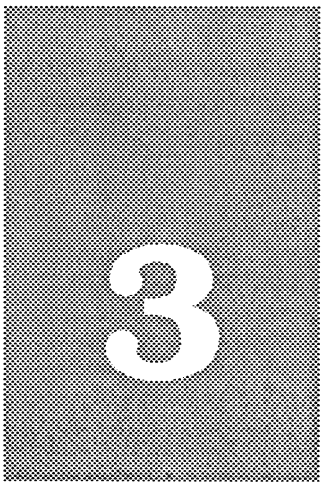

Global Critical Thinking Strategies: Beyond Compartmentalized Subject-Matter Teaching

I. The Role of the Teacher

A teacher committed to teaching for critical thinking must think beyond subject matter, teaching to ends and objectives that transcend subject matter classification. To teach for critical thinking is, first of all, to create an environment in the class and in the school that is conducive to critical thinking. It is to help make the classroom and school environment a mini-critical society, a place where the values of critical thinking (truth, open-mindedness, empathy, autonomy, rationality, and self-criticism) are encouraged and rewarded. In such an environment, students learn to believe in the power of their own minds to identify and solve problems. They learn to believe in the efficacy of their own thinking. Thinking for themselves is not something they fear. Authorities are not those who tell them the "right" answers, but those who encourage and help them to figure out answers for themselves, who encourage them to discover the powerful resources of their own minds.

The teacher is much more a questioner than a preacher on this model. The teacher learns how to ask questions that probe meanings, that request reasons and evidence, that facilitate elaboration, that keep discussions from becoming confusing, that provide incentive for listening to what others have to say, that lead to fruitful comparisons and contrasts, that highlight contradictions and inconsistencies, and that elicit implications and consequences. Teachers committed to critical thinking realize that the primary purpose of all education is to teach students how to learn. Since there are more details than can be taught and no way to predict which the student will use, teachers emphasize thinking about basic issues and problems. Thus, details are learned as a necessary part of the process of settling such questions, and so are functional and relevant.

The teacher who teaches students how to learn and think about many basic issues gives them knowledge they can use the rest of their lives. This teacher realizes that subject matter divisions are arbitrary and a matter of convenience; that the most important problems of everyday life rarely fall neatly into subject matter divisions; that understanding a situation fully usually requires a synthesis of knowledge and insight from several subjects. An in-depth understanding of one subject requires an understanding of others. (One cannot answer questions in history, for

example, without asking and answering related questions in psychology, sociology, etc.) Students must discover the value of "knowledge" "evidence," and "reasoning" by finding significant payoffs in dealing with their everyday life problems outside of school. Recognizing the universal problems we all face, the teacher should encourage each student to find personal solutions through self-reflective experiences and thought processes:

> Who am I? What is the world really like? What are my parents, my friends, and other people like? How have I become the way I am? What should I believe in? Why should I believe in it? What real options do I have? Who are my real friends? Whom should I trust? Who are my enemies? Need they be my enemies? How did the world become the way it is? How do people become the way they are? Are there any really bad people in the world? Are there any really good people in the world? What is good and bad? What is right and wrong? How should I decide? How can I decide what is fair and what is unfair? How can I be fair to others? Do I have to be fair to my enemies? How should I live my life? What rights do I have? What responsibilities?

The teacher who believes in personal freedom and thinking for oneself does not spoon- feed students with predigested answers to those questions. Nor should students be encouraged to believe that the answers to them are arbitrary and a matter of sheer opinion. Raising probing questions whenever they are natural to a subject under discussion, the teacher realizes that, in finding the way to answers, the student forges an overall perspective into which subject matter discoveries will be fit. Neither the discussion nor the student should be forced to conclusions that do not seem reasonable to the student.

Thus, such teachers reflect upon the subjects they teach, asking themselves,"What ideas and skills are the most basic and crucial in this subject? What do practitioners in this field do? How do they think? Why should students be familiar with this subject? What use does a well-educated person and citizen of a republic make of this subject? How can these uses be made apparent to and real for my students? Where do the various subject areas overlap? How should the tools and insights of each subject inform one's understanding of the others? Of one's place in the world?"

The teacher committed to teaching for critical thinking realizes that the child has two sources of "belief": beliefs that the child forms as a result of personal experience, inward thinking, and interaction with peers and environment, and beliefs that the child learns through instruction by adults. The first could be called "real" or "operational" beliefs. They are what define the child's real world, the foundation for action, the source of acted-upon values. They are a result of the child making sense of or figuring out the world. They are heavily influenced by what has been called "pleasure-principle thinking." They are in large measure egocentric, unreflective, and unarticulated.

The child (and most adults too for that matter) believes in many things for egocentric, irrational reasons: because others hold the belief, because certain desires may be justified by the belief, because of feeling more comfortable with the belief, because of being rewarded for the belief, because of ego-identification with the belief, because of not being accepted by peers without acting on the belief, because the belief helps to justify feelings of like or dislike toward people.

The child, of course, also has spontaneously formed reasonable beliefs. Some of those are inconsistent with the expressed beliefs of parents and teachers. As a result of this contradiction with authority, the child rarely raises these beliefs to what Piaget calls "conscious realization." Children have also developed their own theories about psychology, sociology, science, language, and so on, covering most subjects. The totality of these real beliefs is unsynthesized and contains many contradictions which the child will discover only if encouraged to freely express them in an atmosphere that is mutually supportive and child-centered.

The other source of belief, didactic instruction from adult authority figures, is an adult's interpretation of reality, not the child's. The child learns to verbalize it but does not synthesize it with operational belief. Therefore, the child typically does not recognize contradictions between these two belief systems. The child's own theories and beliefs are not necessarily replaced with the knowledge offered in school.

