Introduction

The Design of the Book

This Handbook has a two-fold goal, and everything it contains can be seen as aiming at one or both of these objectives: 1) to clarify the concept of critical thinking and the principles that underlie it, and 2) to help teachers learn how to teach it. The second goal has two forms: a) presenting general strategies which can be used at any time to foster critical thinking, and b) demonstrating how lesson remodelling can help bring critical thinking into the heart of everyday classroom activities. Most sections of the book combine goals 1 and 2.

This introduction, besides explaining the structure of the Handbook as a whole, introduces the reader to the concepts of critical thinking and education for critical thinking and makes recommendations for using this handbook. In the second chapter, "Remodelling: a Foundation for Staff Development," we explain and justify the lesson plan remodelling approach and describe its use in staff development. This method of infusing instruction for critical thinking is the main concern of this book. Chapter 3, "Global Critical Thinking Strategies," combines the objectives of clarifying critical thinking and suggesting general teaching strategies. It does not directly address remodelling. The first section explains the necessity for strong sense critical thinking across the curriculum. The second section introduces the technique of Socratic discussion, first in general terms, then by illustration in a transcript of a Socratic discussion. The next section briefly introduces another general technique: role playing and reconstructing opposing views. The last two sections address the importance of having students analyze their experiences, and emphasize the role of reasoned judgment.

Chapter four, "Thinking Critically About Teaching: From Didactic to Critical Teaching" contrasts standard approaches to education with a critical theory of education and describes some of the most common problems we found in 6th-9th grade texts. Chapter five, "Strategies," clarifies the idea of critical thinking further and suggests how it can be taught by introducing and explaining the thirty-five specific teaching strategies at the heart of our remodelling process. The next sections contain examples of our use of the remodelling process on standard lessons, lesson fragments, and units. We introduce each subject area with a general discussion of a critical approach to the subject and brief criticisms of texts.
Following the sample remodels in language arts, social studies, and science is a sampling of remodels that we are beginning to collect and which, for the most part, represent teachers' early efforts in remodelling their lessons. These sample remodels are not divided into subject areas.

Since lesson remodelling is most effective when it is integrated into a long-term, multi-faceted, critical thinking staff development plan, we include next a copy of one such project, "The Greensboro Plan." Perusal of it will suggest a variety of problems one should recognize as intrinsic to district-wide efforts at moving from didactic to critical modes of teaching. Following the Greensboro Plan is a compilation of teacher statements of "What Critical Thinking Means to Me." These statements demonstrate the room there is in critical thinking for a variety of individual articulations, all consistent with developing the "critical spirit" in instruction and learning. Next is a list of basic critical thinking vocabulary which should help teachers to synthesize some of the various dimensions of critical thinking into a more coherent picture. Not all of the concepts briefly explained there will be immediately intelligible. The recognition of the usefulness of these distinctions will emerge progressively over time as teachers become more and more familiar with critical thinking and critical teaching.

The final major section of the handbook describes some additional resources for critical thinking staff development. Once again, we need to remember that a long-term evolution is necessary to bring critical thinking successfully into the mainstream of school life. As time goes by, teachers will need a variety of resources to facilitate this evolutionary process.

Our Concept of Critical Thinking

The term 'critical,' as we use it, does not mean thinking which is negative or finds fault, but rather thinking which evaluates reasons and brings thought and action in line with our evaluations, our best sense of what is true. The ideal of the critical thinker could be roughly expressed in the phrase 'reasonable person.' Our use of the term 'critical' is intended to highlight the intellectual autonomy of the critical thinker. That is, as a critical thinker, I do not simply accept conclusions (uncritically). I evaluate or critique reasons. My critique enables me to distinguish poor from strong reasoning. To do so to the greatest extent possible, I make use of a number of identifiable and learnable skills. I analyze and evaluate reasons and evidence; make assumptions explicit and evaluate them; reject unwarranted inferences or "leaps of logic"; use the best and most complete evidence available to me; make relevant distinctions; clarify; avoid inconsistency and contradiction; reconcile apparent contradictions; and distinguish what I know from what I merely suspect to be true.

