What is Critical Thinking?
and How Can We Teach It?

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For more than ten years, the Critical Thinking Project (CTP) of the Open Society Institute has been gathering groups of teachers, from elementary school to the university, for workshops on critical thinking. These multiple-day workshops, led by small teams of expert trainers, have proven successful in many different countries and many different contexts. In this article, I'd like to define what our project understands "critical thinking" to be, and to describe the basic workshop approach we use to reach teachers and to guide them in a process of including critical thinking pedagogy in their daily classroom work.

The forerunner of CTP, Reading and Writing for Critical Thinking (RWCT) began in 1997 in nine countries in central and eastern Europe and central Asia, and quickly expanded to more than 30 countries on four continents. [1] This program was sponsored by the International Reading Association and the Open Society Institute (OSI). In recent years, the Education Support Program of OSI has extended the program, now called simply, Critical Thinking, to countries in Africa, the Middle East, and Asia. The program is especially useful in countries experiencing social and political transitions, causing the education system to reconsider the kinds of citizens the schools educate. In the original group of countries, the transition was from Soviet-era communism to democracy. In some African countries such as Liberia, the transition has been from decades of civil war to post-conflict stability. Wherever the program has been invited, educators have recognized the need for a new kind of classroom and new kind of school graduate. They have wanted classrooms that model the kinds of tolerant, open-minded, innovative thinking their society needs, and they have wanted school graduates who are independent thinkers, creative problem solvers, and competent citizens who can take an active role in the improvement of their society.

How does CTP define critical thinking? The term "critical thinking" is used in many programs and its meanings vary in different contexts. In CTP we use the term to denote an active, questioning, engaged interaction between teacher and students, among students, and within each individual learner. Unlike some programs that emphasize formal, philosophical, logical reasoning, we are often content to use "active learning" as a close synonym. Many of our strategies stress group interactions around texts and lessons, with every student taking an active speaking or writing role in every lesson. Yet beneath this emphasis on active learning lie five foundational ideas about critical thinking.[2]

What is Critical Thinking?

First, critical thinking is independent thinking. In a critical thinking classroom, each person forms his or her own ideas, values, and beliefs. No one can think critically for you. Critical thinking is work that you can do only for yourself. Therefore, individual ownership of thinking in the classroom is a precondition for critical thinking. Students must feel the freedom to think for themselves, to decide complex questions for

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[1] An account of the founding of the program can be found in *Ideas Without Boundaries: International Education Reform through Reading and Writing for Critical Thinking*, ed. David Klooster, Jeannie Steele, and Patricia Bloem. Newark, DE: International Reading Association, 2001.

[2] This five-part definition is drawn from my earlier article "What is Critical Thinking?" published in *Thinking Classroom/Peremena* Spring 2001 (4): 36-40.

themselves. Many teacher-participants in Critical Thinking workshops have come to recognize a problem with educational systems that value memorization above all other thinking skills. They realize that students who have memorized vast amounts of information but who have never been asked to think deeply about that information nor to develop individual perspectives on it are not adequately education for the complex world they will enter. Therefore, they are drawn to new pedagogical methods that ask students to think for themselves, to ask their own questions, and to develop their own individual relationship to the new knowledge they are acquiring in school.

Critical thinking is not necessarily original thinking, since it is possible for a person to adopt an idea or belief from another person and still feel it wholly to be one's own. We find pleasure and power in the sentence, "I agree with you," and of course the critical thinker will often find himself in agreement with others. But the possibility of dissent is essential; the teacher cannot seek to force her own ideas or a single "official" idea onto all students. It is crucial that each thinker decides for himself or herself, that each thinks independently. Independent thinking is the first, and perhaps the most important, quality of critical thinking.

