

"...the intellect, which has been disciplined to the perfection of its powers, which knows, and thinks while it knows, which has learned to leaven the dense mass of facts and events with the elastic force of reason, such an intellect cannot be partial, cannot be exclusive, cannot be impetuous, cannot be at a loss, cannot but be patient, collected and majestically calm, because it discerns the end in every beginning, the origin in every end, the law in every interruption, the limit in each delay, because it ever knows where it stands, and how its path lies from one point to another."

— JOHN HENRY NEWMAN, *The Idea of a University*, 1852

HOW TO IMPROVE STUDENT LEARNING



30 Practical Ideas

Based on Critical Thinking Concepts and Principles

By DR. RICHARD PAUL and DR. LINDA ELDER

THINKER'S GUIDE LIBRARY



Contents

Introduction.....3

Recommended Design Features

- Idea #1: Design instruction so that on a typical day students take ownership of the content through guided activities involving reading, writing, speaking, and listening. 4–5
- Idea #2: Teach students how to assess their reading. 6
- Idea #3: Teach students how to assess their writing.....7
- Idea #4: Teach students how to assess their speaking..... 8
- Idea #5: Teach students how to assess their listening. 9
- Idea #6: Design tests with the improvement of student thinking in mind. 10–11
- Idea #7: Make the course work intensive for the students (but not for you).....12
- Idea #8: Use engaged lecture—when you do lecture.13
- Idea #9: Require an intellectual journal (when it is relevant to your class).....14

Orientation (first few days)

- Idea #10: Give students a thorough orientation to the course.15
- Idea #11: Develop a syllabus that highlights your expectations for the students. 16–22
- Idea #12: Give Students Grade Profiles..... 23–25
- Idea #13: Use a “student understanding” form.26
- Idea #14: Explain to the students, when orienting them to the class, what will happen on a typical class day (and why).....27
- Idea #15: Explain the key concept of the course explicitly during the first couple of class meetings.28

Contents, continued.

Idea #16:	Discuss class time as a time in which the students will practice thinking (within the content) using the fundamental concepts and principles of the field.....	29
Idea #17:	Make the point that the content of the course is a SYSTEM of interconnected ideas	30
Idea #18:	Present yourself as a coach (who designs activities that enable students to learn).....	31
Idea #19:	Discuss the textbook as the thinking of the author.	32

Daily Emphases

Idea #20:	Encourage students to think about their thinking—and model how you want them to do this	33
Idea #21:	Encourage students to think of content as a form of thinking	34
Idea #22:	Relate content whenever possible to issues and problems and practical situations in the lives of the students.	35
Idea #23:	Target common student disabilities using specific strategies for that end.....	36
Idea #24:	Use tactics that encourage active learning.....	37
Idea #25:	Routinely ask questions that probe student understanding of the content.	38
Idea #26:	Model skilled thinking for your students.....	39–40
Idea #27:	Cultivate important intellectual traits in instruction.....	41
Idea #28:	Bring intellectual standards into daily use.	42
Idea #29:	Have students role play ideas other than their own.	43
Idea #30:	Systematically question students using a Socratic approach.	44
Epilogue:	Summarize the ideas in this Guide to make the whole more intelligible.	45–46

Introduction

When students think within the content of our courses, they take ownership of the most basic principles and concepts within the subjects we teach. The instructional ideas in this guide are premised in this understanding. Most of our suggestions represent possible teaching strategies. They are based on a vision of instruction implied by critical thinking and an analysis of the weaknesses typically found in most traditional didactic lecture/quiz/test formats of instruction. We begin with two premises:

- that to learn a subject well, students must master the thinking that defines that subject, and
- that we, in turn, as their instructors, must design activities and assignments that require students to think actively within the concepts and principles of the subject.

Students should *master* fundamental concepts and principles before they attempt to learn more advanced concepts. If class time is focused on helping students perform well on these foundational activities, we feel confident that the goals of most instruction will be achieved.

It is up to you, the instructor, to decide which of these ideas you will test in the classroom. Only you can decide how to teach your students. Our goal is not to dictate to you, but to provide you with possible strategies with which to experiment. The specific suggestions we recommend represent methods and strategies we have developed and tested with our students. Judge for yourself their plausibility. Test them for their practicality. Those that work (i.e., improve instruction) keep; those that do not work, abandon or re-design.

The suggestions overlap each other and make most sense when taken together, as an interrelated network. Often one suggestion is made intelligible in the light of two or three others. So if one is not clear to you, read on. The strength of each of them, in re-enforcing each other, will then become increasingly clear.