The uncritical thinker, on the other hand, doesn't reflect on or evaluate reasons for a particular set of beliefs. By simply agreeing or disagreeing, the uncritical thinker accepts or rejects conclusions, often without understanding them, and often on the basis of egocentric attachment or unassessed desire. Lacking skills to analyze and evaluate, this person allows irrelevant reasons to influence conclusions; doesn't notice assumptions, and therefore fails to evaluate them; accepts any inference that "sounds good"; is unconcerned with the strength and completeness of evidence; can't sort out ideas, confuses different concepts, is an unclear thinker; is oblivious to contradictions; feels certain, even when not in a position to know. The classic uncritical thinker says, "I've made up my mind! Don't confuse me with facts." Yet, critical thinking is more than evaluation of simple lines of thought.
As I evaluate beliefs by evaluating the evidence or reasoning that supports them (that is, the "arguments" for them), I notice certain things. I learn that sometimes I must go beyond evaluating small lines of reasoning. To understand an issue, I may have to think about it for a long time, weigh many reasons, and clarify basic ideas. I see that evaluating a particular line of thought often forces me to re-evaluate another. A conclusion about one case forces me to come to a certain conclusion about another. I find that often my evaluation of someone's thinking turns on the meaning of a concept, which I must clarify. Such clarification affects my understanding of other issues. I notice previously hidden relationships between beliefs about different issues. I see that some beliefs and ideas are more fundamental than others. In short, I must orchestrate the skills I have learned into a longer series of moves. As I strive for consistency and understanding, I discover opposing sets of basic assumptions which underlie those conclusions. I find that, to make my beliefs reasonable, I must evaluate, not individual beliefs but, rather, large sets of beliefs. Analysis of an issue requires more work, a more extended process, than that required for a short line of reasoning. I must learn to use my skills, not in separate little moves but together, coordinated into a long sequence of thought.

Sometimes, two apparently equally strong arguments or lines of reasoning about the same issue come to contradictory conclusions. That is, when I listen to one side, the case seems strong. Yet when I listen to the other side, that case seems equally strong. Since they contradict each other, they cannot both be right. Sometimes it seems that the two sides are talking about different situations or speaking different languages, even living in different "worlds." I find that the skills which enable me to evaluate a short bit of reasoning do not offer much help here.

Suppose I decide to question two people who hold contradictory conclusions on an issue. They may use concepts or terms differently, disagree about what terms apply to what situations and what inferences can then be made, or state the issue differently. I may find that the differences in their conclusions rest, not so much on a particular piece of evidence or on one inference, as much as on vastly different perspectives, different ways of seeing the world, or different conceptions of such basic ideas as, say, human nature. As their conclusions arise from different perspectives, each, to the other, seems deluded, prejudiced, or naive. How am I to decide who is right? My evaluations of their inferences, uses of terms, evidence, etc., also depend on perspective. In a sense, I discover that I have a perspective.

I could simply agree with the one whose overall perspective is most like my own. But how do I know I'm right? If I'm sincerely interested in evaluating beliefs, should I not also consider things from other perspectives?

As I reflect on this discovery, I may also realize that my perspective has changed. Perhaps I recall learning a new idea or even a system of thought that changed the way I see myself and the world around me in fundamental ways, which even changed my life. I remember how pervasive this change was — I began to interpret a whole range of situations differently, continually used a new idea, concept or phrase, paid attention to previously ignored facts. I realize that I now have a new choice regarding the issue under scrutiny.

I could simply accept the view that most closely resembles my own. But, thinking further, I realize that I cannot reasonably reject the other perspective unless I understand it. To do so would be to say, "I don't know what you think, but, whatever it is, it's false." The other perspective, however strange it seems to me now, may have something both important and true, which I have overlooked and without which my understanding is incomplete. Thinking along these lines, I open my mind to the possibility of change of perspective. I make sure that I don't subtly ignore
or dismiss these new ideas; I realize I can make my point of view richer, so it encompasses more. As I think within another perspective, I begin to see ways in which it is right. It points out complicating factors I had previously ignored; makes useful distinctions I had missed; offers plausible interpretations of events I had never considered; and so on. I become able to move between various perspectives, hence freed from the limitations of my own thought.

