

Critical Thinking Development: A Stage Theory

With Implications for Instruction

Linda Elder with Richard Paul

Though most teachers aspire to make critical thinking a primary objective of their instruction, most also do not realize that, to develop as thinkers, students must pass through stages of development in critical thinking. That is, most teachers are unaware of the levels of intellectual development that people go through as they improve as thinkers. We believe that significant gains in the intellectual quality of student work will not be achieved except to the degree that teachers recognize that skilled critical thinking develops, only when properly cultivated, and only through predictable stages.

In this paper we shall set out a stage theory based on the nearly twenty years of research of the Center for Critical Thinking and explain some of the theory's implications for instruction. We shall be brief, concise, and to the point in our explanation with minimal theoretical elaboration. Furthermore, we believe that the "practicality" of the theory we explain here is best tested in the classroom and in everyday life. The reader should be expressly aware that we are approaching the human mind exclusively from an intellectual standpoint — not from a psychological standpoint. Each stage of intellectual development will be explained in terms of the following variables:

1. Defining Feature
2. Principal Challenge
3. Knowledge of Thinking
4. Skill in Thinking
5. Relevant Intellectual Traits
6. Some Implications for Instruction

Due to space limitations, we have made no attempt to be exhaustive with respect to any stage, nor to answer the many questions that might be raised concerning the development, reliability or validity of the stages. The basic intention is to provide a practical organizer for teachers interested in using a conceptual map to guide student thinking through developmental stages in the process of becoming critical thinkers. Once the stages are explained, and stage-specific recommendations are given, we close with some global implications for instruction.

We make the following assumptions: **(1)** that there are predictable stages through which every person who develops as a critical thinker passes, **(2)** that passage from one stage to the next is dependent upon a necessary level of commitment on the part of an individual to develop as a critical thinker, is not automatic, and is unlikely to take place

“subconsciously,” **(3)** that success in instruction is deeply connected to the intellectual quality of student learning, and **(4)** that regression is possible in development.

Before moving to the stages themselves, a brief overview of what we mean by critical thinking is in order. Our working definition is as follows: We define critical thinking as:

the ability and disposition to improve one’s thinking by systematically subjecting it to intellectual self-assessment.

It is important to recognize that on this view, persons are critical thinkers, in the fullest sense of the term, only if they display this ability and disposition in all, or most, of the dimensions of their lives (e.g. as a parent, citizen, consumer, lover, friend, learner, and professional). We exclude from our concept of the critical thinker those who think critically in only one dimension of their lives. We do so because the quality of one’s life is dependent upon high quality reasoning in all domains of one’s life, not simply in one dimension.

The stages we will lay out are as follows:

Stage One: The Unreflective Thinker

Stage Two: The Challenged Thinker

Stage Three: The Beginning Thinker

Stage Four: The Practicing Thinker

Stage Five: The Advanced Thinker

Stage Six: The Accomplished Thinker

Stage One: The Unreflective Thinker

Defining Feature: Unreflective thinkers are largely unaware of the determining role that thinking is playing in their lives and of the many ways that problems in thinking are causing problems in their lives. Unreflective thinkers lack the ability to explicitly assess their thinking and improve it thereby.

Knowledge of Thinking: Unreflective thinkers lack the knowledge that high-quality thinking requires regular practice in taking thinking apart, accurately assessing it, and actively improving it. In fact, unreflective thinkers are largely unaware of thinking as such, hence fail to recognize thinking as involving concepts, assumptions, inferences, implications, points of view, etc. Unreflective thinkers are largely unaware of the appropriate standards for the assessment of thinking: clarity, accuracy, precision, relevance, logicalness, etc.

Skill in Thinking: Unreflective thinkers may have developed a variety of skills in thinking without being aware of them. However, these skills are inconsistently applied because of the lack of self-monitoring of thought. Prejudices and misconceptions often undermine the quality of thought of the unreflective thinker.

