Conclusion

Restate and summarize your findings and discussion either in order to simply complexity or to provide a summary for those who skip to it!

References

Verify with your teacher the proper format

Recommendations:

A research paper is not an essay, an editorial, or a story.
All assertions of fact must be documented.
Be careful of any generalizations that you make.
Strive to be value-free in your inquiry.
Review our *Guide on the Scientific Method*

...it's worth stressing that the evaluation of your paper will never be determined by whether or not your hypotheses are verified. It is important to remember that a hypothesis supported by the data does not mean that it is true as there conceivably is an infinite number of other theories that lead to the same prediction. Similarly, failure of support does not necessarily mean that your hypothesis is wrong: it may be hold true in some populations, you may have incorrectly measured your theory's concepts, your sampling may be flawed, etc. Philosopher Karl Popper, in fact, argues that science is not a method for verifying hypotheses. Instead, all that science can logically lead to is the falsification of hypotheses. In sum, negative results can be every bit as important as positive ones. 1Marvin Harris (Cultural Materialism 1979:7)"facts are always unreliable without theories that guide their collection and that distinguish between superficial and significant appearances." 1

Reading and research series

Researching on the Internet

How do I search the Internet?

- **Narrow your topic and its description;**
  identify and pull out key words, phrases and categories
- **Use a search engine: does it contain a directory of topics?**
  Find the best combination of key words to locate information you need;
  Enter these in the search engine
- **Get assistance from your local research librarian**
- **Refer to known, recommended, expert, or reviewed web sites**
- **Refer to professional portals**
  that may have directories or collections by topic
- **Review the number of options returned.**
  If there are too many web sites, add more keywords.
  If there are too few options, narrow/delete some keywords,
  or substitute other key words
- **Review the first pages returned:**
  If these are not helpful, review your key words for a better description
- **Use *advanced search* options in search engines:**
  Search options include
  - Key word combinations, including Boolean strings

- Locations where key words are found
  For example: in the title, 1st paragraphs, coded metadata
- Languages to search in
- Sites containing media files
  (images, videos, MP3/music, ActiveX, JAVA, etc.)
- Dates web sites were created or updated

- **Research using several search engines**
  Each search engine has a different database of web sites it searches
  Some "Meta-Search" engines actually search other search engines!
  If one search engine returns few web sites, another may return many!
- **Evaluate the content of the web sites you've found:**
  Refer to the Study Guide "Evaluating web site content"
- **Track your search:**
  List resources you checked; the date your checked them
  Identify the resource, especially its location and the date you found it
- **When printing, set your options to print the**
  Title of the page | the Web address | the date printed

What are some resources?

- **Search engines**
  Search Engine Colossus
  links to search engines from 148 countries
- **Directories that organize information and links**
  - *Open Directory Project*
    a comprehensive human-reviewed directory of the web
  - *IPL2*
    features a searchable, subject-categorized directory of authoritative websites; links to online texts, newspapers, and magazines; and the Ask an ipl2 Librarian online reference service
  - *Infomine*
    a comprehensive virtual library and reference tool for academic and scholarly Internet resources, including Web sites, databases, electronic journals, bulletin boards, listservs, online library card catalogs, articles, directories of researchers, and other types of information
- **Web sites devoted to particular topics**, including text, graphics, movies, music files.
  Examples include *Internet Directory for Botany, Phone-soft Internet Directory International organic Chemistry, Stock photography* (royalty free)
- **Government documents, forms, laws, policies, etc.**
  U.S. Government Printing Office disseminates official information from all three branches of the United States Federal Government
- **Services and information by**
  non-profit organizations and by for-profit businesses
- **LISTSERVs or discussion groups**: *L-Soft*:
  browse any of the 50,686 public LISTSERV lists on the Internet, search for mailing lists of interest, and get information about LISTSERV host sites
- **Resources at your local (public) library**
  These may require membership or registration
- **Newspaper, journal, magazine databases**
  Often restricted to subscribers, require registration, or can be fee-based for access

MODULE : 127

Reading and research series

Summarize your reading

An example of a summary form for an essay, book, chapter, etc.:
(make out your own form to suit your needs!)

This practice can help you document your studies,
and also provide a reference for later work:

Date:

Title of article, book, essay, etc.:

Author(s):

Publication information:

Subject:

Main point(s) or thesis:

What type of writing or essay?

Elaboration
How are the theses tested;
What sorts of methods are used:

What are the sources?

What is the historical context and/or reception/place in the literature

How persuasive or convincing is the author?

Additional notes/information:

Related works:

Writing series

Writing an essay: summarizing research

You've completed your research.
Take a moment now to summarize and print to keep perspective as you write.

This printed summary can now provide you with a reference to keep you on track in your writing process: pre-writing, rough draft and revisions. Another strategy is to develop the three ideas or themes with a five-paragraph essay as a start toward developing your writing assignment.

Text of the exercise:

1. Briefly summarize your topic or research question, and audience you will write for.
2. How has the topic narrowed or expanded?
3. Identify your main source of information
4. What is the most important concept or idea or argument you identified?
5. What the second most important concept or idea or argument you identified?
6. What the third most important concept or idea or argument you identified?
7. What are three key vocabulary words you identified?
8. What are two main points of view you identified?

Online learning series

Evaluating Website Content

I. The Problem

The Internet is a relatively new and untested information and communication medium.
As such, we need to evaluate, expand, and adapt existing criteria for evaluating content, as well as develop new techniques.

The Internet is a ubiquitous medium:
aside from questions of affordability, it is very pervasive in both authorship and audience. A web address is now an international information and persuasion medium

The Internet can very well be an unregulated and un-regulatable medium.
As such, it is the visitor to a website who must have both tools and responsibility to discern quality websites.

II.. Examples of the problem

Have you been to New Hartford, Minnesota? (Probably only virtually...)
What do you think of the distinguished academic study "Feline Reactions to Bearded Men" by Catherine Maloney, Fairfield University, Fairfield, Connecticut, Sarah J. Lichtblau, University of Illinois, Champaign, Illinois Nadya Karpook,
University of Florida, Gainesville, Florida Carolyn Chou, University of Pennsylvania, Philadelphia, Pennsylvania, Anthony Arena-DeRosa, H

III. Eight basic types of website purposes:

1. Personal with biographic data, often called "vanity pages"
2. Promotional to sell a product
3. "Current" to provide extremely up-to-date information, as for newspapers' sites
4. Informational to share information on a particular topic or hobby
5. Advocacy/persuasive as propaganda to convert you to particular point of view
6. Instructional to teach a unit or course of study;
7. Registrational to register for courses, information, and/or products, accumulate a database of, and simplify communication with, registrants
8. Entertainment!