The teacher concerned with this problem, then, provides an environment wherein students can discover and explore their beliefs. Such teachers refrain from rushing students who are struggling to express their beliefs, allow time for thoughtful discussion, refuse to allow anyone to attack students for their beliefs, reward students for questioning their own beliefs, and support students when they consider many points of view.

Unless the teacher provides conditions in which students can discover operational beliefs through reflective thinking, these two systems of beliefs will exist in separate dimensions of their lives. The first will control their deeds, especially private deeds; the second will control their words, especially public words. The first will be used when acting for themselves; the second when performing for others. Neither, in a sense, will be taken seriously. Neither will be subjected to rational scrutiny: the first because it isn't openly expressed and challenged verbally; the second because it is not tested in the crucible of action and practical decision-making. This dichotomy, when embedded in an individual's life, creates a barrier to living an "examined life." Students lack the wherewithal to explore contradictions, double standards, and hypocrisies. They will use critical thinking skills, if at all, as weapons in a struggle to protect themselves from exposure, and to lay bare the contradictions of the "other," the "enemy." When they integrate critical thinking skills into this dichotomous thinking, they become self-serving, not fairminded, critical thinkers.

The role of the teacher could be summarized as follows:

- help break big questions or tasks into smaller, more manageable parts
- create meaningful contexts in which learning is valued by the students
- help students clarify their thoughts by rephrasing or asking questions
- pose thought-provoking questions
- encourage students to explain things to each other
- help students find what they need to know by suggesting and showing students how to use resources

II. Socratic Questioning: Wondering Aloud About Meaning and Truth

Introduction

Socratic discussion, wherein students' thought is elicited and probed, allows students to develop and evaluate their thinking by making it explicit. By encouraging students to slow their thinking down and elaborate on it, Socratic discussion gives students the opportunity to develop and test their ideas — the beliefs they have spontaneously formed and those they learn in school. Thus, students can synthesize their beliefs into a coherent and well-developed perspective.

Socratic questioning requires teachers to take seriously and wonder about what students say and think: what they mean, its significance to them, its relationship to other beliefs, how it can be tested, to what extent and in what way it is true or makes sense. Teachers who wonder about the meaning and truth of students' statements can translate that curiosity into probing questions. By wondering aloud, teachers simultaneously convey interest in and respect for student thought, and model analytical moves for students. Fruitful Socratic discussion infects students with the same curiosity about the meaning of and truth of what they think, hear, and read and gives students the clear message that they are expected to think and to take everyone else's beliefs seriously.

Socratic questioning is based on the idea that all thinking has a logic or structure, that any one statement only partially reveals the thinking underlying it, expressing no more than a tiny piece of the system of interconnected beliefs of which it is a part. Its purpose is to expose the logic of someone's thought. Use of Socratic questioning presupposes the following points: All thinking has assumptions; makes claims or creates meaning; has implications and consequences; focuses on some things and throws others into the background; uses some concepts or ideas and not others; is defined by purposes, issues, or problems; uses or explains some facts and not others; is relatively clear or unclear; is relatively deep or superficial; is relatively critical or uncritical; is relatively elaborated or undeveloped; is relatively monological or multi-logical. Critical thinking is thinking done with an effective, self-monitoring awareness of these points.

Socratic instruction can take many forms. Socratic questions can come from the teacher or from students. They can be used in a large group discussion, in small groups, one-to-one, or even with oneself. They can have different purposes. What each form has in common is that someone's thought is developed as a result of the probing, stimulating questions asked. It requires questioners to try on others' beliefs, to imagine what it would be to accept them and wonder what it would be to believe otherwise. If a student says that people are selfish, the teacher may wonder aloud as to what it means to say that, how the student explains acts others call altruistic, what sort of example that student would accept as an unselfish act, or what the student thinks it means to say that an act or person was unselfish. The discussion which follows should help clarify the concepts of selfish and unselfish behavior, as well as the kind of evidence required to determine whether or not someone is or is not acting selfishly, and the consequences of accepting or rejecting the original generalization. Such a discussion enables students to examine their own views on such concepts as generosity, motivation, obligation, human nature, right and wrong.

Some people erroneously believe that holding a Socratic discussion is like conducting a chaotic free-for-all. In fact, Socratic discussion has distinctive goals and distinctive ways to achieve

them. Indeed, any discussion — any thinking — guided by Socratic questioning is structured. The discussion, the thinking, is structured to take student thought from the unclear to the clear, from the unreasoned to the reasoned, from the implicit to the explicit, from the unexamined to the examined, from the inconsistent to the consistent, from the unarticulated to the articulated. To learn how to participate in it, one has to learn how to listen carefully to what others say, to look for reasons and evidence, to recognize and reflect upon assumptions, to discover implications and consequences, to seek examples, analogies, and objections, to seek to discover, in short, what is really known and to distinguish it from what is merely believed.

Socratic Questioning

- raises basic issues
- probes beneath the surface of things
- pursues problematic areas of thought
- helps students to discover the *structure* of their own thought
- helps students develop sensitivity to clarify, accuracy, and relevance
- helps students note claims, evidence, conclusions, questions-at-issue, assumptions, implications, consequences, concepts, interpretations, points of view

Three Kinds of Socratic Discussion

We can loosely categorize three general forms of Socratic questioning: the spontaneous, the exploratory, and the issue-specific. There are therefore three basic kinds of preparation for each.

Spontaneous or unplanned

Every teacher's teaching should be imbued with the Socratic spirit. We should always keep our curiosity and wondering alive. If we do, there will be many occasions in which we will spontaneously ask students questions about what they mean and explore with them how we might find out if something is true. If one student says that a given angle will be the same as another angle in a geometrical figure, we may spontaneously wonder how we might go about proving or disproving that. If one student says Americans love freedom, we may spontaneously wonder about exactly what that means (Does that mean, for example, that we love freedom more than other people do? How could we find out?). If in a science class a student says that most space is empty, we may be spontaneously moved to raise some question on the spot as to what that might mean and how we might find out.

