

MANHATTAN
HUNTER
The City University of New York
SCIENCE
HIGH SCHOOL



Student Resource Manual
2007-2008

Dear MHS² member of the Class of 2008,

In his recent book, The World is Flat, Thomas Friedman describes the equation that augers success:

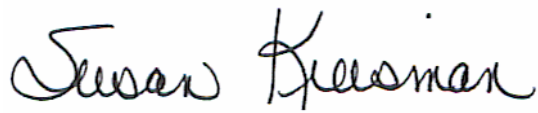
$$\mathbf{CQ + PQ > IQ}$$

Curiosity and **P**assion are more important than **I**ntelligence

As you engage in the wonderful opportunities that mark your senior year of high school, remember this equation and act on it by :

- Asking and embracing questions
- Searching for answers

I have every confidence in you now and wherever your curiosity and passion leads you.



Principal

The greatest danger for most of us lies not in setting our aim too high and falling short, but in setting our aim too low and achieving our mark. – Michelangelo

Study Groups

What are they?

Ask successful college students (and many studies have) what made them successful and all agree-study groups. A study group consists of a small (4-8) collection of students who are committed to personal success AND the collective success of the group. They meet at scheduled times in specific places to ensure that every member of the group has mastered the learnings of a lecture or reading and to prepare for examinations.

In high schools, you were often asked to work in cooperative groups in order to accomplish a task. Many of the skills you learned as a group member will serve you well as a member of a study group. At college, you will be expected to work as a cooperative group member – without the benefit of a teacher reminding you of your responsibilities or always being there to answer questions.

What should we do?

Probably one of the biggest differences between high school and college is the large group lecture. You will be expected to sit in a lecture hall and listen closely as a professor teaches. Each professor has a personal style – some may deliver lectures in a very sequenced and organized way with notes to guide your listening. Others may expect you to be responsible for following his/her train of thought – wherever that leads. Whatever the style of the professor, you will be held accountable for the information he or she presents.

A very important purpose of your study group will be to review lecture notes. You should meet with your study group as soon after a lecture is delivered as possible. This will help the members of the group gather, organize and internalize the learnings while they are still fresh in everyone's mind.

We recommend that you engage in a process of developing group notes of the lecture. The steps are as follows:

1. During the lecture, each individual takes notes
2. In study group, members use the lecture organizer. This organizer is designed to help you arrange your learnings in meaningful ways that will help you clarify what you learned and provide you with an organized reference to use in the future (remember: the squiggle that makes sense today, may not as you prepare to for a midterm.
3. Depending on the style of the professor, you may want to begin with a **KEY POINT** (a big idea) and then agree as a group to the important details that support the idea or you may need to begin with details, group them in some meaningful way and label them (you define the **KEY POINT**). Whichever route you take, you should summarize for yourself (using words or a diagram what the key point means).
4. When the organizer is completed, each group member should receive a copy that is dated and reviewed throughout th

STANDARD	OUTSTANDING	GOOD	SATISFACTORY	UNACCEPTABLE
ATTENDANCE	Perfect Attendance	Rarely Absent	Occasionally Absent-Misses work	Misses Often-Affects work
PUNCTUALITY	Never Tardy	Rarely Tardy	Several Tardies	Habitually Tardy
PREPAREDNESS	Always brings materials and work Body language, posture, eye contact always suggest positive learning attitudes	Rarely fails to bring material and work Body language , posture, eye contact frequently suggest positive learning attitudes	Occasionally lacks materials and work Body language, posture, eye contact sometimes suggest absent learning attitudes	Habitually lacks materials and work Body language, posture, eye contact habitually suggest absent learning attitudes
LEARNING BEHAVIORS	All behaviors are evidenced with frequency: Asks for help when needed Gives full explanations (Doesn't just provide answers) Relates what is being learned to previous knowledge Engages fully in classroom tasks Volunteers with meaningful input Completes work on time Never misses work or tests	Most behaviors are evidenced consistently: Asks for help when needed Gives full explanations (Doesn't just provide answers) Relates what is being learned to previous knowledge Engages fully in classroom tasks Volunteers with meaningful input Completes work on time Immediately makes up work or tests	Some behaviors are evidences: Asks for help when needed Gives full explanations (Doesn't just provide answers) Relates what is being learned to previous knowledge Engages fully in classroom tasks Volunteers with meaningful input Completes work on time Makes up work or tests with reminders	Few, if any behaviors are evidenced: None are displayed consistently: Asks for help when needed Gives full explanations (Doesn't just provide answers) Seldom relates what is being learned to previous knowledge Seldom engages fully in classroom tasks Volunteers with meaningful input Seldom completes work on time Seldom makes up work or tests with reminders Disrupts group processing and learning
COOPERATION/ COLLABORATION	Contributes well to group processing and learning by demonstrating positive interdependence, individual accountability and interaction Respects the learning of others	Participates in group processing and learning after encouragement Needs to be reminded occasionally of classroom rules and expectations	Functions independently during group processing and learning Needs teacher guidance to behave respectfully of the learning of others	Disregards the learning of others