Some Implications for Instruction: We must recognize that in the present mode of instruction it is perfectly possible for students to graduate from high school, or even college, and still be largely unreflective thinkers. Though all students think, most students are largely unaware of how their thinking is structured or how to assess or improve it. Thus, when they experience problems in thinking, they lack the skills to identify and “fix” these problems. Most teachers do not seem to be aware of how unaware most students are of their thinking. Little is being done at present to help students “discover” their thinking. This emphasis needs shifting.

Stage Two: The Challenged Thinker

Defining Features: Thinkers move to the “challenged” stage when they become initially aware of the determining role that thinking is playing in their lives, and of the fact that problems in their thinking are causing them serious and significant problems.

Principal Challenge: To become initially aware of the determining role of thinking in one’s life and of basic problems that come from poor thinking.

Knowledge of Thinking: Challenged thinkers, unlike unreflective thinkers are becoming aware of thinking as such. They are becoming aware, at some level, that high quality thinking requires deliberate reflective thinking about thinking (in order to improve thinking). They recognize that their thinking is often flawed, although they are not able to identify many of these flaws. Challenged thinkers may develop an initial awareness of thinking as involving concepts, assumptions, inferences, implications, points of view, etc., and as involving standards for the assessment of thinking: clarity, accuracy, precision, relevance, logicalness, etc., though they have only an initial grasp of these standards and what it would take to internalize them. Challenged thinkers also develop some understanding of the role of self-deception in thinking, though their understanding is limited. At this stage the thinker develops some reflective awareness of how thinking operates for good or ill.

Skill in Thinking: Most challenged thinkers have very limited skills in thinking. However, like unreflective thinkers, they may have developed a variety of skills in thinking without being aware of them, and these skills may (ironically) serve as barriers to development. At this stage thinkers with some implicit critical thinking abilities may more easily deceive themselves into believing that their thinking is better than it actually is, making it more difficult to recognize the problems inherent in poor thinking. To accept the challenge at this level requires that thinkers gain insight into the fact that whatever intellectual skills they have are inconsistently applied across the domains of their lives.

Relevant Intellectual Trait: The fundamental intellectual trait at this stage is intellectual humility, in order to see that problems are inherent in one’s thinking.

Some Implications for Instruction: We must recognize the importance of challenging our students — in a supportive way — to recognize both that they are thinkers and that their thinking often goes awry. We must lead class discussions about thinking. We must

explicitly model thinking (e.g., thinking aloud through a problem). We must design classroom activities that explicitly require students to think about their thinking. We must have students examine both poor and sound thinking, talking about the differences. We must introduce students to the parts of thinking and the intellectual standards necessary to assess thinking. We must introduce the idea of intellectual humility to students; that is, the idea of becoming aware of our own ignorance. Perhaps children can best understand the importance of this idea through their concept of the "know-it-all," which comes closest to their recognition of the need to be intellectually humble.

Stage Three: The Beginning Thinker

Defining Feature: Those who move to the beginning thinker stage are actively taking up the challenge to begin to take explicit command of their thinking across multiple domains of their lives. Thinkers at this stage recognize that they have basic problems in their thinking and make initial attempts to better understand how they can take charge of and improve it. Based on this initial understanding, beginning thinkers begin to modify some of their thinking, but have limited insight into deeper levels of the trouble inherent in their thinking. Most importantly, they lack a systematic plan for improving their thinking, hence their efforts are hit and miss.

Principal Challenge: To begin to see the importance of developing as a thinker. To begin to seek ways to develop as a thinker and to make an intellectual commitment to that end.

Knowledge of Thinking: Beginning thinkers, unlike challenged thinkers are becoming aware not only of thinking as such, but also of the role in thinking of concepts, assumptions, inferences, implications, points of view, etc. Beginning thinkers are also at some beginning stage of recognizing not only that there are standards for the assessment of thinking: clarity, accuracy, precision, relevance, logicalness, etc., but also that one needs to internalize them and thus begin using them deliberately in thinking. They have a beginning understanding of the role of egocentric thinking in human life.