Such spontaneous discussions provide models of listening critically as well as exploring the beliefs expressed. If something said seems questionable, misleading, or false, Socratic questioning provides a way of helping students to become self-correcting, rather than relying on correction by the teacher. Spontaneous Socratic discussion can prove especially useful when students become interested in a topic, when they raise an important issue, when they are on the brink of grasping or integrating something, when discussion becomes bogged down or confused or hostile. Socratic questioning provides specific moves which can fruitfully take advantage of the interest,

effectively approach the issue, aid integration and expansion of the insight, move a troubled discussion forward, clarify or sort through what appears confusing, and diffuse frustration or anger.

Although by definition there can be no pre-planning for a particular spontaneous discussion, teachers can prepare themselves by becoming familiar and comfortable with generic Socratic questions, and developing the art of raising probing follow-up questions and giving encouraging and helpful responses. Ask for examples, evidence, or reasons, propose counter-examples, ask the rest of class if they agree with a point made, suggest parallel or analogous cases, ask for a paraphrase of opposing views, rephrase student responses clearly and succinctly. These are among the most common moves.

- If you see little or no relevance in a student comment, you may think, "I wonder why this student mentioned that now?" and ask, "What connection do you see between our discussion and your point that ...?" or "I'm not sure why you mentioned that now. Could you explain how it's related to this discussion?" or "What made you think of that?"Either the point is germane so you can clarify the connection, or only marginally related, so you can rephrase it and say "A new issue has been raised." That new issue can be pursued then, or tactfully postponed, or can generate an assignment.
- If a student says something vague or general, you may think, "I wonder about the role of that belief in this student's life, the consequences of that belief, or how the student perceives the consequences, or if there are any practical consequences at all" and so may ask, "How does that belief affect how you act? What, for example, do you do or refrain from doing because you believe that?" You might have several students respond and compare their understandings, or suggest an alternative view and have students compare its consequences.

To summarize: Because we begin to wonder more and more about meaning and truth, and so think aloud in front of our students by means of questions, Socratic exchanges will occur at many unplanned moments in our instruction. However, in addition to these unplanned wonderings we can also design or plan out at least two distinct kinds of Socratic discussion: one that explores a wide range of issues and one that focuses on one particular issue.

Exploratory

What we here call *exploratory* Socratic questioning enables teachers to find out what students know or think and to use it to probe into student thinking on a variety of issues. Hence you may use it to learn students' impressions of a subject in order to assess their thought and ability to articulate it, you may use it to see what students value, or to uncover problematic areas or potential biases, or find out where students are clearest and fuzziest in their thinking. You may use it to discover areas or issues of interest or controversy, or to find out where and how students have integrated school material into their belief systems. Such discussions can serve as preparation in a general way for later study or analysis of a topic, as an introduction, as review or to see what students understood from their study of a unit or topic preparatory to taking a test, or to suggest where they should focus study for test, or as a basis for or guide to future assignments, or to prepare for an assignment. Or, again, you might have students take (or pick) an issue raised in discussion and give their own views, or have students form groups to discuss the issue or topic.

This type of Socratic questioning raises and explores a broad range of interrelated issues and concepts. It requires minimal pre-planning or pre-thinking. It has a relatively loose order or structure. You can prepare by having some general questions ready to raise when appropriate by considering the topic or issue, related issues and key concepts. You can also prepare by predict-

ing students' likeliest responses and preparing some follow-up questions. Remember, however, that once students' thought is stimulated there is no predicting exactly where discussion will go.

What follows are some suggestions and possible topics for Socratic discussions:

• "What is social studies?" If students have difficulty, ask, "When you've studied social studies, what have you studied/talked about?" If students list topics, put them on the board. Then have students discuss the items and try to group them. "Do these topics have something in common? Are there differences between these topics?" Encourage students to discuss details they know about the topics. If, instead of listing topics, they give a general answer or definition, or if they are able to give a statement about what the topics listed have in common, suggest examples that fit the definition but are not social studies. For example, if a student says, "It's about people," mention medicine. Have them modify or improve their definition. "How is social studies like and unlike other subjects? What basic questions does the subject address? How does it address them? Why study social studies? Is it important? Why or why not? How can we use what we learn in social studies? What are the most important ideas you've learned from this subject?"

• When, if ever, is violence justified? Why are people as violent as they are? What effects does violence have? Can violence be lessened or stopped?

• What is a friend?

• What is education? Why learn?

• What is most important?

• What is right and wrong? Why be good? What is a good person?

• What is the difference between living and non-living things?

• Of what sorts of things is the universe made?

• What is language?

• What are the similarities and differences between humans and animals?

There may be occasions when you are unsure whether to call a discussion exploratory or issue-specific. Which you call it is not important. What is important is what happens in the discussion. For example, consider this group of questions:

• What does 'vote' mean?

How do people decide whom to elect? How should they decide? How could people predict how a potential leader is likely to act? If you don't know about an issue or the candidates for an office, should you vote on it?

Is voting important? Why or why not? What are elections supposed to produce? How? What does that require? What does that tell us about voting?

Why are elections considered a good idea? Why is democracy considered good? What does belief in democracy assume about human nature?

How do people become candidates?

Why does the press emphasize how much money candidates have? How does having lots of money help candidates win?

Why do people give money to candidates? Why do companies?

These questions could be the list generated as possible questions for an exploratory discussion. Which of them are actually used would depend on how students respond. For an issue-specific discussion, these questions and more could be used in an order which takes students from ideas with which they are most familiar, to those with which they are least familiar.