STUDENT SKILLS RUBRIC

Your Attitude

A good attitude is more than half the battle of study. To have the desire to learn, to accept the assignments of the teachers as legitimate and welcome aids to study, to maintain by your own power a constant curiosity about what is coming next and a persistent will to do each day's work as well as possible - - all these things are part of a wholesome attitude.

Honesty - - with yourself, your classmates, and your teachers, punctuality for all classes and all assignments, willingness to read an unassigned chapter or to ignore the clock and polish a composition even better, ability to do tiresome things over and over without complaining - - all these things add up to an attitude that will make learning easy and successful.

The student who regularly protests, cuts corners, indulges in bluffing or cheating, skips classes, closes his mind in class, and reads the synopsis instead of the book is asking for the husks, the empty shells of learning. No matter how bright he may be, his attitude effectively cuts him off from learning and learners. Knowledge must be invited into the mind.

How can one acquire a proper attitude toward study? Consider, first of all, that an attitude is an emotion. It is the way you feel about something. It is not a solid fact, like the weight of a stone or the color of a tangerine. An attitude is subject to change. Think of a taste that you have changed. Probably you can name a once-favorite TV program that bores you now. You have outgrown childhood fears, or have learned to like certain foods that previously you refused to eat. Whether it was imitation or necessity or reason or merely growing up that influenced the change, it occurred; and by changing, you have fitted yourself more comfortably or more successfully into your environment. Do the same thing with studying. There are five aspects of mental attitude which, if you make them habitual, will help you to develop right methods of study.

Be willing. Some students come to school determined in advance to dislike everything. They know, before the first homework is assigned, that they will never be able to do it. They don't want to take algebra; they don't see why they should have to take algebra. They glance fearfully at the first page, and the mere sight of $a + b$ gives them such a fright that they bang the book shut and exclaim. "I told you I couldn't get it."

Well, they don't get it. They assure anyone who will listen that the lessons the teacher gives are too long, that they have found out already that all teachers "have it in for" them, the luckless ones, and they might as well quit. They might as well. Usually they don't, though; and by their persistent howling to and annoyance of fellow students, they cause other failures besides their own.

This is, perhaps, a little exaggerated - - but you know that sort of student. He has the habit of failing before he begins.

You also know the student who comes with a smile and tackles the job quietly. This student jumps with interest into all lessons to see what is in them. If he's asked to cooperate, he says, "Yes, I don't know much about it, but I'll try." His willing attitude is a habit. It is a first-class guarantee of success.

Be curious. There is an old story that curiosity once killed a cat, and for some reason we all conclude that it would be shameful to imitate the cat even in the slightest degree. Maybe we aren't fair to the cat. A grown-up; cat is a pretty wise sort of animal - - and he learns practically everything he knows by satisfying his curiosity.

Perhaps it is certain people who have given curiosity rather a bad reputation. Nobody likes a curious, snooping old lady - - or a young one either. Snoopers are curious about something that is none of their business, and usually about something that isn't important. They will worry for days until they find out just how much a neighbor paid for a new coat; or whether the gentleman who called at Helen's house last night is the same one who is calling there now, and whether he is selling washing machines or looking for a wife.

You never hear them wondering how labor problems are being worked out; or how they can get together to make the public places of their town beautiful; or whether modern literature is as good as that of Sinclair Lewis's day. The big, important things don't attract them. They spend their energy determining to a nicety just how many pairs of shoes somebody owns at this moment. This is petty curiosity. It is not the sort of curiosity recommended here.