IV. Contexts of website evaluation:

header * body * footer * navigation

V. Five evaluative guidelines from the School of Journalism & Library Science:

Authority Who is responsible for the page?
What are their qualifications and associations, and can you verify them?

Check the footer
for name of the web page author, his/her credentials and title, organizational affiliation. Is the information verifiable?

Currency Are dates clear when the website was first created and edited?

Check the footer
for when the website was created, and when last edited.

Check the content
for news items, indications that the site is actively maintained, acknowledgements/responses to visitors

Coverage What is the focus of the site? Are there clear headings to illustrate an outline of the content? Is the navigation within the website clear?

Check the header
for a clear title and web site description

Check the content
for headings and keywords

Check the navigation
to reflect content outline within the web site

Objectivity Are biases clearly stated? Are affiliations clear?

Check the content
for statement of purpose,
to determine the type of web site and potential audience

for outside links for information external to the website
for graphics and cues for affiliations
Check the header/footer and URL/domain (.gov .com .edu)
to determine organizational source of website and how this reflects on content type

Accuracy Are sources of information and factual data listed, and available for cross-checking

Check the content
for accuracy of spelling, grammar, facts(!), and consistency within website
Check content for a bibliographic
variety of websites (external links), of electronic media (electronic databases of references, established (print & on-line) journals, of electronic indexes (ERIC), and of books for comparative/evaluative purposes

VI. Bibliography (Author, web site, date last visited) related to evaluation:

(Western Illinois University) Bruce Leland
Evaluating Web Sites: A Guide for Writers (25 February, 2010)
(Babson College) Hope Tillman
Evaluating Quality on the Net (25 February, 2010)
(Saint Louis University) Craig Branham
Evaluating Web pages for relevance (25 February, 2010)
Well developed website with sections on Anatomy of a page, Page types, Web search strategies, and Glossary.

Reading and research series

MODULE : 129

Organizing research with computers& avoiding plagiarism

Plagiarism:

1. To use and pass off (the ideas or writings of another) as one's own.
2. To appropriate for use as one's own passages or ideas from (another). 1

***Plagiaries*:** accidental using and passing off someone's work or ideas as your own

This Guide is intended to help you avoid accidental plagiarizing

Why document your work with that of others?

Why reference, footnote, endnote?

- Your research will be better
  as you document the quality of your sources
- Your argument will be better
  with the support of authorities and statistics you quote, paraphrase, and summarize
- Your writing style will be better
  if your readers can see how you build on, and agree or disagree with the work of others
- Sometimes the source says it better
  and you may as well use it and cite it
- Your readers may be interested in exactly
  what your reference says, or in its context, etc.
- Citing sources may demonstrate that there are opposing points of view,
  even opposing statistics! or establish consistency for the sake of argument

When is it appropriate to reference another's work?

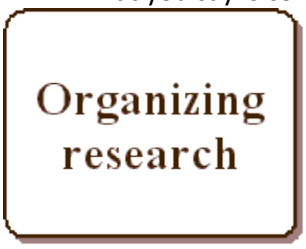
When you are

- Quoting directly
- Using unique expressions or ideas of another,
  whether from printed resources, the Internet, interviews, even casual conversations
- Documenting facts, reproducing images, tables, etc.
- Referencing opinions of experts,
  whether or not you agree with them
- Getting extraordinary help from someone,
  a tutor, a teacher, even a roommate or parent. Why not?

When don't you reference:

When

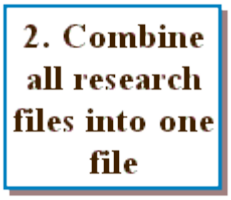
- A fact or idea is commonly understood
- A reasonable search has led to no author or source
  (for example the phrase "give credit where credit is due" seems to be a common expression without an author
- What you say is commonly accepted and not cited elsewhere



When researching,
how can I organize
and keep track of my sources?

How can I use my computer effectively?

When beginning a project, create a new folder
Save all your research in separate files in this folder
Include bibliographic information: author; type of source; web address, publisher, etc.; date
Develop a "code" that will help you identify the type of source, the person responsible, and the date



Combine all research into <u>one</u> file

1. Save it as your research file in this folder, and keep it separate
2. Within this combined file, head each section of notes
   with the code you developed above
3. Do not alter this combined research file except to add new research/information

Duplicate your combined research file into a working duplicate
Use "save as" to create a second file of the research file

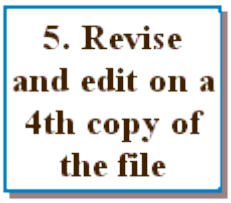
Use this file to organize your research

1. Use the copy and paste strategy to combine and organize the text, graphics and images
2. Create and bold face topics and sub-headings
3. Bold face and/or underline common terms, key words, duplicate expressions, arguments for and against
4. Delete all that is not useful
5. Save and store this second research file in the project folder
6. In a separate document, develop an outline or concept map of your paper

Create (save as...)
a third file from the re-organized research file

1. Add a couple blank pages at the beginning of this file.
2. Begin to write your draft.

3. Write from your outline/map and from what you remember of your research and preparation
4. Only look up the research when necessary in order to keep your focus on the writing.
5. Only copy and paste from your research when you quote directly
6. Indent quotations to separate them clearly within your draft
7. If you need to paraphrase or summarize, make it clear in the text
   (According to Joe Landsberger, ...)
8. After you complete this draft, save it in the project folder.



Create a fourth file from this third

1. Delete all the research at its bottom
   (Remember: you have not deleted anything in the second and third copies)
2. Revise this draft into your final paper
3. Cite any work of others from your research in footnotes and/or endnotes in the style required
4. Print this draft and review for any text or information you may have reproduced from the first file of your research

Writing series

Organizing research with note cards

The "Note Card System" can be very useful
when it comes to organizing information for a term paper or even a short two or three page paper.
By using this system, you create note cards from blank 3x5 or 5x7 index cards that you fill with information pertinent to the subject that you are researching. The organization of the information can readily be adapted to use with word processing...

- In the upper left corner of the card, **"code"** the topic of your paper, and where in the outline it may fall
- In the upper right corner, **place the author's name** and/or title and page number
- **In the body of the card**, enter one single fact or thought you'd like to include in your paper

Make sure the information is expressed in your own words,
unless it is a quotation;
Use good sentence structure:
this will save you time when you start to write the paper

- **Organize the cards** to coincide with the outline of your paper
- **Write the term paper following this sequence**
  Use topical, concluding, and transitional sentences to link the information on the cards
- **Keep a separate set of cards**
  with the complete information of books, magazines, films, etc. These will be used for entering footnotes and endnotes, and when compiling the bibliography

Citing Websites series

American Psychological Association style

Create your APA website citation: (Guidelines below)

General guidelines:
General format/sequence:
Author. (Date published if available; n.d.--no date-- if not). Title of article. *Title of web site* . Retrieved date. From URL.