Issue-Specific

Much of the time you will approach your instruction with specific areas and issues to cover. This is the time for issue-specific Socratic questioning. To really probe an issue or concept in depth, to have students clarify, sort, analyze and evaluate thoughts and perspectives, distinguish the known from the unknown, synthesize relevant factors and knowledge, students can engage in an extended and focused discussion. This type of discussion offers students the chance to pursue perspectives to their most basic assumptions and through their furthest implications and consequences. These discussions give students experience in engaging in an extended, ordered, and integrated discussion in which they discover, develop, and share ideas and insights. It requires pre-planning or thinking through possible perspectives on the issue, grounds for conclusions, problematic concepts, implications, and consequences. You can further prepare by reflecting on those subjects relevant to the issue: their methods, standards, basic distinctions and concepts, and interrelationships — points of overlap or possible conflict. It is also helpful to be prepared by considering likeliest student answers. This is the type of Socratic questioning most often used in the lesson remodels themselves. Though we can't provide the crucial follow-up questions, we illustrate pre-planning for issue-specific Socratic questioning in numerous remodels.

All three types of Socratic discussion require development of the art of questioning. They require the teacher to develop familiarity with a wide variety of intellectual moves and sensitivity to when to ask which kinds of questions, though there is rarely one best question at any particular time.

Some Suggestions for Using Socratic Discussion

- Have an initial exploratory discussion about a complex issue in which students break it down into simpler parts. Students can then choose the aspects they want to explore or research. Then have an issue-specific discussion where students share, analyze, evaluate, and synthesize their work.
- The class could have a "fishbowl" discussion. One third of the class, sitting in a circle, discusses a topic. The rest of the class, in a circle around the others, listens, takes notes, then discusses the discussion.
- Assign an essay asking students to respond to a point of interest made in a discussion.

A Taxonomy of Socratic Questions

It is helpful to recognize, in light of the universal features in the logic of human thought, that there are identifiable categories of questions for the adept Socratic questioner to dip into: questions of clarification, questions that probe assumptions, questions that probe reasons and evidence, questions about viewpoints or perspectives, questions that probe implications and consequences, and questions about the question. Here are some examples of generic questions in each of these categories:

Questions of Clarification

- What do you mean by _____?
- What is your main point?
- How does _____ relate to ____?
- Could you put that another way?
- What do you think is the main issue here?
- Could you give me an example?
- Would this be an example: _____?
- Could you explain that further?
- Would you say more about that?
- Why do you say that?
- Is your basic point _____ or _____?
- Let me see if I understand you; do you mean _____ or _____?
- How does this relate to our discussion/ problem/ issue?
- What do you think John meant by his remark? What did you take John to mean?
- Jane, would you summarize in your own words what Richard has said? ... Richard, is that what you meant?

Questions that Probe Assumptions

- What are you assuming?
- What is Karen assuming?
- What could we assume instead?
- You seem to be assuming _____. Do I understand you correctly?
- All of your reasoning is dependent on the idea that ____. Why have you based your reasoning on _____ rather than _____?
- You seem to be assuming ____. How would you justify taking this for granted?
- Is it always the case? Why do you think the assumption holds here?

Questions that Probe Reasons and Evidence

- What would be an example?
- What are your reasons for saying that?
- What other information do we need to know?
- Could you explain your reasons to us?
- But is that good evidence to believe that?
- Are those reasons adequate?
- Is there reason to doubt that evidence?
- Who is in a position to know if that is the case?
- How do you know?
- Why did you say that?
- Why do you think that is true?
- What led you to that belief?
- Do you have any evidence for that?
- How does that apply to this case?
- What difference does that make?
- What would convince you otherwise?
- What would you say to someone who said ____?
- Can someone else give evidence to support that response?
- By what reasoning did you come to that conclusion?
- How could we go about finding out whether that is true?

Questions About Viewpoints or Perspectives

- You seem to be approaching this issue from _____ perspective. Why have you chosen this rather than that perspective?
- How would other groups/types of people respond? Why? What would influence them?
- How could you answer the objection that _____ would make?
- Can/did anyone see this another way?
- What would someone who disagrees say?
- What is an alternative?
- How are Ken's and Roxanne's ideas alike? Different?

Questions that Probe Implications and Consequences

- What are you implying by that?
- When you say _____, are you implying _____?
- But if that happened, what else would also happen as a result? Why?
- What effect would that have?
- Would that necessarily happen or only probably happen?
- What is an alternative?
- If this and this are the case, then what else must also be true?

Questions About the Question

- How can we find out?
- How could someone settle this question?
- Is the question clear? Do we understand it?
- Is this question easy or hard to answer? Why?
- Would _____ put the question differently?
- Does this question ask us to evaluate something?
- Do we all agree that this is the question?
- Is this the same issue as _____?
- Can we break this question down at all?
- How would _____ put the issue?
- What does this question assume?
- Why is this question important?
- To answer this question, what questions would we have to answer first?
- I'm not sure I understand how you are interpreting the main question at issue.

Wondering (And Wondering About Your Wonderings)

As a blossoming critical thinker, you will find yourself wondering in many directions. You will often, however, be unsure about how many of these wonderings to share with your students. You certainly don't want to overwhelm them. Neither do you want to confuse them or lead them in too many directions at once. So when do you make the wonderings explicit in the form of a question and when do you keep them in the privacy of your mind?

There is no pat formula or procedure for answering these questions, though there are some principles:

- "Test and find out." There is nothing wrong with some of your questions misfiring. You won't always be able to predict what questions will stimulate students thought. So you must engage in some trial-and-error questioning.

- "Tie into student experience and perceived needs." You may think of numerous examples of ways students can apply what they learn, and formulate questions relating academic material to students' lives.

- "Don't give up too soon." If students don't respond to a question, wait. If they still don't respond, you could rephrase the question or break it down into simpler questions.