One of the most important stages in my development as a thinker, then, is a clear recognition that I have a perspective, one that I must work on and change as I learn and grow. To do this, I can't be inflexibly attached to any particular beliefs. I strive for a consistent "big picture." I approach other perspectives differently. I ask how I can reconcile the points of view. I see variations between similar but different perspectives. I use principles and insights flexibly and do not approach analysis as a mechanical "step one, step two" process. I pursue new ideas in depth, trying to understand the perspectives from which they come. I am willing to say, "This view sounds new and different; I don't yet understand it. There's more to this idea than I realized; I can't just dismiss it."

Or, looked at another way, suppose I'm rethinking my stand on an issue. I re-examine my evidence. Yet, I cannot evaluate my evidence for its completeness, unless I consider evidence cited by those who disagree with me. I find I can discover my basic assumptions by considering alternative assumptions, alternative perspectives. I use fairmindedness to clarify, enhance, and improve my perspective.

A narrowminded critical thinker, lacking this insight, says, not, "This is how I see it," but, "This is how it is." While working on pieces of reasoning, separate arguments, and individual beliefs, this person tends to overlook the development of perspective as such. Such thinking consists of separate or fragmented ideas and the examination of beliefs one at a time without appreciation for connections between them. While conscious and reflective about particular conclusions, this type of thinker is unreflective about his or her own point of view, how it affects his or her evaluations of reasoning, and how it is limited. When confronted with alternative perspectives or points of view, this person assesses them by their degree of agreement with his or her own view and lumps together similar, though different, perspectives. Such an individual is given to sweeping acceptance or sweeping rejection of points of view and is tyrannized by the words he or she uses. Rather than trying to understand why others think as they do, he or she dismisses new ideas, assuming the objectivity and correctness of his or her own beliefs and responses.

As I strive to think fairmindedly, I discover resistance to questioning my beliefs and considering those of others. I find a conflict between my desire to be fairminded and my desire to be right. I realize that without directly addressing the obstacles to critical thought, I tend to seek its appearance rather than its reality, that I tend to accept rhetoric rather than fact, that without noticing it, I hide my own hypocrisy, even from myself.

By contrast, the critical thinker who lacks this insight, though a good arguer, is not a truly reasonable person. Giving good-sounding reasons, this person can find and explain flaws in opposing views and has well-thought-out ideas but never subjects his or her own ideas to scrutiny. Though giving lip service to fairmindedness and describing views opposed to his or her own, this thinker doesn't truly understand or seriously consider them. One who often uses reasoning to get his or her way, cover up hidden motives, or make others look stupid or deluded is merely using skills to reinforce his or her own views and desires, without subjecting them to scrutiny.

To sum up, the kind of critical thinker we want to foster contrasts with at least two other kinds of thinkers. The first kind has few intellectual skills of any kind and tends to be naive, eas-
ily manipulated and controlled, and so easily defeated or taken in. The second has skills, but only of a restricted type, which enable pursuit of narrow, selfish interests and effective manipulation of the naive and unsuspecting. The first we call 'uncritical thinkers' and the second 'weak sense,' or selfish, critical thinkers. What we aim at, therefore, are "strong sense" critical thinkers, those who use their skills in the service of sincere, fairminded understanding and evaluation of their beliefs.

Critical Thinking and Education

The foundation for fairminded, as against self-serving, critical thinking is laid in the early years of one's life. The same is true of uncritical thought. We can raise children from the earliest years to passively accept authority figures and symbols. We can systematically manipulate and inculcate children so they are apt to become adults highly susceptible to manipulation.

Or we can foster the development of intellectual skills while ignoring the ultimate use to which the learner puts them. We can ignore the problems of egocentrism, the natural tendencies of the mind toward self-deception and ego-justification. We can assume that students will use those skills fairmindedly. In this case we ignore the problem of integrating cognitive and affective life. And so we make it likely that our more successful students will become intelligent manipulators rather than fairminded thinkers. They will gain intellectual empowerment at the expense of a selfish use of that power to further egocentric ends.

But there is a legitimate third option on which we should focus our efforts: fostering the development of intellectual skills in the context of rational dispositions and higher critical thinking values. We can emphasize the intimate interplay of thought and feeling, not set them off as separate or oppositional. We can recognize the existence of both rational and irrational passions and cognitions. We can accentuate the insight that only through the development of rational passions or intellectual virtues can we prevent our intelligence from becoming the tool of egocentric emotions.