Skill in Thinking: Beginning thinkers are able to appreciate a critique of their powers of thought. Beginning thinkers have enough skill in thinking to begin to monitor their own thoughts, though as "beginners" they are sporadic in that monitoring. They are beginning to recognize egocentric thinking in themselves and others.

Relevant Intellectual Traits: The key intellectual trait required at this stage is some degree of intellectual humility in beginning to recognize the problems inherent in thinking. In addition, thinkers must have some degree of intellectual confidence in reason, a trait which provides the impetus to take up the challenge and begin the process of active development as critical thinkers, despite limited understanding of what it means to do high quality reasoning. In addition, beginning thinkers have enough intellectual perseverance to struggle with serious problems in thinking while yet lacking a clear solution to those problems (in other words, at this stage thinkers are recognizing

more and more problems in their thinking but have not yet discovered how to systematize their efforts to solve them).

Some Implications for Instruction: Once we have persuaded most of our students that much of their thinking — left to itself — is flawed and that they, like all of us, are capable of improving as thinkers, we must teach in such a way as to help them to see that we all need to regularly practice good thinking to become good thinkers. Here we can use sporting analogies and analogies from other skill areas. Most students already know that you can get good in a sport only if you regularly practice. We must not only look for opportunities to encourage them to think well, we must help them to begin to understand what it is to develop good HABITS of thinking. What do we need to do regularly in order to read well? What must we do regularly and habitually if we are to listen well? What must we do regularly and habitually if we are to write well. What must we do regularly and habitually if we are to learn well? We must recognize that students are not only creatures of habit, but like the rest of us, they are largely unaware of the habits they are developing. They are largely unaware of what it is to develop good habits (in general), let alone good habits of thinking. If our students are truly “beginning” thinkers, they will be receptive to the importance of developing sound habits of thought. We must emphasize the importance of beginning to take charge of the parts of thinking and applying intellectual standards to thinking. We must teach students to begin to recognize their native egocentrism when it is operating in their thinking.

Stage Four: The Practicing Thinker

Defining Feature: Thinkers at this stage have a sense of the habits they need to develop to take charge of their thinking. They not only recognize that problems exist in their thinking, but they also recognize the need to attack these problems globally and systematically. Based on their sense of the need to practice regularly, they are actively analyzing their thinking in a number of domains. However, since practicing thinkers are only beginning to approach the improvement of their thinking in a systematic way, they still have limited insight into deeper levels of thought, and thus into deeper levels of the problems embedded in thinking.

Principal Challenge: To begin to develop awareness of the need for systematic practice in thinking.

Knowledge of Thinking: Practicing thinkers, unlike beginning thinkers are becoming knowledgeable of what it would take to systematically monitor the role in their thinking of concepts, assumptions, inferences, implications, points of view, etc. Practicing thinkers are also becoming knowledgeable of what it would take to regularly assess their thinking for clarity, accuracy, precision, relevance, logicalness, etc. Practicing thinkers recognize the need for systematicity of critical thinking and deep internalization into habits. They clearly recognize the natural tendency of the human mind to engage in egocentric thinking and self-deception.

Skill in Thinking: Practicing thinkers have enough skill in thinking to critique their own plan for systematic practice, and to construct a realistic critique of their powers of thought. Furthermore, practicing thinkers have enough skill to begin to regularly monitor their own thoughts. Thus, they can effectively articulate the strengths and weaknesses in their thinking. Practicing thinkers can often recognize their own egocentric thinking as well as egocentric thinking on the part of others. Furthermore, practicing thinkers actively monitor their thinking to eliminate egocentric thinking, although they are often unsuccessful.

Relevant Intellectual Traits: The key intellectual trait required to move to this stage is intellectual perseverance. This characteristic provides the impetus for developing a realistic plan for systematic practice (with a view to taking greater command of one's thinking). Furthermore, thinkers at this stage have the intellectual humility required to realize that thinking in all the domains of their lives must be subject to scrutiny, as they begin to approach the improvement of their thinking in a systematic way.