The teacher must use care and caution in introducing students to Socratic questioning. The level of the questions should match the level of the students' thought. It should not be assumed that students will be fully successful with it, except over a considerable length of time. Nevertheless, properly used, it can be introduced in some form or other at virtually any grade level.

Transcript of a 4th Grade Socratic Discussion

The following is a transcript of a 4th-grade exploratory Socratic discussion. The discussion leader was with these particular students for the first time. The purpose was to determine the status of the children's thinking on some of the abstract questions whose answers tend to define our broadest thinking. The students were eager to respond and often seemed to articulate responses that reflected potential insights into the character of the human mind, its relation to the body, the forces that shape us, the influence of parents and peer group, the nature of morality and of ethnocentric bias. The insights are disjointed, of course, but the questions that elicited them and the responses that articulated them could be used as the basis of future discussions or simple assignments with these students.

While reading the transcript which follows, you may want to formulate questions that could have been asked but weren't: student responses that could have been followed up, or other directions the discussion could have taken. Other ways to approach the manuscript would include explaining the function of each question or categorizing the questions.

Transcript

→ *How does your mind work?*
Where's your mind?

Student: "In your head." (numerous students point to their heads)

→ *Does your mind do anything?*

Student: "It helps you remember and think."

Student: "It helps, like, if you want to move your legs. It sends a message down to them."

Student: "This side of your mind controls this side of your body and that side controls this other side."

Student: "When you touch a hot oven it tells you whether to cry or say ouch!"

→ *Does it tell you when to be sad and when to be happy?*
How does your mind know when to be happy and when to be sad?

Student: "When you're hurt it tells you to be sad."

Student: "If something is happening around you is sad."

Student: "If there is lightning and you are scared."

Student: "If you get something you want."

Student: "It makes your body operate. It's like a machine that operates your body."

→ *Does it ever happen that two people are in the same circumstance but one is happy and the other is sad? Even though they are in exactly the same circumstance?*

Student: "You get the same toy. One person might like it. The other gets the same toy and he doesn't like the toy."

➛ *Why do you think that- some people come to like some things and some people seem to like different things?*

Student: "Cause everybody is not the same. Everybody has different minds and is built different, made different."

Student: "They have different personalities?"

➛ *Where does personality come from?*

Student: "When you start doing stuff and you find that you like some stuff best."

➛ *Are you born with a personality or do you develop it as you grow up?*

Student: "You develop it as you grow up."

➛ *What makes you develop one rather than another?*

Student: "Like, your parents or something."

➛ *How can your parent's personality get into you?*

Student: "Because you're always around them and then the way they act if they think they are good and they want you to act the same way then they'll sort of teach you and you'll do it."

Student: Like, if you are in a tradition. They want you to carry on something that their parents started."

➛ *Does your mind come to think at all the way the children around you think? Can you think of any examples where the way you think is like the way children around you think? Do you think you behave like other American kids?*

Student: "Yes."

➛ *What would make you behave more like American kids than like Eskimo kids?*

Student: "Because you're around them."

Student: "Like, Eskimo kids probably don't even know what the word 'jump-rope' is. American kids know what it is."

➛ *And are there things that the Eskimo kids know that you don't know about?*

Student: "Yes."

Student: "And also we don't have to dress like them or act like them and they have to know when a storm is coming so they won't get trapped outside."

➛ *O.K., so if I understand you then, parents have some influence on how you behave and the kids around you have some influence on how you behave... Do you have some influence on how you behave? Do you choose the kind of person you're going to be at all?*

Student: "Yes."

➛ *How do you do that do you think?*

Student: "Well if someone says to jump off a five-story building, you won't say O.K. You wouldn't want to do that..."

➛ *Do you ever sit around and say, "Let's see shall I be a smart person or a dumb one?"*

Student: "Yes."

→ *But how do you decide?*

Student: "Your grades."

→ *But I thought your teacher decided your grades. How do you decide?*

Student: "If you don't do your homework you get bad grades and become a dumb person but if you study real hard you'll get good grades."

→ *So you decide that, right?*

Student: "And if you like something at school like computers you work hard and you can get a good job when you grow up. But if you don't like anything at school you don't work hard.

Student: "You can't just decide you want to be smart, you have to work for it."

Student: "You got to work to be smart just like you got to work to get your allowance."

→ *What about being good and being bad, do you decide whether you're good or you're bad? How many people have decided to be bad? (3 students raise their hands) To first student: Why have you decided to be bad?*

Student: "Well, I don't know. Sometimes I think I've been bad too long and I want to go to school and have a better reputation but sometimes I feel like just making trouble and who cares."

→ *Let's see, is there a difference between who you are and your reputation? What's your reputation? That's a pretty big word. What's your reputation?*

Student: "The way you act. If you had a bad reputation people wouldn't like to be around you and if you had a good reputation people would like to be around you and be your friend."

→ *Well, but I'm not sure of the difference between who you are and who people think you are. Could you be a good person and people think you bad? Is that possible?*

Student: "Yeah, because you could try to be good. I mean, a lot of people think this one person's really smart but this other person doesn't have nice clothes but she tries really hard and people don't want to be around her."

→ *So sometimes people think somebody is real good and they're not and sometimes people think that somebody is real bad and they're not. Like if you were a crook, would you let everyone know you're a crook?*

Students: Chorus of "NO!"

→ *So some people are really good at hiding what they are really like. Some people might have a good reputation and be bad; some people might have a bad reputation and be good.*

Student: "Like, everyone might think you were good but you might be going on dope or something."

Student: "Does reputation mean that if you have a good reputation you want to keep it just like that? Do you always want to be good for the rest of your life?"

→ *I'm not sure...*

Student: "So if you have a good reputation you try to be good all the time and don't mess up and don't do nothing?"