Second, information is the starting point for critical thinking, not the end point. Students need to know a great deal before they are motivated and able to think for themselves. We sometimes say, "You can't think with an empty head." In order to develop complex thoughts, we need a good deal of "raw material," facts, ideas, texts, theories, data, concepts. I do not argue that critical thinking is a substitute for traditional learning of facts, but neither do I want to say that simply learning the facts is adequate. Our work involves more than teaching critical thinking; we also teach students to comprehend and retain information of many kinds. Teaching critical thinking is one responsibility of the teacher among several others.

Students of every age, from the first grade to the university, can think critically, because all of them already have rich life experiences and deep resources of prior knowledge. As they learn more, they are able to become more sophisticated thinkers, but even very young children are capable of independent, critical thinking (as those of us who have children know very personally). Critical thinking is the work that students and teachers and writers and scientists actually do with the facts that they have learned. Critical thinking takes traditional learning and makes it personal, meaningful, useful, and permanent.

Third, critical thinking begins with questions, with problems to be solved. Human beings have a basic orientation of curiosity toward the world. We see something new, and we want to know about it. We see an interesting place, and we are curious to go there. The philosopher and chemist Michael Polanyi notes that ”as far down the scale of life as worms and even perhaps amoebas, we meet a general alertness of animals, not directed towards specific satisfaction, but merely exploring what is there: an urge to achieve intellectual control over the situations confronting them” (quoted in Meyers, p. 41). Curiosity, then, is a basic characteristic of life. We are more accustomed to seeing it in young elementary school children than in students in the secondary school or university, and that is a sad indication of the result of most schooling on young minds. Yet authentic learning at every level is marked by the urge to solve problems and to answer questions that arise from the learners own interests and needs. John Bean says that ”part of the difficulty of teaching critical thinking, therefore, is awakening students to the existence of problems all around them” (p. 2)

Brazilian educator Paulo Freire argues that we need to replace traditional education, or ”banking” education, in which teachers make ”deposits” in the minds of students, with ”problem posing” education, in which students grapple with significant problems from the world around them. Students learn best, he argues, when they identify genuine problems in their own experience – problems of economics, social structure, and political power – and use the resources of the classroom and the school to investigate solutions. Because of his insistence on the analysis of oppressive power and his conviction that education can liberate students from this oppression, Freire’s work is called ”liberatory pedagogy.”

The American philosopher of education John Dewey suggests that critical thinking begins with students’ engagement with a problem. ”The most significant question which can be asked about any situation or experience proposed to induce learning is what quality of problem it involves” (p. 182). According to Dewey, problems stimulate our students’ natural curiosity and encourage critical thinking. ”Only by wrestling with the conditions of the problem at hand, seeking and finding his own way out, does [the student] think” (p. 188).

The work of the teacher, then, in preparing for class is to identify the problems of students, and as they become able, to help students formulate their own problems. Critical thinking pedagogy becomes a purposeful and productive activity, not simply ”school work,” as students engage in the practical intellectual work of formulating solutions to the problems they face in the world. As students gather data, analyze texts, consider alternative points of view, and brainstorm possibilities, they are seeking solutions to the problems that concern them. Canadian professor Ralph H. Johnson defines critical thinking as “a particular kind of activity of mind which enables its possessor to arrive at sound judgment about something proposed to him for action or belief” (p. 1).

Fourth, critical thinking seeks reasoned arguments. Critical thinkers develop their own solutions to problems, and they support those solutions with good arguments and convincing reasons. They recognize that more than one possible solution exists, and therefore they work to demonstrate why their preferred solution is logical and practical. An argument consists of three basic elements. First, the argument makes a claim. This claim (also called a thesis or main idea or central position) is the heart of the argument, the one most important idea of the thinker. The claim is supported by a series of reasons. Each of the reasons, in turn, is supported by evidence. The evidence can be statistical data, textual details, personal experience, or other kinds of evidence recognized as legitimate by the audience. Often, good arguments also acknowledge that other competing arguments exist (counter arguments), and the thinker will concede or refute these opposing views. Always an argument is made stronger by acknowledging that other views are possible. By creating such arguments, critical thinkers challenge the authority of texts, traditions, and majorities, and resist manipulation. This emphasis on using reason to make complex decisions about actions or values is at the heart of many definitions of critical thinking. Robert Ennis, for example, defines critical thinking as ”reasonably deciding what to do or believe” (quoted in Johnson, p. 1).