Cultivate a deep, steady, intellectual curiosity about the unknown things. You probably love to wander in a new stretch of sunshiny woods, or along a pebbly beach, strewn with driftwood. Have you been curious about the source of a piece of driftwood, or how the inchworm camouflages itself against the sharp eye of the robin? If you find the answers to such questions, you are learning.

When the mind wanders thus among strange new things, we say that it wonders. We spell the word with an o instead of an a. Sometimes you say to yourself, "I wonder." The more often you do this, the more quickly you will learn.

Think about everything that comes into your life. Wonder about your food - - where it comes from, how it grows, why it makes you fat or thin, what makes one thing taste different from another. Wonder about your shoes - - how leather is tanned, how it is cut, trimmed, and sewed up in this style or that, what part is done by machinery, and what by hand. Wonder about your books - - how paper is made, how printing presses run, how an author works, how books are sold. Wonder and wonder until you find out.

While you are wondering, wonder about people. In that field of wondering you find many strange and fascinating adventures. Does a boy mean the rough things he says, or does he more often mean the opposite? Are girls really as superficial as they sometimes appear? Do people really love their clothes, or do they love the praise and admiration

that their clothes bring? Are teachers bosses or helpers? Which of your classmates are worthwhile young people? Why? Is it fair to flunk a pupil who has done his best? How do you know he did his best.

Be curious about ways to do things. Wonder how a plumber does his work; wonder how a contractor gets a house up; wonder how an engine works; wonder how farmers rotate crops; wonder how gas is made. Wherever you are, with whomever you speak, you can always learn something new. Every person is an undiscovered entity with a wealth of information; learn something from him. Make him give your mind something worthwhile.

Like your work. You have a right to enjoy yourself while you work. In this business of studying, you will find a great deal of fun in each subject - - if you just look for it.

Do you like to dance? Yes! Is it hard? No. Do you like to play basketball? Yes. Is it hard work? No. . The things we like to do are easy. Like your lessons, and see how easy they become. You can enjoy your hardest subjects if you will. The better you like to study, the better you will succeed.

Be earnest. Earnestness is seriousness - - an enthusiastic steadiness of purpose that brings success. Consider again the reasons for study, and realize the importance of your job. Don't dally; be earnest. Stop to reflect, digest your mental food, for deep thinking builds brain power. Earnestly set about the task of getting your money's worth out of this study-situation. You owe it to yourself; if you are not earnest you will cheat yourself miserably.

Be confident. Confidence is half the game. Skill and confidence are an unbeatable team. If you think you cannot put the ball through the basket, you cannot. If you think that in spite of that awkward angle and the lively guard, you can find the rim, you can, almost every time. Confidence is a feeling, an attitude - - cultivate it.

Lincoln once said, "What man has done before, man can do again." If you are discouraged, or find your subjects hard, think of that. Hundreds of boys and girls have taken algebra and succeeded with it. For hundreds of years pupils younger than you studied Latin and passed every year. Hundreds of students have wrestled with themes - - and won. If the men and women of that past do not impress you, consider some high school graduates you know. You can surely say to yourself, "They met the same difficulties I am meeting and conquered them. Why can't I do the same?"

Perhaps you are one of the students who see some others getting ahead of them, finishing lessons in half their time, responding more quickly and surely to class situations. Do not let that discourage you. Remember, above all things, that it is better to learn a few things thoroughly than to cover many hastily. There are different kinds of success. Yours may not be as bright and shining as some others you can see, but never lose confidence that you can succeed.

Succeed every day. Success is not a far-off thing, dimly associated with white dresses, stiff best suits, and rolls of parchment passed out under shining lights amid applause. It happens day by day. Get the habit of succeed every day. Do it the first day of school, and the second day, and the third day. Never let a day go down as unsuccessful.

Exercise your mind. If a boy wants to develop the muscles in his legs, his muscles become stronger, and he is ultimately in that splendid condition described inappropriately as “hard”. In truth, the muscle is supple and flexible, and quick as lightning to make the response to his mental commands. With such muscles, arrows are shot to split the wand, and world records are broken.