➛ *Suppose somebody is trying to be good just to get a good reputation -- why are they trying to be good?*

Student: "So they can get something they want and they don't want other people to have?"

Student: "They might be shy and just want to be left alone."

Student: "You can't tell a book by how it's covered."

➛ *Yes, some people are concerned more with their cover than their book. Now let me ask you another question. So if its true that we all have a mind and our mind helps us to figure out the world and we are influenced by our parents and the people around us, and sometimes we choose to do good things and sometimes we choose to do bad things, sometimes people say things about us and so forth and so on... Let me ask you: Are there some bad people in this world?*

Student: "Yeah."

Student: "Terrorists and stuff."

Student: "Nightstalker."

Student: "The TWA hijackers."

Student: "Robbers."

Student: "Rapers."

Student: "Bums."

➛ *Bums, are they bad?*

Student: "Well, sometimes."

Student: "The Klu Klux Klan"

Student: "The Bums... not really cause they might not look good but you can't judge them by how they look. They might be really nice and everything."

➛ *O.K., so they might have a bad reputation but be good, after you care to know them. There might be good bums and bad bums.*

Student: "Libyan guys and Machine gun Kelly"

➛ *Let me ask you, do the bad people think they're bad?*

Student: "A lot of them don't think they're bad but they are. They might be sick in the head."

➛ *Yes, some people are sick in their heads.*

Student: "A lot of them (bad guys) don't think they're bad.

➛ *Why did you say Libyan people?*

Student: "Cause they have o' lot a terrorists and hate us and bomb us..."

➛ *If they hate us do they think we are bad or good?*

Student: They think we are bad."

➛ *And we think they are bad? And who is right?*

Student: "Usually both of them."

Student: "None of us are really bad!"

Student: "Really, I don't know why our people and their people are fighting. Two wrongs don't make a right."

Student: "It's like if there was a line between two countries, and they were both against each other, if a person from the first country crosses over the line, they'd be considered the bad guy. And if a person from the second country crossed over the line he'd be considered the bad guy."

➛ *So it can depend on which country you're from who you consider right or wrong, is that right?*

Student: "Like a robber might steal things to support his family. He's doing good to his family but actually bad to another person."

➛ *And in his mind do you think he is doing something good or bad?*

Student: "It depends what his mind is like. He might think he is doing good for his family or he might think he is doing bad for the other person."

Student: "It's like the underground railroad a long time ago. Some people thought it was bad and some people thought it was good."

➛ *But if lots of people think something is right and lots of people think something is wrong, how are you supposed to figure out the difference between right and wrong?*

Student: "Go by what you think!"

➛ *But how do you figure out what to think?*

Student: "Lots of people go by other people."

➛ *But somebody has to decide for themselves, don't they?*

Student: "Use your mind?"

➛ *Yes, let's see, suppose I told you: "You are going to have a new classmate. Her name is Sally and she's bad." Now, you could either believe me or what could you do?*

Student: "You could try to meet her and decide whether she was bad or good."

➛ *Suppose she came and said to you: "I'm going to give you a toy so you'll like me." And she gave you things so you would like her, but she also beat up on some other people, would you like her because she gave you things?*

Student: "No, because she said I'll give you this so you'll like me. She wouldn't be very nice."

➛ *So why should you like people?*

Student: "Because they act nice to you."

➛ *Only to you?*

Student: "To everybody!"

Student: "I wouldn't care what they gave me. I'd see what they're like inside."

→ *But how do you find out what's on the inside of a person?*

Student: "You could ask but I would try to judge myself."

Socratic questioning is flexible. The questions asked at any given point will depend on what the students say, what ideas the teacher wants to pursue, and what questions occur to the teacher. Generally, Socratic questions raise basic issues, probe beneath the surface of things, and pursue problematic areas of thought.

The above discussion could have gone in a number of different directions. For instance, rather than focussing on the mind's relationship to emotions, the teacher could have pursued the idea 'mind' by asking for more examples of its functions, and having students group them. The teacher could have followed up the response of the student who asked, "Does reputation mean that if you have a good reputation you want to keep it just like that?" He might, for instance, have asked the student why he asked that, and asked the other students what they thought of the idea. Such a discussion may have developed into a dialogical exchange about reputation, different degrees of goodness, or reasons for being bad. Or the idea 'bad people' could have been pursued and clarified by asking students why the examples they gave were examples of bad people. Students may then have been able to suggest tentative generalizations which could have been tested and probed through further questioning. Rather than exploring the influence of perspective on evaluation, the teacher might have probed the idea, expressed by one student, that no one is 'really bad.' The student could have been asked to explain the remark, and other students could have been asked for their responses to the idea. In these cases and others, the teacher has a choice between any number of equally thought provoking questions. No one question is the 'right' question.

To participate effectively in Socratic questioning, one must:

- listen carefully to what others say
- take what they say seriously
- look for reasons and evidence
- recognize and reflect upon assumptions
- discover implications and consequences
- seek examples, analogies, and objections
- seek to distinguish what one *knows* from what one merely *believes*
- seek to enter empathetically into the perspectives or points of view of others
- be on the alert for inconsistencies, vagueness, and other possible problems in thought
- look beneath the surface of things
- maintain a healthy sense of skepticism
- be willing to helpfully play the role of devil's advocate

III. Role Playing and Reconstructing Opposing Views

A fundamental danger for human thought is narrowness. We do not naturally and spontaneously open our minds to the insights of those who think differently from us. We have a natural tendency to use our native intelligence and our cognitive skills to protect and maintain our system of beliefs rather than to modify and expand it, especially when ideas are suggested that have their origin in a very different way of thinking. We can never become fairminded unless we learn how to enter sympathetically into the thinking of others, to reason from their perspectives and eventually to try seeing things as they see them.