- Separate each item of the citation with a period and two spaces
- Use hanging indents following the first line
- List entries alphabetically by author, if no author list the title first

Example:
Landsberger, J. (n.d.). Citing Websites. In *Study Guides and Strategies.* Retrieved May 13, 2005, from http://www.studygs.net/citation.htm.

Remember to refer to your department or instructor
as to the

- Type of style required
- Any variations. For example,
  -whether to include the retrieval date
  -how to cite digitial object locators
  (.pdf's, images, Flash pieces, etc.)
- Respective manuals for sequencing the list, for page notes, and for other detailed information
- Refer to the Basics of APA Style Tutorial for updates on the 6th edition, as well as the various citation types and options.

MODULE : 129

Guides: Math and science

Math

Testing with success series

Preparing for and taking math exams

Preparation:

- **Begin preparing early**
  Pay attention during class: every minute you daydream in class is many more minutes of studying later.
  Do assigned homework problems: math is a building process and in order to understand the next step you need to comprehend the present, and previous, ones
- **Simulate test conditions**
  After you have studied and think you know the material, practice it under test conditions. Solve unassigned homework problems and see if you can finish them in the allotted time for the exam
- **Know your professor**
  Study a copy of the exam of a previous class if available;
  Talk with someone who taken the professor before, preferably someone who has succeeded in the same class
- **Form a study group of 3-4 dedicated students**
  Not only will other students be able to help you with problems, but by helping others you will better learn the material. If you are unable teach another student a topic you believe you know, chances are you don't know that topic very well after all. If you can't teach it, you don't know it!

Testing:

- **Read through the exam**
  Reading through the whole exam you can
  1. know what is expected of you
  2. prioritize items on the test
  3. pace yourself.
- **Carefully read the instructions**
  Make sure you are answering the question that is being asked!
  Often students know how to solve a problem, but they misread or misinterpret the question itself
- **Check that you have correctly rewritten the problem**
  If you use a scratch piece of paper make sure that you correctly rewrite the problem.
  Don't skip steps. Start from the beginning;
- ***Clearly* write each step of the solution**
  Be neat and don't rush writing numbers down.
  Keep checking your solution as you are working.
  Neatness makes it easier to recheck your work;
- **Double check your math, especially your calculator entries**
  Double check your calculator work immediately.
  The chances of hitting a wrong number are high, but the chances of hitting the same wrong number are not;

- **Don't Dilly Dally**
  If you get stuck on a problem move on and come back to it later.
  When you are finished, recheck all your work.

Math series

Solving Linear Equations

Linear Equation:
a mathematical expression that has an equal sign and linear expressions
Variable:
a number that you don't know, often represented by "x" or "y"
but any letter will do!
Variable(s) in linear expressions

- Cannot have exponents (or powers)
  For example, ***x*** squared or x^2
- Cannot multiply or divide each other
  For example: "x" times "y" or xy; "x" divided by "y" or x/y
- Cannot be found under a root sign or square root sign (sqrt)
  For example: √x or the "square root x"; sqrt (x)

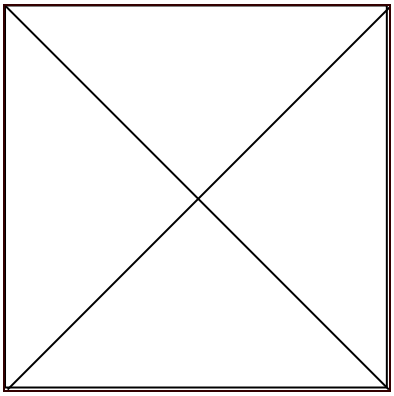
Linear Expression:
a mathematical statement that performs
functions of addition, subtraction, multiplication, and division
These are examples of linear expressions:

x + 4	2x + 4	2x + 4y

These are not linear expressions:

x^2	(no exponents on variables)
2xy + 4	(can't multiply two variables)
2x / 4y	(can't divide two variables)
√x	(no square root sign on variables)

Solve these linear equations by clicking and dragging
a number to the "other" side of the equal sign.
Remember that you are "isolating" the unknown "X" to solve the problem.
(More examples are provided below.)



More examples:

Linear equation, solving example #1:

Find x if: ***2x + 4 = 10***

1.	Isolate "x" to one side of the equation by subtracting 4 from both sides:	2x + 4 - 4 = 10 - 4 2x = 6
2.	Divide both sides by 2:	2x / 2 = 6 / 2 x = 3
3.	Check your work with the original equation:	2x + 4 = 10 (2 * 3) + 4 = 10 6 + 4 = 10

Linear equation, solving example #2:

Find x if: ***3x - 4 = -10***
(using negatives)

1.	Isolate "x" to one side of the equation by adding 4 to both sides:	3x - 4 + 4 = -10 + 4 3x = -6
2.	Divide both sides by 3:	3x / 3 = -6 / 3 x = -2
3.	Check your work with the original equation:	(3 * -2) - 4 = -10 -6 - 4 = -10

Linear equation, solving example #3:

Find x if: ***4x - 4y = 8***
(using more than one variable)

1.	First step is to isolate "x" to one side of the equation by adding 4y to both sides:	4x - 4y + 4y = 8 + 4y 4x = 8 + 4y
2.	Second step is to divide both sides by 4:	4x / 4 = (8 + 4y) / 4 x = 2 + y
3.	Check your work with the original equation:	4 * (2 + y) - 4y = 8 8 + 4y - 4y = 8 8 = 8

Linear equation, solving example #4:

Find x if: $x + 3^2 = 12$

Note: since the square is on the *number* and not on the variable, the expression qualifies as a linear expression

		$x + 3^2 = 12$
1.	First step is to square the number:	$x + 9 = 12$
		x + 9 - 9 = 12 - 9
2.	Second step is to subtract both sides by 9:	x = 3
		$3 + 3^2 = 12$
		3 + 9 = 12
3.	Check your work with the original equation:	12 = 12

Math series

Solving math word problems

There are two steps to solving math word problems:

1. Translate the wording into a numeric equation that combines smaller "expressions"
2. Solve the equation!

Suggestions:

- Read the problem entirely
  Get a feel for the whole problem
- List information and the variables you identify
  Attach units of measure to the variables (gallons, miles, inches, etc.)
- Define what answer you need,
  as well as its units of measure
- Work in an organized manner
  Working clearly will help you think clearly
  - Draw and label all graphs and pictures clearly
  - Note or explain each step of your process;
    this will help you track variables and remember their meanings
- Look for the "key" words (above)
  Certain words indicate certain mathematical operations:

Math expressions (examples):

after you review the keywords, test yourself

addition: 5+x	**subtraction: 5-x**
multiplication: 5*x; 5x	**division: 5 ÷ x; 5/x**
Exercise: ("mouse over" the block for answer)	
Key words for addition + *increased by; more than; combined together; total of; sum; added to*	
What is the sum of 8 and y?	8 + y
Express the number (x) of apples increased by two	x + 2
Express the total weight of Alphie the dog (x) and Cyrus the cat (y)	x + y
Key words for Subtraction - *less than, fewer than, reduced by, decreased by, difference of*	
What is four less than y	y - 4
What is nine less than a number (y)	y - 9
What if the number (x) of pizzas was reduced by 6?	x - 6
What is the difference of my weight (x) and your weight (y)	x - y
Key words for multiplication * x or integers next to each other (5y, xy): *of, times, multiplied by*	
What is y multiplied by 13	13y or 13 * y
Three runners averaged "y" minutes. Express their total running time:	3y

I drive my car at 55 miles per hour. How far will I go in "x" hours?	55x
Key words for division ÷ / *per, a; out of; ratio of, quotient of; percent (divide by 100)*	
What is the quotient of y and 3	y/3 or y ÷ 3
Three students rent an apartment for $ "x" /month. What will each have to pay?	x/3 or x ÷ 3
"y" items cost a total of $25.00. Express their average cost:	25/y or 25 ÷ y

More vocabulary and key words:

- **"Per" means "divided by"**
  as "I drove 90 miles on three gallons of gas, so I got 30 miles per gallon."
  (Also 30 miles/gallon)
- **"a" sometimes means "divided by"**
  as in "When I filled up, I paid $10.50 for three gallons of gasoline,
  so the gas was 3.50 a gallon, or $3.50/gallon
- **"less than"**
  If you need to translate "1.5 less than x", the temptation is to write "1.5 - x". DON'T! Put a "real world" situation in, and you'll see how this is wrong: "He makes $1.50 an hour less than me." You do NOT figure his wage by subtracting your wage from $1.50.
  Instead, you subtract $1.50 from your wage
- **"quotient/ratio of" constructions**
  If a problems says "the ratio of *x* and *y*",
  it means **"*x* divided by *y*"** or **x/y** or **x ÷ y**
- **"difference between/of" constructions**
  If the problem says "the difference of *x* and *y*",
  it means **"*x* - *y*"**

What if the number (x) of children was reduced by six, and then they had to share twenty dollars? How much would each get?	20/(x - 6)
What is 9 more than y?	y + 9
What is the ratio of 9 more than y to y?	(y + 9)/y
What is nine less than the total of a number (y) and two	(y + 2) - 9 or y - 7
The length of a football field is 30 yards more than its width "y". Express the length of the field in terms of its width y	y + 30

MODULE : 130

Math series

Solving Math Word Problems I

Exercise I directions:

- Drag the variables out of the word problem into the correct box

- Drag the correct operator (add, subtract, multiply, divide) into the box labeled "action"
- Click the equal sign to obtain the answer
- Proceed to the next problem**Math series**

Math series

Solving Math Word Problems I

Exercise I directions:

- Drag the variables out of the word problem into the correct box
- Drag the correct operator (add, subtract, multiply, divide) into the box labeled "action"
- Click the equal sign to obtain the answer
- Proceed to the next problem

Math series

Solving Math Word Problems II

Exercise II directions:

- Drag the variables out of the word problem into the correct box
- Drag the correct operator (add, subtract, multiply, divide) into the box labeled "action"
- Click the equal sign to obtain the answer
- Proceed to the next problem

Math series

Math series

Evaluating Algebraic Expressions

Order of Operations/P.E.M.D.A.S.: Exercise I

Evaluating algebraic expressions can be a simple process,
but needs to follow an order of operations to get the right answer.
The sequence details the order you follow to
add, subtract, multiply, and divide. The order is:

P.E.M.D.A.S.

Parenthesis | Exponents | Multiplication | Division | Addition | Subtraction

1. Perform the operations inside a parenthesis first
2. Then exponents
3. Then multiplication and division, from left to right
4. Then addition and subtraction, from left to right
5. You can also create a little phrase to memorize, as the sequence:

Another example:

3 * (5 + 8) - 2^2 / 4 + 3
Parenthesis first: 5 + 8 = 13
3 * 13 - 2^2 / 4 + 3
Exponent next: square the 2 or 2^2 = 4
3 * 13 - 4 / 4 + 3
Multiplication and **D**ivision next (3 * 13) (4 / 4)
left to right:
39 - 1 + 3
Addition and **S**ubtraction next
left to right:

39 - 1 + 3 = 41
Note that we first subtracted 1 from 39 (*left to right!*),
then added the 3 for the correct answer, **41**.

Math series

Evaluating Algebraic ExpressionsOrder of Operations

P.E.M.D.A.S.: Exercise II

Parenthesis | Exponents | Multiplication | Division | Addition | Subtraction

Work through this second exercise and do the math

1. Perform the operations inside a parenthesis first
2. Then exponents
3. Then multiplication and division, from left to right
4. Then addition and subtraction, from left to right
5. You can also create a little phrase to memorize the sequence:
   Please Excuse My Dear Aunt Sally

MODULE : 131

Math series

Creating and developing spreadsheets

Where did your money go?

Spreadsheets can help you with your financial calculations.
Develop a spreadsheet to analyze your expenditures for a month, or for whatever period you like,
and learn the basics of organizing budgets with key features of spreadsheets:

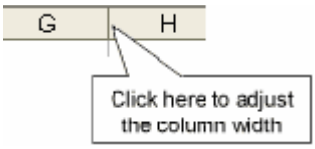
Open a new spreadsheet
Choose File: Save As and save the file as Financials.xls.
Make a habit of saving each spreadsheet immediately when you start because if something goes wrong (such as the dog tripping over the power cable and turning your computer off) a saved file is much easier to recover than an unsaved one
Begin to enter information:
Simply click on a cell and type your entry
If there's already something there, you don't need to delete it – just start typing and you will overwrite the current contents of the cell.
Click on cell B3 and type Date.
In future, when we want you to enter data into a cell, we'll simply write:
(B3) Date
Don't type the (B3) part; the brackets ( ) ask you to click/select the cell
Enter the following in their cells::

(C3) Amount	(D3) Food	(E3) Clothing	(F3) Rent	(G3) Entertainment	(H3) Other	(I3) Check	(J3) Comment

From these headings, you see that we will enter dates and amounts
then ‘analyze' the amounts into key areas of expenditures.

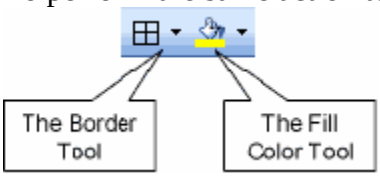
Your spreadsheet should now look like:

	A	B	C	D	E	F	G	H	I	J
1										
2										
3		Date	Amount	Food	Clothing	Rent	Entertainm	Other	Check	Comment
4										



In cell G3, the word Entertainment is too long to fit the cell, and so it has been cut short. Here's a simple way to make the cell wide enough. Double click on the line between the column headings G and H. This adjusts the column width to fit the information in its cell (column G).