Some Implications for Instruction: What are the basic features of thinking that students must command to effectively become practicing thinkers? What do they need to do to take charge of their thinking intellectually, with respect to any content? We must teach in such a way that students come to understand the power in knowing that whenever humans reason, they have no choice but to use certain predictable structures of thought: that thinking is inevitably driven by the questions, that we seek answers to questions for some purpose, that to answer questions, we need information, that to use information we must interpret it (i.e., by making inferences), and that our inferences, in turn, are based on assumptions, and have implications, all of which involves ideas or concepts within some point of view. We must teach in such a way as to require students to regularly deal explicitly with these structures (more on these structures presently).

Students should now be developing the habit — whenever they are trying to figure something out — of focusing on: purpose, question, information, inferences, assumptions, concepts, point of view, and implications. The result of this emphasis in instruction is that students begin to see connections between all the subject matter they are learning. In studying history, they learn to focus on historical purposes and questions. When studying math, they clarify and analyze mathematical goals and problems. When studying literature, they reflect upon literary purposes and questions. They notice themselves making historical, mathematical, and literary assumptions. They notice themselves tracing historical, mathematical, and literary implications. Recognizing the "moves" one makes in thinking well is an essential part of becoming a practicing thinker.

Students should be encouraged to routinely catch themselves thinking both egocentrically and sociocentrically. They should understand, for example, that most of the problems they experience in learning result from a natural desire to avoid confusion and frustration, and that their inability to understand another person's point of view is

often caused by their tendency to see the world exclusively within their own egocentric point of view.

Stage Five: The Advanced Thinker

Defining Feature: Thinkers at this stage have now established good habits of thought which are “paying off.” Based on these habits, advanced thinkers not only actively analyze their thinking in all the significant domains of their lives, but also have significant insight into problems at deeper levels of thought. While advanced thinkers are able to think well across the important dimensions of their lives, they are not yet able to think at a consistently high level across all of these dimensions. Advanced thinkers have good general command over their egocentric nature. They continually strive to be fair-minded. Of course, they sometimes lapse into egocentrism and reason in a one-sided way.

Principal Challenge: To begin to develop depth of understanding not only of the need for systematic practice in thinking, but also insight into deep levels of problems in thought: consistent recognition, for example, of egocentric and sociocentric thought in one’s thinking, ability to identify areas of significant ignorance and prejudice, and ability to actually develop new fundamental habits of thought based on deep values to which one has committed oneself.

Knowledge of Thinking: Advanced thinkers are actively and successfully engaged in systematically monitoring the role in their thinking of concepts, assumptions, inferences, implications, points of view, etc., and hence have excellent knowledge of that enterprise. Advanced thinkers are also knowledgeable of what it takes to regularly assess their thinking for clarity, accuracy, precision, relevance, logicalness, etc. Advanced thinkers value the deep and systematic internalization of critical thinking into their daily habits. Advanced thinkers have keen insight into the role of egocentrism and sociocentrism in thinking, as well as the relationship between thoughts, feelings and desires.

They have a deep understanding of the powerful role that thinking plays in the quality of their lives. They understand that egocentric thinking will always play a role in their thinking, but that they can control the power that egocentrism has over their thinking and their lives.

Skill in Thinking: Advanced thinkers regularly critique their own plan for systematic practice, and improve it thereby. Practicing thinkers regularly monitor their own thoughts. They insightfully articulate the strengths and weaknesses in their thinking. They possess outstanding knowledge of the qualities of their thinking. Advanced thinkers are consistently able to identify when their thinking is driven by their native egocentrism; and they effectively use a number of strategies to reduce the power of their egocentric thoughts.