Learning how to accurately reconstruct the thinking of others and how to role play their thinking (once reconstructed) are fundamental goals of critical thinking instruction. Very little work has yet been done in giving students opportunities to role play the reasoning of others. So it is not now clear to what extent or in what forms role playing to enhance critical reciprocity is possible.

But imagine some possible experiments. Students could brainstorm two lists, one list of their reasons for being allowed to stay out late and one for the reasons their parents might give forbidding it. A role play might be devised in which two students would pretend that they were parents and were asked, in that role, to give their reasons why their children should not be allowed to stay out late. It would be interesting to see how accurately the students could reconstruct the reasoning of their parents. They will probably find this challenging and should be encouraged to be as clear as possible in their reasons. Socratically questioning them would reveal more about their thinking. If a student gives the reason that "kids can't be trusted," the teacher might ask, "What does trust mean to you?" Or ,"What kinds of things can kids not be trusted to do? Do you think that all kids are untrustworthy? What circumstances have caused you not to trust one of your kids?" Then one might experiment with a discussion between a student playing "parent" and another student playing "daughter" or "son." The class might subsequently discuss what the best reasons were on each side of the dispute and who seemed to have the stronger argument.

History lessons might also provide opportunities for initial role playing experiences. For instance, students could role play discussions between Northerners and Southerners on disputed questions of the Civil War period or between a member of the British royalty and a colonist concerning the events that led up to the Boston Tea Party.

An interesting follow-up exercise might be to have the students either in pairs or singly compose a dialogue on a given issue or on a chosen one. Remind them to brainstorm lists of reasons for both sides of the issue, being sure to focus on the side they don't hold. Then have them write a dialogue expressing the opposing viewpoints. Some of the pairs of students could present their dialogues to the class.

IV. Analyzing Experiences

The necessary role of insights and intellectual virtues — such traits as intellectual empathy, intellectual courage, intellectual integrity, and confidence in reason — in significant learning has been largely ignored in schooling. This deficiency is intimately connected with another one, the

failure of schools to help students recognize the need, not only to test what they "learn" in school against their own experience, but also to test what they experience by what they "learn" in school.

We subject little of our experience to critical analysis. We seldom take our experiences apart, to get some sense of their true worth. We seldom separate experiences into their parts of *raw data*, and interpretations of the data. Students need to recognize that the same event or situation is often interpreted differently and therefore experienced differently. Failing to recognize the difference between aspects of our experiences, we ignore how the interests, goals, and desires we bring to those data shape and structure our interpretations. Similarly, we rarely seriously entertain the possibility that our interpretation (and hence the total experience) might be selective, biased, or misleading.

The process of developing intellectual virtues and insights is part of developing an interest in taking our experiences apart, in order to recognize when biased subjectivity is distorting our experience. What is more, we need to continually keep in mind the fact that the world is complex and that there are often a variety of legitimate ways to experience the same event or situation. Meta-experiences become important benchmarks and guides for future thought. They make possible modes of thinking and maneuvers in thinking of which the irrational mind is incapable.

To teach for the intellectual virtues, therefore, one must recognize the significant differences between the higher order critical thinking of a fairminded person and the lower order critical thinking of a self-serving person. Though both kinds of thinkers share a certain command of the micro-skills of critical thinking and hence would, for example, score well on tests such as the Watson-Glaser Critical Thinking Appraisal or the Cornell Critical Thinking Tests, they would be unequal at tasks which presuppose the intellectual virtues. The self-serving (weak sense) critical thinker would lack the insights that underlie and support these virtues.

To reason well in domains in which I am prejudiced — hence, eventually to reason my way out of prejudices — I must develop a set of analyzed examples of such reasoning. Of course, to do so, I must see that when I am prejudiced, it seems to me that I am not, and conversely, that those who are not prejudiced as I am will nevertheless seem to me to be prejudiced — to a prejudiced person an unprejudiced person seems prejudiced. I will realize this only to the degree that I have analyzed experiences in which I have first been intensely convinced that I was correct on an issue, judgment, or point of view, only to find after a series of challenges, reconsiderations, and new reasonings that my previous conviction was, in fact, prejudiced. I must take this experience apart in my mind, clearly understand its elements and how these elements fit together (how I became prejudiced; how I inwardly experienced that prejudice; how intensely that prejudice appeared as insight to me; how I progressively began to break it down by seriously considering opposing lines of reasoning; how I slowly came to new assumptions, new information, and ultimately new conceptualizations).

Only by this special kind of inner experience of reasoning one's way out of prejudices does one gain the sort of higher order abilities a fairminded critical thinker requires. The somewhat abstract articulation of the intellectual virtues will take on concrete meaning in the light of these *analyzed experiences*. We grasp their true meaning only when we take apart our own experience in this way. For example, suppose you had developed a habit of getting angry when other people were late but typically felt justified when you were late. In fact, suppose you felt hostility toward others when they expressed exasperation at your being late. You would probably have a great deal of difficulty in separating your anger and the thinking that fostered that anger from the objective events: you or someone else is late. But if you came to do so, to see inconsistency in your responses to lateness, you could begin to reshape your own responses and be fairer to oth-

ers. Once we begin to analyze experiences in this way, we begin to develop the insights upon which the intellectual virtues depend.

To generalize, in order to develop intellectual virtues, we must develop a variety of analyzed experiences that represent to us personal models, not only of the pitfalls of our own previous thoughts and experiences, but also of processes we used to reason our way out of or around them. These model experiences must be charged with meaning for us. We cannot be *indifferent* to them. We must sustain them in our minds by our sense of their importance, that they may sustain and guide us in our thought.