To perform the same action to a number of cells at once, they need to be selected.



Click on B3 then hold down the mouse while you drag across to J3 and release the mouse.

Border tool:
Use the drop down menu of the Border tool to put a border around all the selected cells.
Fill Color tool:
Choose a color that you like to mark the cells as headings rather than data.
Light colored backgrounds with dark text colors work best for easier reading!
Now let's spend some money!

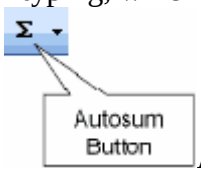
- First, a couple of examples for cell entries
  (It would be best if you entered some information of your own, so that you can see the analysis start to take shape for yourself)

In the first row, we will also fix up the formatting as we go and show you how to make sure that the formatting is repeated in the cells below. We start with the date.

(B4) 25/08
As soon as you type *25/08* and press <Enter>
the spreadsheet assumes that you have typed a date, and formats it as a date
The program also adds the current year to the data that you have typed, which you can see by double clicking on B4.
There's good news and bad news in this action of the program. It saves you time, if the date is what you want, but if you didn't mean to type a date, the cell will have been given a date format, which you may have to remove by selecting the cell and choosing Format: Cell: General.

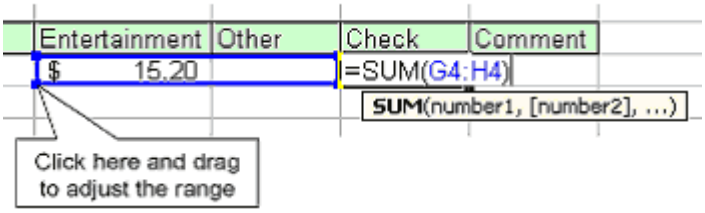
- So on the 25th August you spent $25.76 on a movie ($15.20) and a meal ($10.56)

Enter: **(C4) 25.76 (D4) 10.56 (G4) 15.20**
It's easy to make a mistake when typing, which is why we suggest a Check column.

Click on cell I3 and then on the 

Autosum button.

You'll see that the program adds the numbers in G4 and H4.
But you want the Check to add together all the numbers in cells D4:H4.
Drag the bottom left corner of the selected range across to D4 and the formula will automatically adjust



This feature of adjusting the range of a formula is really handy at times
The numbers that we have typed are all "dollar" amounts, and the formatting should reflect this.

Select **D4:I4** by clicking on D4 and dragging across to I4
On the Currency Style button (that's the one with a $ symbol).

Did you notice that there is a small triangular marker in the top left of cell I4?
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To see the comment, click on cell I4 and then hover over the **!** box.
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You can ask Excel to ignore this 'error' using the dropdown menu of this warning.
Adding the following data to the table

MODULE : 132

Math series

Creating and developing spreadsheets

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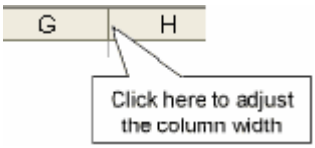

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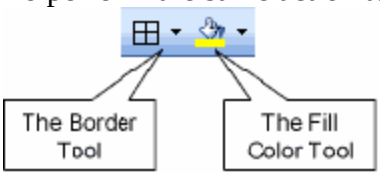

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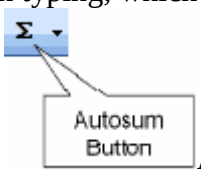
Click on cell I3 and then on the 

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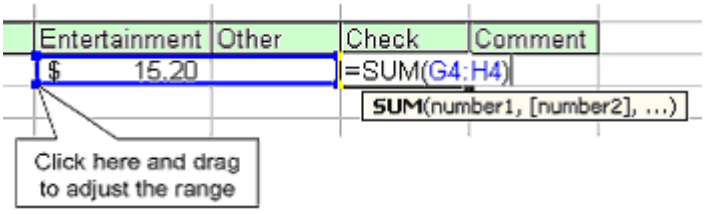

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But we don't want to include the Amount or Date columns in this summation. It's simply there so that we can immediately see if our analysis of the Amount is correct.
You can ask Excel to ignore this ‘error' using the dropdown menu of this warning.

Adding the following data to the table

- Leave Row 9 for later!

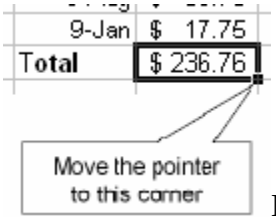
There is an error in Row 7 but we will correct that later also

	A	B	C	D	E	F	G	H	I	J
1										
2										
3		Date	Amount	Food	Clothing	Rent	Entertainment	Other	Check	Comment
4		25-Aug	$ 25.76	$ 10.56			$ 15.20		$ 25.76	
5		12-Aug	$ 32.50		$ 32.50				$ 32.50	
6		17-Aug	$ 125.00			$ 125.00			$ 125.00	
7		8-Aug	$ 35.75	$ 12.83			$ 22.50		$ 35.33	
8		9-Jan	$ 17.75					$ 17.75	$ 17.75	present for Ma
9		**Total**	$ 236.76	$ 23.39	$ 32.50	$ 125.00	$ 37.70	$ 17.75	$ 236.34	
10										

- To complete Row 9 of the table, you need to make:

(B9) Total
(C9) = SUM(C4:C8)
(Use the Autosum Button for this)

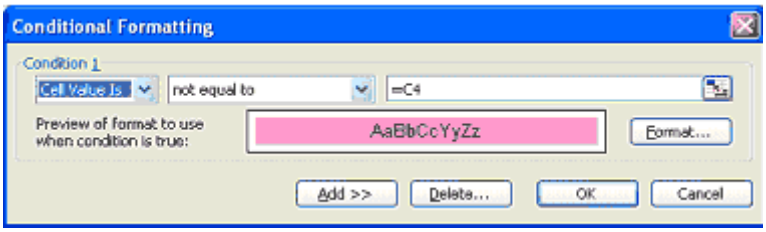
Fill handle:



Move the mouse pointer to the bottom right corner of C9 until it changes shape and becomes a vertical cross. This is called the Fill Handle
While it is showing, you can click down and drag across to I9 and the formula in C9 will be copied into or fill all the cells between C9 and I9.
The Fill Handle is a great time saver!

- In our diagram, we have put borders on Row 9.
  We did this by selecting B9:I9 and using the Border Tool to add the border that we wanted
- Before we fix our error in Row 7,
  here's a great technique for highlighting a part of a table that you need to pick out from the rest. Click on cell I3 and choose Format: Conditional Formatting. This allows you to apply a format to a cell if certain conditions are present.