Relevant Intellectual Traits: The key intellectual trait required at this stage is a high degree of intellectual humility in recognizing egocentric and sociocentric thought in one's life as well as areas of significant ignorance and prejudice. In addition the thinker at this level needs: **a)** the intellectual insight and perseverance to actually develop new fundamental habits of thought based on deep values to which one has committed oneself, **b)** the intellectual integrity to recognize areas of inconsistency and contradiction in one's life, **c)** the intellectual empathy necessary to put oneself in the place of others in order to genuinely understand them, **d)** the intellectual courage to face and fairly address ideas, beliefs, or viewpoints toward which one has strong negative emotions, **e)** the fair-mindedness necessary to approach all viewpoints without prejudice, without reference to one's own feelings or vested interests. In the advanced thinker these traits are emerging, but may not be manifested at the highest level or in the deepest dimensions of thought.

Some Implications for Instruction: For the foreseeable future most of our students will not become advanced thinkers — if at all — until college or beyond. Nevertheless, it is important that they learn what it would be to become an advanced thinker. It is important that they see it as an important goal. We can help students move in this direction by fostering their awareness of egocentrism and sociocentrism in their thinking, by leading discussions on intellectual perseverance, intellectual integrity, intellectual empathy, intellectual courage, and fair-mindedness. If we can graduate students who are practicing thinkers, we will have achieved a major break-through in schooling. However intelligent our graduates may be, most of them are largely unreflective as thinkers, and are unaware of the disciplined habits of thought they need to develop to grow intellectually as a thinker.

Stage Six: The Accomplished Thinker

Defining Feature: Accomplished thinkers not only have systematically taken charge of their thinking, but are also continually monitoring, revising, and re-thinking strategies for continual improvement of their thinking. They have deeply internalized the basic skills of thought, so that critical thinking is, for them, both conscious and highly intuitive. As Piaget would put it, they regularly raise their thinking to the level of conscious realization. Through extensive experience and practice in engaging in self-assessment, accomplished thinkers are not only actively analyzing their thinking in all the significant domains of their lives, but are also continually developing new insights into problems at deeper levels of thought. Accomplished thinkers are deeply committed to fair-minded thinking, and have a high level of, but not perfect, control over their egocentric nature.

Principal Challenge: To make the highest levels of critical thinking intuitive in every domain of one's life. To internalize highly effective critical thinking in an interdisciplinary and practical way.

Knowledge of Thinking: Accomplished thinkers are not only actively and successfully engaged in systematically monitoring the role in their thinking of concepts, assumptions, inferences, implications, points of view, etc., but are also regularly improving that

practice. Accomplished thinkers have not only a high degree of knowledge of thinking, but a high degree of practical insight as well. Accomplished thinkers intuitively assess their thinking for clarity, accuracy, precision, relevance, logicalness, etc. Accomplished thinkers have deep insights into the systematic internalization of critical thinking into their habits. Accomplished thinkers deeply understand the role that egocentric and sociocentric thinking plays in the lives of human beings, as well as the complex relationship between thoughts, emotions, drives and behavior.

Skill in Thinking: Accomplished thinkers regularly, effectively, and insightfully critique their own use of thinking in their lives, and improve it thereby. Accomplished thinkers consistently monitor their own thoughts. They effectively and insightfully articulate the strengths and weaknesses inherent in their thinking. Their knowledge of the qualities of their thinking is outstanding. Although, as humans they know they will always be fallible (because they must always battle their egocentrism, to some extent), they consistently perform effectively in every domain of their lives. People of good sense seek out master thinkers, for they recognize and value the ability of master thinkers to think through complex issues with judgment and insight.

Relevant Intellectual Traits: Naturally inherent in master thinkers are all the essential intellectual characteristics, deeply integrated. Accomplished thinkers have a high degree of intellectual humility, intellectual integrity, intellectual perseverance, intellectual courage, intellectual empathy, intellectual autonomy, intellectual responsibility and fair-mindedness. Egocentric and sociocentric thought is quite uncommon in the accomplished thinker, especially with respect to matters of importance. There is a high degree of integration of basic values, beliefs, desires, emotions, and action.

Some implications for Instruction: For the foreseeable future the vast majority of our students will never become accomplished thinkers — any more than most high school basketball players will develop the skills or abilities of a professional basketball player or student writers the writing skills of a published novelist. Nevertheless, it is important that they learn what it would be to become an accomplished thinker. It is important that they see it as a real possibility, if practicing skills of thinking becomes a characteristic of how they use their minds day to day.