What does this imply for teaching? For one thing, it implies a somewhat different content or material focus. Our own minds and experiences must become the subject of our study and learning. Indeed, only to the extent that the content of our own experiences becomes an essential part of what is studied will the "usual" subject matter be truly learned. By the same token, the experiences of others must also become part of our studies. But experiences of any kind should always be critically analyzed, and all students must do their own analysis of the experience to be assessed and recognize what indeed they are doing.

This entails that students grasp the logic of experience and come to see that, for example, every experience has three elements, each of which may require some special scrutiny in the analytic process: 1) something to be experienced (some actual situation or other); 2) an experiencing subject (with a point of view, framework of beliefs, attitudes, desires, and values); and 3) some interpretation or conceptualization of the situation. To take apart any experience, I must ponder three distinctive questions (as well as their interrelation):

1) What are the raw facts, the most neutral description, of the situation?
2) What interests, attitudes, desires, or concerns am I bringing to the situation?
3) How am I conceptualizing or interpreting the situation in light of my point of view?

If students are given a wide range of assignments requiring them to analyze their experiences and the experiences of others along these lines and ample opportunity to argue among themselves about which interpretations make the most sense and why, then they will begin to amass a collection of critically analyzed experiences. As these experiences illuminate the pitfalls of thought, their identification with the analyses will lay the foundation for their intellectual traits and moral character. They will have intellectual virtues, because they thought their own way to them and internalized them as concrete understandings and insights. Their basic values and their thinking processes now feed each other. Their intellectual and affective life becomes more integrated. Critical standards for thinking become part of their own thinking rather than external to them in texts, teachers, or the authority of a peer group.

There will be many opportunities in the day-to-day life of school activities to help students develop their intellectual courage, empathy, integrity, perseverance, confidence in reason, and fairmindedness. We need not pressure students to develop these traits, but merely provide conditions which support their growth. The same can be said for fostering essential insights, such as insight into the difference between objective situations and our own special interpretations of them. If we provide situations that call upon students to express their own interpretations while distinguishing basic facts from those interpretations, they will develop crucial insights over time. We must take care, however, not to encourage students to believe either that every interpretation of an event is equally "correct" or that only one interpretation contains *the* truth. Students

should learn over time that some interpretations of events are more justified than others (more accurate, relevant, or insightful), while no one interpretation of an event contains *all the truth.*

V. Teaching the Distinction Between Fact, Opinion, and Reasoned Judgment

Many texts claim to foster critical thinking by teaching students to divide all statements into facts and opinions. When they do so, students fail to grasp the significance of dialogical thinking and reasoned judgment. When an issue is fundamentally a matter of fact (e.g., "What is the weight of this block of wood?" or "What are the dimensions of this figure?"), there is no reason to argue about the answer; one should carry out the process that gets us the correct answer. Sometimes this might require following complex procedures. In any case, weighing and measuring, the processes needed for the questions above, are not typically matters of debate.

On the other hand, questions that raise matters of mere opinion, such as, "What sweater do you like better?" "What is your favorite color?" or "Where would you like to spend your vacation?" do not have any one correct answer since they ask us merely to express our personal *preferences.*

But most of the important issues we face in our lives are not exclusively matters of fact or matters of preference. Many require a new element: that we reason our way to conclusions while we take the reasoned perspectives of others into account. As teachers, we should be clear in encouraging students to distinguish these three different situations: the ones that call for facts alone, the ones that call for preference alone, and the ones that call for reasoned judgment. When, as members of a jury, we are called upon to come to a judgment of innocence or guilt, we do not settle questions of pure fact, and we are certainly not expected to express our subjective preferences.

Students certainly need to learn procedures for gathering facts, and they doubtless need to have opportunities to express their preferences, but their most important need is to learn how to develop their capacities for reasoned judgment, how to come to conclusions of their own based on evidence (facts) and reasoning of their own within the framework of their own perspectives. Their values and preferences will, of course, play a role in their perspectives and reasoning, but their perspectives should not be a matter of pure opinion or sheer preference. I should not believe in things or people just because *I want to.* I should have good reasons for my beliefs, except, of course, where it makes sense to have pure preferences. It does make sense to prefer butterscotch to chocolate pudding, but it does not make sense to prefer taking advantage of someone rather than respecting his rights. Over time, students need to distinguish fact, opinion, and reasoned judgment, since they will never be good thinkers if they commonly confuse them, as most students now do. (See the section on Text Treatment of Critical Thinking in "Thinking Critically about Teaching: From Didactic to Critical Teaching.")

In passing, be sure not to confuse this distinction with that of convergent and divergent questions. Questions of opinion and questions of reasoned judgment are both divergent, but the first does not involve the question of truth or accuracy (because it calls for expression of preference), while the second does (since reasoned judgment can be more or less reasonable, more or less prejudiced, more or less justified).

We have put this distinction into the Global Strategies section of this handbook to underscore its importance as a pervasive emphasis in all instruction. In any event, we should always keep in mind global, as well as more specific, strategies in fostering critical thinking. When we habitually

play the role of Socratic questioner, habitually seek opportunities to have students reconstruct and role play the thinking of others, habitually encourage students to develop intellectual virtues, and habitually encourage students to distinguish preference from reasoned judgment, we will discover new possibilities for critical thinking instruction and will develop global insights that help guide us in understanding and applying the strategies illustrated more specifically in the lesson remodels that follow.

This is not a "good-boy/bad-boy" approach to thinking, for everyone must think his own way to the ethical insights that underlie becoming a fairminded thinker. We are careful not to judge the content of the student's thinking. Rather, we facilitate a process whereby the student's own insights can be developed.

All the various strategies explained in the handbook are couched in terms of behaviors. The principles express and describe a variety of behaviors of the 'ideal' critical thinker; they become applications to lessons when teachers canvass their lesson plans to find appropriate places where those behaviors can be fostered. The practice we recommend helps guard against teachers using these strategies as recipes or formulas, since in each case good judgment is required in the application process.