Here, we want the condition to be as shown in the box below:



Set the centre box to “not equal to” and in the right-hand box type =C4.
Click on the Format button, choose the Pattern tab and select a colour that will show up whenever the analysis doesn't match with the amount.
Click OK to complete the formatting.
You won't see anything immediately, but if you use the Fill Handle to fill I4 down to I9, you'll see immediately where the error has occurred.
To fix the error, you make:
(C7) 23.25
Both the error and the warning sign disappear when you make correction!
Sort feature:
You may noticed that the information we added to the table is in no particular order.
Excel/spreadsheets can sort information

	A	B	C	D	E	F	G	H	I	J
1										
2										
3		Date	Amount	Food	Clothing	Rent	Entertainment	Other	Check	Comment
4		25-Aug	$ 25.76	$ 10.56			$ 15.20		$ 25.76	
5		12-Aug	$ 32.50		$ 32.50				$ 32.50	
6		17-Aug	$ 125.00			$ 125.00			$ 125.00	
7		8-Aug	$ 35.75	$ 13.25			$ 22.50		$ 35.75	
8		9-Jan	$ 17.75					$ 17.75	$ 17.75	present for Ma
9		Total	$ 236.76	$ 23.81	$ 32.50	$ 125.00	$ 37.70	$ 17.75	$ 236.76	

Select the whole of the table apart from the Totals. That is, select cells B3:I8 and choose Data: Sort . In the dialogue that shows, Excel suggests that you should sort by Date because that is the information in the first column. The program also detects that your data has a Header Row (i.e. the first row are the names of the columns in the table). For this data, both these choices are correct and we only need to click OK to have the table sorted by date. Otherwise, the program provides dropdown menus to enable you to change the Sort criteria.

- **Choose File: Save**
  to make sure that you don't loose all your hard work!
  You have created a simple financial analysis package.
  - We'd just like to make one last point. Unlike using a calculator, where the last number entered disappears as soon as you start on the next one, the numbers that you type into a spreadsheet are permanently on view and you can always go back and change one or two numbers that might have been entered in error without having to re-enter all the information. It's a great tool for financial analysis … and that's just the beginning!
    We hope that you will be able to find time to adapt it to your own needs!

Assignment links

MODULE : 133

operative learning series

Sudoku 数独 basic strategies 1

After you have completed the basic exercise above,
here is another strategy to consider.
The possibilities (in green) for nines in the fourth row are in the last two cells

7	9			2	4			
	5	6						
		2	9					

4	1 6 7	3	2	8	1 6	5	1 6 7 9	1 6 7 9
						~~9~~ .	~~9~~ .	~~9~~ .
						~~9~~ .	~~9~~ .	~~9~~ .
					9			

Because you must have a nine in the fourth row in the shaded box,
you cannot have a nine in the other rows of that shaded box (the red nines).

Another strategy:
What can you guess about the middle rows of the two shaded boxes?
Again, the possibilities for the middle row of the middle box are in green:

	5		6	1	8		5	
			2 5	2 5 9	2 9			
	2		7	3	4		6	

Answer:
What can you guess about the middle rows of the two shaded boxes?
Again, the possibilities for the middle row of the middle box are in green:

	5		6	1	8		7	
~~9~~	~~9~~	~~9~~	2 5	2 5 9	2 9	~~2 5 9~~	~~2 5 9~~	~~2 5 9~~
	2		7	3	4		6	

Answer:
In the middle box, only three numbers **2 5 9** are possible, and there are only three spaces available. Therefore, those possibilities are not possible in the spaces in the rows of the other boxes.
Since there already is a 5 and 2 in the left-hand box, that eliminates 2 and 5 in the middle row. ~~9~~ is not possible in its middle row since a nine must be in that row of the middle box..
In the right-hand shaded box, all three ~~2 5 9~~ are not possible in the middle row and must be options in its empty spaces.

Websites on Sudoku:

What's a Pappacom puzzle? What are symmetrical clues?
Computer-generated or hand-constructed puzzles?

1. Wikipedia
   All about Sudoku, strategies, etc.
2. Natural Maths Sudoku
   Use Microsoft Excel to help you learn to solve Sudoku

3. Websudoku:
   "Billions" to work online, four levels of difficulty,
   with checking feature
4. Sudoku . com. au
   Australian Sudoku solving on line with a picture for a reward!

Math series

Science and technology

Science and math series

Following the Scientific Method

Observe * Research * Hypothesize * Test * Conclude

The scientific method is a process
for forming and testing solutions to problems,
or theorizing about how or why things work.
It tries to reduce the influence of "faith" or bias or prejudice of the experimenter so that the process is valid anywhere in our world
The following exercise presents two options:

1. Working through steps of the scientific method
2. Solving an every-day problem with the scientific methodFrom the example,
   you can now repeat and demonstrate that the computer and television were the answer.
   You can repeat this condition, and predict the outcome (**experiment** or **test your theory**).

If not paying your bill was the problem, you can repeat that also,
but it can be expensive and inconvenient!

The Scientific Method
State the problem and observe conditions
Observe or wonder about something in your world, or in your class,
and wonder how, why, when, something occurs

- **Create a short, meaningful title**
  of your project
- **Write out a statement of purpose**
  that describes what you want to do
- **Make a careful, step-by-step notation**
  of your observation
- **Be objective!**
  and do not guess why something is happening. That takes place later
- **Gather information of similar research**
  This is a literature review
- **Identify significant conditions**
  or factors of the situation
- **Summarize the problem**
  in a clear, simple statement. Emphasize the end result or effect

Form your hypothesis
Research options:

- What are possible causes for what you observed?
- Could they reliably and consistently predict or determine the same outcome?
- What causes are the least likely to affect the outcome?
- What are the best choices?

Choose the best option
or answer to your problem as your **hypothesis.**
This will be an "educated guess" based upon both your observation and past experiences

State your hypothesis
in a simple, clear statement

Hypothesis:
a possible explanation for a cause and effect of a given situation or set of factors that can be tested, and can be repetitively proved right (or wrong!) (Remember: A hypothesis is not an observation or description of an event, that is in the first, observation stage!)