Surely one’s brain deserves as fair a treatment. The men who develop their brains to the point of suppleness and flexibility are the leaders who design great buildings, who invent new theories of life or science, who contrive machines to save physical labor, who have the knack of thinking of the right thing to do in any emergency, who fearlessly tackle and conquer the problems of life. Exercise builds the muscle that steadies the load; exercise builds the brain that succeeds. If you would develop your “brain muscle.” Avoid the easy jobs, the snap courses. Choose the harder of two tasks. Never be afraid to do a little extra work. If your assigned school tasks do not work your mind up to the limit of your capacity, assign yourself some more, until you know that your brain muscle has enough to do to keep in trim.

Don’t cheat your head. It is the instrument of both success and happiness.

Analyze YOUR Attitude

Use the following questions to guide you in making an analysis of your attitude toward school and study.

1. Has my attitude toward study so far been negative, indifferent, or positive? Explain why.
2. How broad is my curiosity ? What are some extremes that it covers? Name them.
3. Do I have confidence in myself?

Active Listening

Choose to tune in to what you are hearing.

1. Consciously decide to listen. When you begin to listen, tell yourself, "I am awake and alert, and I am choosing to listen carefully." Repeat this statement a few times with your inner voice when you start to listen or whenever you find your attention drifting away from the speaker. Or, make up a sentence of your own like the one above, and use it in a similar way.

2. Try to figure out how the presentation you are hearing is organized. Then, use your understanding of that organization to guide your listening.

Often a speaker will give you organizational clues; i.e., a chalkboard or printed outline or organizer, a verbal summary or a title. Clues like these can help you find the main idea and important details of a lecture or discussion.

Ask yourself: What is the speaker telling me about how this presentation is organized? What organization clues do I see or hear?

3. When you need to remember what you are hearing, take notes!

Taking notes about a presentation will help you identify the main idea and important details. Take notes that make sense to you. Use an organizer which seems to fit the pattern of the presentation. When you take good notes, you can use them later when you write responses or need to review for exams.

Ask yourself: What kind of organizer will be most useful to me?

4. While you listen, ask yourself questions about what the speaker is saying.

Remember, you can think three times as fast as the speaker can talk. Use your "extra time" to think about what he or she is saying. Try to make sense of the speaker's message.

Ask yourself: What is the speaker telling me?
What is he/she getting at?
How is he/she supporting the points being made?

5. Try to make a whole message of what you have heard. Then, evaluate it.

Take a few minutes at the end of the presentation for review. Go over the main ideas and important details which you have just heard. Try to make sense of them. Then evaluate what the speaker has said. What do you think about these ideas?

Ask yourself: What are the main ideas of the presentation?
How do these ideas fit together?
What do they mean?
In what ways does what I have heard make sense to me?

Study Skills

WHAT ARE STUDY SKILLS?

Study skills are skills for learning. These Skills are efficient ways of learning in school and elsewhere.

When you learn study skills, you learn how to learn better.

Another way to understand study skills or learning skills is to see them as problem solving methods. Every course that you take will present you with a variety of learning “problems” : for example, listening to a lecture and taking useful notes; working a problem set in math; reading a book and making sense of it; completing a science lab ; and preparing for and taking an exam. Developing effective study skills and using them will help you to solve learning “problem” like those which you will encounter.

Study skills are not a substitute for the work that learning requires. However, their use can make the effort and time you devote to learning more satisfying and rewarding.

HOW DO YOU LEARN STUDY SKILLS?

People learn study skills best by doing them, that is, practicing the skill. You’ll have the opportunity to try many of these skills.

To master a new skill, you usually need to practice it at least four times or more. The more comfortable and automatic the skill feels to you, the more effective you’ll be in using it.

When you first try a new study skill, it may feel uncomfortable or strange to you. Or, you may feel that the skill doesn’t help you much. Both of these experiences are common. Whenever you start to learn a new skill, it’s bound to feel unfamiliar. You may feel self-conscious and awkward at first. This is quite natural. Usually it takes at least a few practices to become both comfortable with the skill and good at it. So when you start to work with a new study skill, don’t give up after the first time you feel uncomfortable or frustrated. Practice the skill at least a couple of times, and then see how well it works for you.