Idea # 8:**Use engaged lecture.**

When lecture is essential, we recommend use of what we call an “engaged lecture” format. During the lecture, routinely stop and ask students to state in their own words their understanding of what you have said. This can be done through a “random card” format wherein you flip through a set of 3 by 5 cards, each containing one student’s name, calling on students randomly as their card happens to come up. You keep shuffling the cards to ensure that each new draw is completely random. You call on students in class to state, elaborate, exemplify, and illustrate (in their own words) the most important points in the lecture or in a chapter in the textbook. This strategy involves every student in the class (since any one of them may be called upon at any moment) and ensures that they are actively listening during the discussion.

In addition, randomly call on students to state in their own words comments made by other students. Begin by selecting one student to state her understanding of a concept or principle you introduced. Then randomly select another student to summarize what the first student said. Then ask the first person if the second person accurately represented what she originally said. We recommend that you do this several times during the lecture so students remain engaged in active listening. Model the kinds of questions you welcome.

Idea # 26:**Model skilled thinking
for your students.**

It is most likely the case that your students are unaware of what highly skilled thinking looks like. They have probably rarely seen it modeled, and even then it was probably only implicitly modeled. Rather than just thinking well in front of students, we advocate **explicit modeling** of skilled “moves.” This means not only thinking aloud in front of students, but also calling attention to the “moves” you are making.

Examples: In modeling disciplined thinking you might make moves such as these:

- ***focusing on purpose and question*** “If I had to solve a problem like this, I would first make clear what my main purpose is as well as the precise question I am trying to solve. So let’s take a couple of minutes to do that...”
- ***focusing on implications*** “Whenever I am thinking through an important complicated decision I always want to think through the implications of the various decisions I might come to. In other words I want to figure out what the likely consequences would be if I reasoned to this decision or that decision.”
- ***focusing on concepts*** “I realize that it is important to understand how authors are using concepts in their thinking. I therefore want to clarify the key concepts in the articles and books that I read. Let’s think aloud about what the author means when she uses the concept of x. I’ll begin. Perhaps she means y. Is that an accurate interpretation?”
- ***focusing on clarity*** I always want to be clear about the issue I am dealing with, about what another person is saying, about what I am reading, etc. Therefore when I am unclear in a discussion, I ask questions of clarification. When I am unclear about the issue at hand, I focus on clarifying the question — either by re-expressing the question in my own mind or asking others to clarify it. As I am reading, I repeat in my mind my understanding of the author’s meaning. I figure out what I understand and what I don’t understand about what the author is saying.

Idea # 30:**Systematically question students using a Socratic approach.**

The oldest, and still the most powerful, teaching tactic for fostering excellent thinking is Socratic teaching. In Socratic teaching we focus on asking students questions, not giving them answers. We model an inquiring, probing mind by frequently asking probing questions. Fortunately, the abilities we gain by focusing on the elements of reasoning, prepare us for Socratic questioning. Remember, there is a predictable set of relationships that hold for all subjects and disciplines, since every subject has been developed by those who had:

- shared **goals** and objectives (which defined the subject focus),
- shared **questions** and problems (whose solution they pursued),
- shared **information** and data (which they used as an empirical basis),
- shared modes of **interpreting** or judging that information,
- shared specialized **concepts** and ideas (which they used to help them organize their data),
- shared key **assumptions** (that gave them a basis from which to collectively begin), and
- a shared **point-of-view** (which enabled them to pursue common goals from a common framework).

Each of the elements represents a dimension to be questioned. We can question goals and purposes. We can probe into the nature of the question, problem, or issue that is on the floor. We can inquire into whether or not we have relevant data and information. We can consider alternative interpretations of the data and information. We can analyze key concepts and ideas. We can question assumptions being made. We can ask students to trace out the implications and consequences of what they are saying. We can consider alternative points of view. All of these, and more, are the proper focus of the Socratic questioner.

As a tactic and approach, Socratic questioning is a highly disciplined process. The Socratic questioner acts as the logical equivalent of the inner disciplined voice of reason (which the mind develops when it develops excellent thinking in any subject). The contributions from the members of the class are like so many thoughts in the mind. All of the thoughts must be dealt with and they must be dealt with carefully and fairly. By following up all student answers with further questions, and by selecting questions which advance the discussion, the Socratic questioner forces the class to think in a disciplined, intellectually responsible manner, by continually aiding the students by facilitating questions.

A Socratic questioner should: a) keep the discussion focused, b) keep the discussion intellectually responsible, c) stimulate the discussion with probing questions, d) periodically summarize what has and what has not been dealt with and/or resolved, and e) draw as many students as possible into the discussion.