Test

Types of data you need

- The physical sciences of chemistry and physics rely heavily on numbers as data, and on replicable experimentation to measure and calculate results
- Sciences such as sociology rely on interviews and observation due to limitations of experimentation with human subjects, and use descriptions and inferences to arrive at results

Design an experiment to test your hypothesis

- Make a step-by-step procedure with each step's purpose
- List and obtain materials and equipment you will need
- Identify two groups in the test: the control group is your reference point; no variables are changed; the experimental group is the focus of changes to affect the outcome
- Rely on your past experience to identify variables, but consult with a knowledgeable person for a second opinion

Run a series of experiments

- Change only one variable in each experiment in order to isolate effects reliably
- Make and record accurate measurements
- Repeat the test as often as necessary with the experimental group to verify your results. Always change only one thing, or variable, in each test
- Repeat successful tests with other groups to verify your findings

Common mistakes

- The hypothesis is assumed
  to be the "answer" and is not supported with testing
- Data is ignored
  that doesn't support your outcome
- Beliefs/bias blind you to fatal flaws
  in the testing phase
- Systematic errors are not noticed
  and are repeated within each experiment. These bias the outcome's standard deviation
- Equipment or conditions are not adequate

Draw conclusions

- Summarize your results and conclusions use graphs and tables to illustrate these
- Refer back to your observations, data, and hypothesis for consistency
- Note difficulties and problems, items for further research, or what you would do differently if you could

If you did not prove your hypothesis, you have succeeded in another sense!

- Unsuccessful experiments provide information that can lead to answers by eliminating options
- save someone the trouble of repeating your experiments
- suggest other ways of solving similar problems

Remember: research builds on the work of others.

Science series

Reading assignments in science

First, get a perspective

- **Review the assignment in the syllabus and any handouts (1-2 minutes)**
  Maybe you are not required to read some sections
- **Survey the chapter (5-10 minutes)**
  for how the content is organized; get the "big picture"
  This is not to fully understand, rather develop preliminary associations of bits of information that later will help you understand

Quickly page through the introduction, the summary, vocabulary list, self-test questions, headings, boldfaced material, major graphics, etc.
Notice the major concepts, definitions, descriptions, causes, effects and arguments.

- **Check out the media, the CD and website (if available)**
  to see what they contain
- **Take no notes, and mark no text in this phase**

First reading

Make the main purpose of your first reading simply to read and get a good idea of the material: what you understand, and what you do not

A science text presents new and complex material which may be difficult to understand. One piece builds on another to help you build your understanding.

The text can provide the foundation for understanding, and bring together information in lectures, labs and hands-on experiments, field trips, and media.

- **Read sentences, paragraphs and short passages with 1-second pauses**.
  Read and pause, read and pause. Let your mind assemble the parts you just read to give you the meaning of the whole unit. This assembly of meaning happens fairly automatically as long as you are intentionally looking for meaning and paying attention to the meanings
- **Look back and forth between words and related graphics**
  until you can see/tell yourself how they are showing/saying similar things.
  A set of text passages that is related to graphics is very useful to understanding. There are many kinds of graphics: pictures, diagrams, maps, charts, tables, graphs
- **From time to time, ask yourself if you are "on track" to understanding**
  If you find yourself reading without understanding, stop and ask why.
  Is it a question of complexity or distraction? of preparation or terminology?
  If you think it is serious, ask your tutor, teacher or academic advisor for help
- **When you notice that the author is using comparisons and examples,**
  link them to their descriptions and explanations
- **If you are tired and meanings come very slowly into your mind, take a beak**
  If a break is not possible, vary your study activity. For example, draw a picture rather than write, walk instead of sit, read aloud rather than silently
- **If you return to reading after an absence,**
  scan the text and your notes again before reading to cue associations

Review of first reading

Return to what you do not understand, or want to reinforce

This is not the stage for memorization, but understanding

- **Mark or highlight what you think is important**
  In the margin, use or develop a system; use letters as
  "D" for a definition, "F" for a descriptive fact,
  "C" for a cause-and-effect statement, "A" for a scientific argument
  "?" for what you do not understand
  Other codes you invent for yourself.
- **New vocabulary**
  Write new vocabulary and concepts down
  along with a short meanings and/or cues
  Keep a list close by or in your notebook
- **Create your own visual pictures or images, or concept maps**
- **Create sensory cues**
  as heat, brightness, movements
- **Read a passage aloud** to yourself with normal conversational intonation. Your translation of printed text into spoken words may activate meanings.
  If you can't read aloud, imagine reading aloud and hearing your own voice
- **Work out your own explanations of hard-to-understand passages**
  Go in short units (a few words at a time), translate their meaning, think of associations, relate them to other

parts of the passage, make inferences and try to make your mental model of the meaning match the writer's mental model.

- **Mark passages** with a question mark that you still do not understand

A second reading

- **Only read the material again to understand it.**
  If you are comfortable with what you understand, proceed to other tasks, like solving problems, exercises, material on the CD or website, and so on
- **In this second reading, if you find you are still having difficulty try**
  The CD, video, or website
  The library and find other texts that may explain it better
  Ask the tutoring service or teacher for help
  Ask a study group about the material and their experience with it

Review your notes for what you:

- Need to review before any test
- Must memorize
- Need to complete exercises or solve problems
- Need for labs, experiments, future lectures, etc.

MODULE : 134

Science and math learning series

Writing Lab Reports & Scientific Papers

What lab reports and scientific papers do:

- **Persuade others**
  to accept or reject hypotheses by presenting data and interpretations
- **Detail data, procedures, and outcomes**
  for future researchers
- **Become part of the accepted body of scientific knowledge**
  when published unless later disproved
- **Provide an archival record**
  for reference and document a current situation for future comparison

Format:

The typical lab report includes: title, abstract, introduction, materials and methods, results, discussion, references and literature cited

Title:

- Reflect the factual content with less than ten words in a straightforward manner
- Use keywords researchers and search engines on the Internet will recognize

Abstract:

Summarize in a concise paragraph the purpose of the report,
data presented, and major conclusions in about 100 - 200 words.

Introduction:

- Define the subject of the report: "Why was this study performed?"
- Provide background information and relevant studies: "What knowledge already exists about this subject?"
- Outline scientific purpose(s) and/or objective(s): "What are the specific hypotheses and the experimental design for investigation?"

Materials and methods:

- List materials used, how were they used, and where and when was the work done (especially important in field studies)
- Describe special pieces of equipment and the general theory of the analyses or assays used
- Provide enough detail for the reader to understand the experiment without overwhelming him/her. When procedures from a lab book or another report are followed exactly, simply cite the work and note that details can be found there.

Results

- Concentrate on general trends and differences and not on trivial details.