General Implications for Instruction

We believe that the thinking of students will remain "invisible" to them unless they are supportively challenged to discover the problems in their thinking. This is not possible unless they receive careful introduction into the intellectual workings of the human mind. Thus, it is vital that an intellectual vocabulary for talking about the mind be established for teachers; and that teachers lead discussions in class designed to teach students, from the point of view of intellectual quality, how their minds work, including how they can improve as thinkers.

Of course, teachers need to take students through stages of intellectual development.

For example, in elementary school an essential objective would be that students become "beginning" thinkers, that is, that they will be taught so that they discover that they are thinkers and that their thinking, like a house, can be well or poorly constructed. This "discovery" stage--the coming to awareness that all of us are thinkers--needs to be given the highest priority. Middle school and High School, on this model, would aim at helping all students become, at least, "practicing" thinkers. Of course, students discover thinking only by discovering that thinking has "parts." Like learning what "Legos" are, we learn as we come to discover that there are various parts to thinking and those parts can be put together in various ways. Unlike Legos, of course, thinking well requires that we learn to check how the parts of thinking are working together to make sure they are working properly: For example, have we checked the accuracy of information? Have we clarified the question?

We are not advocating here that teachers withdraw from academic content. Rather we are suggesting that critical thinking provides a way of deeply embracing content intellectually. Within this view students come to take intellectual command of how they think, act, and react while they are learning...history, biology, geography, literature, etc., how they think, act, and react as a reader, writer, speaker, and listener, how they think, act, and react as a student, brother, friend, child, shopper, consumer of the media, etc.

For example if we teach all courses with emphasis on the parts, or intellectual elements of thinking, we can help students discover content as a mode of thinking at the same time they are discovering their minds as thinkers. In fact, to effectively learn any subject in an intellectually meaningful way presupposes a certain level of command over one's thinking, which in turn presupposes understanding of the mind's processes.

Discovering Thinking

Discovering the Parts of Thinking

What are the basic features of thinking that students need to know to effectively take charge of their thinking intellectually, with respect to any content? First, they must come to realize that whenever humans reason, they have no choice but to use certain elements, without which their thinking would be intellectually unintelligible. Consider.

Thinking is inevitably driven by the questions we seek to answer, and those questions we seek to answer for some purpose. To answer questions, we need information which is in fact meaningful to us only if we interpret it (i.e., by making inferences). Our inferences, in turn, are based on assumptions and require that we use ideas or concepts to organize the information in some way from some point of view. Last but not least, our thinking not only begins somewhere intellectually (in certain assumptions), it also goes somewhere---that is, has implications and consequences.

Thus whenever we reason through any problem, issue, or content we are well advised to take command of these intellectual structures: purpose, question, information, inferences, assumptions, concepts, point of view, and implications. By explicitly teaching students how to take command of the elements of reasoning we not only help

them take command of their thinking in a general way; we also provide a vehicle which effectively enables them to critically think through the content of their classes, seeing connections between all of what they are learning.

Of course, we are not implying that elementary school teachers would introduce all of these ideas simultaneously. Not at all. This vocabulary for talking about thinking needs to be learned slowly and progressively. And the process is the perfectly natural one of helping students to think better in context. For example, children come to school with their own goals and purposes and we as teachers have ours. For school to work, children have to enter into goals and purposes that they don't come to school with.

Young children do not come to school with the goal of learning numbers and letters, arithmetic, spelling, and reading. But they, like us, accomplish more when they know what they are trying to accomplish. The general goal of "figuring things out" is the essential goal intellectually. To become a good learner, we have to learn how to figure things out: first numbers and letters and simple stories, and then eventually history, and novels and mathematical formulas. Whatever the "content" to be learned is, they need to learn to approach it in the spirit of "I can figure this out," "I can use my mind and thinking to understand this."