The earlier we lay the foundation for intellectual fairness, the better our chance for success. If we want children to develop into adults with a passion for clarity, accuracy, and fairmindedness, a fervor for exploring the deepest issues, a propensity for listening sympathetically to opposition points of view; if we want children to develop into adults with a drive to seek out evidence, with an aversion to contradiction, sloppy thinking, and inconsistent applications of standards; then we had better pay close attention to the affective dimension of their lives from the beginning. We had better recognize the need to unite cognitive and affective goals.

The highest development of intelligence and conscience creates a natural marriage between the two. Each is distinctly limited without the other. Each requires special attention in the light of the other.

In this workbook, we provide something more than a set of remodelled lessons which accentuate needed intellectual skills. We have tried to keep in mind our vision of the conscientious, fairminded, critical person. Many of the strategies for remodel that we use explicitly call for a blending of the skills of critical thinking with the dispositions or intellectual virtues that foster critical thinking values. All of the strategies have been used with this overall end in mind.

The remodel strategies should be viewed, therefore, not as isolated intellectual activities, but as insight builders that mutually support each other and work toward a unified end. Wherever possible there is a cognitive/affective integration.
How To Use This Book

You may choose to read this book as you would any other book, but if you do, you will probably miss a good deal of the benefit that can be derived from it. There are no algorithms or recipes for understanding or teaching critical thinking. Although we separate aspects of critical thinking, the global concept is behind each aspect, and each aspect relates to it and the others. Thus, to develop critical thought, one must continually move back and forth between the global ideal of the rational and fairminded thinker and the details describing what such a thinker does. Similarly, although we separate the aspects of staff development for integrating critical thinking into the curriculum (understanding the concept, critiquing present practice, formulating remods), teachers must continually move back and forth between these activities.

If you are a 6th-9th grade teacher and you want to improve your ability to teach for critical thinking, this book can help you develop the ability to remodel your own lesson plans. Your own teaching strategies will progressively increase as your repertoire of critical thinking strategies grows. As you begin, try to develop a baseline sense of your present understanding of critical thinking and of your ability to critique and redesign lesson plans. The critiques and remods that follow, and the principles and strategies that precede them, may provide an immediate catalyst for you to take your lesson plans and redesign them. But the longer critiques and remods here might seem intimidating. Some of the strategies may seem unclear or confusing, and you may bog down as soon as you attempt to redesign your own lessons keep in mind that in some of our remods, we put as many ideas as we could, in order to provide as many examples and varieties of applications as possible. Thus, some of the remodelled plans are longer and more elaborate than you might initially be willing to produce or teach.

We therefore suggest alternative approaches and ways of conceiving the process:

• Read through the strategies and a couple of remods, then write critiques and remods of your own. After you have attempted a critique and remodel, read our critique and remodel of a similar lesson. By using this procedure, you will soon get a sense of the difficulties in the critique-remodel process. You will also have initiated the process of developing your own skills in this important activity.

• Another way of testing your understanding of the critical insights is to read the principle section of a strategy, and write your own application section.

• You could review a remodel of ours and find places where strategies were used but not cited and places where particular moves could be characterized by more than one strategy.

• You may want to take several strategies and write a passage about their interrelationships.

• Or you might take a subject or topic and list significant questions about it. Share and discuss your lists with colleagues.

• If, when reviewing a remodel, you find a particular strategy confusing, review the principle and application in the strategy chapter. If, when reading the strategy chapter, you feel confused, review the critiques and remods of the lessons listed below it. If you are still confused, do not use the strategy. Review it periodically until it becomes clear.

• When remodelling your own lessons, you will probably find that sometimes you can make more drastic changes, or even completely rewrite a lesson, while at others you may make only minor adjustments. Some of your remods may make use of many strategies, say, two or more affective strategies, and a macro-ability requiring coordinated use of several micro-skills. For other remods, you may use only one strategy. It is better to use one clearly understood strategy than to attempt to use more than you clearly understand.
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- You may want to begin remodelling by using only one or two strategies clearest to you. After remodelling some lessons, you will likely find oneself spontaneously using those strategies. You could then reread the strategy chapter and begin infusing a couple of additional strategies with which you feel comfortable. Thus, as the number of strategies you regularly use grows, your teaching can evolve at the pace most comfortable to you.