- Summarize the data from the experiments without discussing their implications
- Organize data into tables, figures, graphs, photographs, etc. Data in a table should not be duplicated in a graph or figure
- Title all figures and tables; include a legend explaining symbols, abbreviations, or special methods
- Number figures and tables separately
  and refer to them in the text by their number, i.e.
  1. Figure 1 shows that the activity....
  2. The activity decreases after five minutes (fig. 1)

Discussion

- Interpret the data; do not restate the results
- Relate results to existing theory and knowledge
- Explain the logic that allows you to accept or reject your original hypotheses
- Speculate as necessary but identify it as such
- Include suggestions for improving your techniques or design, or clarify areas of doubt for further research

References & literature cited

- Cite only references in your paper and not a general bibliography on the topic
- Alphabetize by last name of the author
- Follow the recommended format for citations

General style

- Strive for logic and precision and avoid ambiguity, especially with pronouns and sequences
- Keep your writing impersonal; avoid the use of the first person (i.e. I or we)
- Use the past tense and be consistent within the report
  note: "data" is plural and "datum" is singular; species is singular and plural
- Italicize all scientific names (genus and species)
- Use the metric system of measurement and abbreviate measurements without periods (i.e. cm kg) spell out all numbers beginning sentences or less than 10 (i.e. "two explanations of six factors").
- Write numbers as numerals when greater than ten (i.e. 156) or associated with measurements (i.e. 6 mm or 2 g)
- Have a neutral person review and critique your report before submission

Workplace and writing series

Writing white papers

White papers

Form the foundation for a marketing strategy for your products for your potential clients
as well as the products' technical documentation

- Demonstrate your knowledge of client technology and its challenges
- Introduce your product or technology as innovative
- Emphasize the uniqueness and advantages of your solution
- Influence customer purchasing decisions

However, in this document, success is demonstrated in the force of your solution, not the hype around your product

Audience:

- Define characteristics of the targeted audience
- Highlight their concerns and problems
- Consider their time and method of reading such papers
- Provide an engaging though succinct initial overview/summary/abstract
  - Conclude with reviewing your solution
  - How it addresses the client's problem
  - follow up procedure

Format:

- Review successful papers for models of development
- Consider the venue for publishing
  Web site based presentations are written differently than paper published documents

- Keep the narrative positive, in active voice, and non-technical:
  Technical treatments are best left to the documentation
  Marketing language is best left to subsequent strategies

Begin with a

Well developed overview/executive summary/abstract

- Must capture your target audience's attention
- Content: A critical one-paragraph summary
  Provide material that gives them a good reason to read further,
  keeping in mind that busy executives may jump to the end paragraphs/conclusion

State the Problem

Two-to-three paragraphs demonstrating your knowledge of your clients' challenges and industry trends
Avoid hidden assumptions and agendas
Avoid technical complexity, acronyms, etc.
Define that which cannot be avoided and must be understood
Identify the main objectives of the paper

Describe your product

Incorporate design decisions; industry standards, testing and reliability;
best practices and ease of use
Liberally illustrate with simple and well-labeled diagrams and illustrations
(Rely on a graphic designer!)

Address how your product resolves the problem; tie the two together

Demonstrate with evidence
Illustrate with case studies and expert testimonials

Entice with

- benefits and returns on investment (ROI)
- future applications, developments, and timelines

Conclude: with confidence and credibility

Refer to the abstract and summarize your main advantages

Conduct an independent review of the paper before publishing

Publish

Seek out the most appropriate venues of your clients to promote your work.

Science and math series

Lab safety guidelines

General rules of conduct in the use of labs in a school environment:
Please note that all school and laboratory rules
superseded these guidelines:

- Work in the lab only when the teacher or lab instructor/supervisor
  is present or when you have permission to do so;
- Ask for and familiarize yourself with all manuals, resources and guidelines for working in your school's laboratories. These include safe work procedures, chemical safety information, laboratory equipment safety information and links to other resources. If you have any questions in preparation, do not hesitate to ask for updated or missing information;
- Learn the location and proper usage of the
  eyewash fountain, fire extinguisher, safety shower, fire alarm box, office intercom button, evacuation routes, cleanup brush and dust pan, glass/chemical disposal can and any additional safety equipment including evacuation procedures;
- Report all accidents regardless of how minor to your teacher or lab instructor/supervisor including contact with chemicals and minor burns, spills, etc.
- Keep a focus on your projects and experiments;
  do not play, joke, distract others,
  or engage in behavior that could lead to injury of yourself or others.
- Before beginning work in lab, prepare yourself with a thorough understanding of the instructions, objectives of the experiment, and understanding of the materials

- Begin with a clean work surface with your instructions clearly posted and available; have a clear, clean work space and eliminate unnecessary books, book bags, equipment, etc.
- Use goggles and lab aprons as instructed;
  wear appropriate clothing and avoid loose fitting garments that can cause spills as well as open-toed footwear or sandals
- Use care when accessing or transporting stock chemicals and only under supervision
- Use equipment only as directed;
- View the contents of experiments from the side;
  never directly into an experiment as in a test tube.
- Carefully smell experiments using your hand to "fan" the odor or fumes towards you and only when instructed to do so. Never directly above or in the container.
- Never taste or ingest chemicals or materials in the lab;
  do not bring food, drink and gum etc. into the lab area;
- Return all lab materials and equipment to their proper places after use as instructed; clean your lab space as instructed by your teacher or lab instructor/supervisor

Selected lab safety links and resources

- **The Laboratory Safety Institute**
  Free documents from the International Center for Science Safety
- **Princeton University Laboratory Safety Manual**
  a collection of resources for individuals working in research and teaching laboratories. It includes safe work procedures, chemical safety information, laboratory equipment safety information and
  links to other resources, both from Princeton and other organizations. It is a web-based living document, with new items being added or revisions taking place at any time.
- U.S. Department of Labor | Occupational Safety & Health Administration | Personal Protective Equipment | **Eye and face protection**
  "appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation"
- **Toxicity Profiles - Oak Ridge National Laboratory**
  The toxicity profiles in this database were developed using information taken from the United States Environmental Protection Agency's Integrated Risk Information System (IRIS) and Health Effects Assessment Summary Tables (HEAST) and other regulatory sources.
- **The National Toxicology Program** The National Institute of Environmental Health Sciences is one of the National Institutes of Health within the U.S. Department of Health and Human Services. The National Toxicology Program is headquartered on the NIEHS campus in Research Triangle Park, NC.
- **EPA Hazardous and Toxic Chemical Search -**
  Environmental Protection Agency
  chemicals that are monitored by EPA's Major Program Systems
- **Toxic Substances and Public Health** -
  U.S. Department of Health and Human Services
  The Agency for Toxic Substances and Disease Registry (ATSDR), based in Atlanta, Georgia, is a federal public health agency of the **U.S. Department of Health and Human Services**. ATSDR serves the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and diseases related to toxic substances.
- **Laboratory Survival Manual** - The University of Virginia
  policies and procedures that the University of Virginia has implemented to keep you and the environment safe from hazardous chemical exposure.
- **Laboratory Safety Resources** -
  Vermont Safety Information Resources
- Laboratory Safety Links: **A Baker's Dozen Safety Rules (Plus I)**:
  Carnegie Institution of Washington
- **Open Directory Project:**
  Education: K through 12: School Safety : **Labs and Experiments**
- US National Institute of Health's
  Bioethics Resources on the Web