One way to begin to teach content as a mode of thinking is to recognize the fact that all content areas presuppose not only a particular purpose, but those purposes are connected to organized ways of figuring things out. If students understand the purpose of history, the purpose of literature, the purpose of government, etc., they can begin to learn that there are different things which we as learner try to figure out. Furthermore, they learn that when we want to figure something out, we have to ask particular questions about it. Hence, all subjects presuppose certain fundamental questions which guide thinking within a content area.

From the earliest stages of parenting and teaching, we can emphasize with our children what we are wanting them to figure out. We can focus instruction on key fundamental questions and make those questions explicit. When information is required, we can elicit student help in assembling that information. When it is appropriate to take the step of interpreting information, we can help students make their inferences explicit. When students make questionable inferences, we can call that to their attention and ask them what other inferences might be made. If they are making a questionable assumption, we can help them recognize that. We can emphasize the importance of their thinking through implications and consequences. We can introduce diverse point of view and make explicit we are doing that. We can help them to role play different ways of looking at things (using different characters in stories, etc.). There are many, many ways--almost endlessly different ways--to encourage students to discover and take command of their thinking. The central point is this, there are distinct advantages to helping students to discover thinking and begin to take charge of it. Let look at this in a broad and general way.

The Advantages of Critical Thinking

When teachers become advocates of quality thinking and learning, in keeping with this stage theory, they teach in such a way that students are regularly required to:

- 1) state and explain goals and purposes,
- 2) clarify the questions they need to answer and the problems they need to solve,
- 3) gather and organize information and data,
- 4) explicitly assess the meaning and significance of information you give them,
- 5) demonstrate that they understand concepts,
- 6) identify assumptions,
- 7) consider implications and consequences,
- 8) examine things from more than one point of view,
- 9) state what they say clearly,
- 10) test and check for accuracy,
- 11) stick to questions, issues, or problems; and not wander in their thinking,
- 12) express themselves precisely and exactly,
- 13) deal with complexities in problems and issues,
- 14) consider the point of view of others,
- 15) express their thinking logically,
- 16) distinguish significant matters from insignificant ones,

And as a result of such instruction, the students (in general):

- 1) learn content at a deeper and more permanent level
- 2) are better able to explain and apply what they learn,
- 3) are better able to connect what they are learning in one class with what they are learning in other classes,
- 4) ask more and better questions in class,

- 5) understand the textbook better,
- 6) follow directions better,
- 7) understand more of what you present in class,
- 8) write better,
- 9) apply more of what they are learning to their everyday life,
- 10) become more motivated learners in general,
- 11) become progressively easier to teach.

Closing

There are many ways to teach content so that students progress as thinkers. However if we are to do so, we must explicitly focus on the mind intellectually and grasp the stages that students must progress through. We and our students must recognize that we all develop incrementally as thinkers, and that the progress of any one of us is directly dependent on our level of intellectual knowledge and commitment. Put another way, if I am to develop my critical thinking ability I must both "discover" my thinking and must intellectually take charge of it. To do this I must make a deep commitment to this end.

Why is this so important? Precisely because the human mind, left to its own, pursues that which is immediately easy, that which is comfortable, and that which serves its selfish interests. At the same time, it naturally resists that which is difficult to understand, that which involves complexity, that which requires entering the thinking and predicaments of others.

For these reasons, it is crucial that we as teachers and educators discover our own "thinking," the thinking we do in the classroom and outside the classroom, the thinking that gets us into trouble and the thinking that enables us to grow. As educators we must treat thinking--quality thinking--as our highest priority. It is the fundamental determinant of the quality of our lives. It is the fundamental determinant of the quality of the lives of our students. We are at some stage in our development as thinkers. Our students are at some stage in the development of theirs. When we learn together as developing thinkers, when we all of us seek to raise our thinking to the next level, and then to the next after that, everyone benefits, and schooling then becomes what it was meant to be, a place to discover the power of lifelong learning. This should be a central goal for all our students--irrespective of their favored mode of intelligence or learning style. It is in all of our interest to accept the challenge: to begin, to practice, to advance as thinkers.