- If students don’t grasp a critical idea or skill when you introduce it, don’t give up. Critical insight must be developed over time. For instance, suppose the first attempt to get students to fairmindedly consider each others’ views fails. It is likely that students are not in the habit of seriously considering each other’s positions, and hence may not listen carefully to each other. If you make restating opposing views a routine part of discussion, students will eventually learn to prepare themselves by listening more carefully.

- Although the main function of this book is to help you remodel your lesson plans, we have not restricted our suggestions to the remodelling process. We strongly urge you to apply the insights embedded in the strategies to all aspects of classroom experience (including discussions, conflicts, and untraditional lessons — for instance, movies.) You may also use our remodels, or sections of them. Though many of our lessons are too long for one class period, we did not suggest where to break them up. Nor did we provide follow-up questions. If you decide to experiment with any of our remodels, you will probably have to remodel them somewhat to take your own students and text into account.

- We urge you to apply your growing critical insight to the task of analyzing and clarifying your concept of education and the educated person. Of each subject you teach, ask yourself what is most basic and crucial for an educated person to know or to be able to do. Highlight those aspects and teach them in a way that most fosters in-depth and useful understanding.

- Texts often have the same features — whether problems or opportunities for critical thought — occurring over and over again. Hence, remodelling a couple of lessons from a text can give you a basic structure to use many times over the course of the year.

- When comparing your work to ours, keep in mind that this is a flexible process; our remodel is not the only right one. Any changes which promote fairminded critical thought are improvements.

However you use what follows in this book, your understanding of the insights behind the strategies will determine the effectiveness of the remodels. Despite the detail with which we have delineated the strategies, they should not be translated into mechanistic, step-by-step procedures. Keep the goal of the well-educated, fairminded critical thinker continually in mind. Thinking critically involves insightful critical judgments at each step along the way. It is never done by recipe.
Diagram 1

Three Modes of Mental Organization
(expresssed in exclusive categories for purposes of theoretical clarity)

The Uncritical Person
- Non-Culpable
- Culpable

The Self-Serving Critical Person
- Non-Culpable
- Culpable
  - admitting to a range of sophistication
    - from childlike, awkward rationalizations to highly sophisticated, creative, and intellectually resourceful egocentric and sociocentric rationalizations
  - critical thinking skills internalized in the service of one's vested interests and desires

The Fairminded Critical Person
- Non-Culpable
- Culpable
  - admitting to a range of developmental levels
    - from the fairmindedness that a child is able to exercise to that of the most profound thinkers
  - critical thinking skills internalized in the service of balanced truth, rationality, autonomy, and self-insight

Note
Children enter school as fundamentally non-culpable, uncritical and self-serving thinkers. The educational task is to help them to become, as soon as possible and as fully as possible, responsible, fairminded, critical thinkers, empowered by intellectual skills and rational passions. Most people are some combination of the above three types; the proportions are the significant determinant of which of the three characterizations is most appropriate. For example, it is a common pattern for people to be capable of fairminded critical thought only when their vested interests or ego-attachments are not involved, hence the legal practice of excluding judges or jury members who can be shown to have such interests.
Diagram 2

Critical Thinking Lesson Plan Remodelling

An original lesson plan or a standard approach is transformed via critique into a remodelled lesson plan.

Based on integrating one or more critical thinking strategies.

Derived from critical thinking principles which reinforce.

A unified concept of critical thinking.
Diagram 3

The Perfections and Imperfections of Thought

clarity ______________ vs ____________ unclarity
precision ____________ vs ____________ imprecision
specificity ____________ vs ____________ vagueness
accuracy ____________ vs ____________ inaccuracy
relevance ____________ vs ____________ irrelevance
consistency ____________ vs ____________ inconsistency
logical ______________ vs ____________ illogical
depth ______________ vs ____________ superficiality
completeness ____________ vs ____________ incompleteness
significance ____________ vs ____________ triviality
adequacy (for purpose) ______ vs ____________ inadequacy
fairness ______________ vs ____________ bias or one-sidedness