Fifth and finally, critical thinking is social thinking. Ideas are tested and improved as they are shared with others. The philosopher Hannah Arendt says, “for excellence, the presence of others is always necessary.” As we discuss, read, debate, disagree, and enjoy the give and take of ideas, we engage in a process of deepening and refining our own positions. Teachers of critical thinking, therefore, employ a number of classroom strategies that encourage dialogue and discussion, including group work, debates, discussion, and the publication of student writing in a variety of forms. Critical thinking teachers also work to nurture the attitudes that facilitate the productive exchange of ideas, attitudes such as tolerance, careful listening to others, and responsibility for one’s own positions. In all of these ways, teachers of critical thinking strive to bring learning inside the classroom closer together with life beyond the classroom. Because teachers ultimately work to create an ideal society, they strive to make classroom life a mirror image of the society they wish to create, or at least a positive step in achieving those larger goals. Because many existing pedagogical models reinforce the out-dated values of an earlier time—the near dictatorial authority of the teacher, for example, or the oppressive ideological views of the central authorities—critical thinking teachers find they need to abandon old pedagogical strategies and attitudes and begin a process of change towards a new classroom manner and identity.

How Do We Teach Critical Thinking?

The Critical Thinking Program advocates a lesson-planning framework that helps teachers build active learning into many of their lessons. This framework has three phases: Anticipation, Building Knowledge, and Consolidation, or A-B-C.[3]

In the *anticipation* phase, the teacher designs activities that will arouse the curiosity of the students and help them integrate what they are about to learn with what they already know. The anticipation activities are usually fairly brief—five or ten minutes at the beginning of the lesson—and they aim to get each student actively ready and involved in the lesson. Teachers might ask "What do you already know or think you know about today's topic, and what more would you like to learn?" They might ask students to think or write individually about a question, then turn to a classmate and compare their ideas, and then talk altogether with the class about their preliminary ideas. In the anticipation phase, teachers honor what students already know (indeed, teachers are often amazed to find out how much prior knowledge students have on many topics), and they seek to arouse curiosity about what is to come.

In the *building knowledge* phase, the teacher introduces new material to the class, information and ideas from the curriculum that the students have not encountered before. Again the emphasis is on active and interactive methods, not the traditional teacher-dominated lecture method. In traditional lessons, the teacher is the active thinker and the students are passive recipients. In the critical thinking lesson, the teacher designs activities so that the students are actively involved in the construction of new knowledge. CTP offers a wide variety of methods, including many reading strategies, cooperative group work approaches, writing exercises, and others to help teachers imagine ways to keep students active throughout the lesson.

The *consolidation* phase asks students to make this new knowledge personally meaningful and perhaps useful in their lives. The emphasis now is on asking students to put new ideas into their own words, and to find ways to apply knowledge to solve problems or to evaluate the quality or interpret the meaning of the ideas they are encountering. Rather than insist that all students take precisely the same meaning away from the lesson, the teacher prizes the individuality and creativity of the students' learning. Consolidation is a time for reflection, for lively discussion among classmates, for speculation about how these ideas can be used in life beyond the classroom, and for making judgments about what has been learned.

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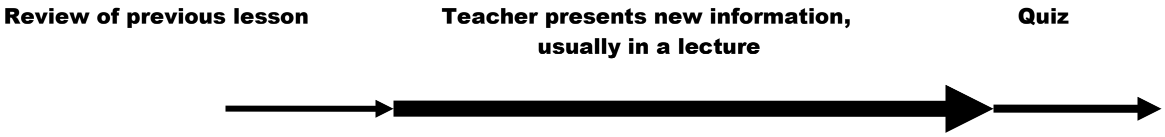
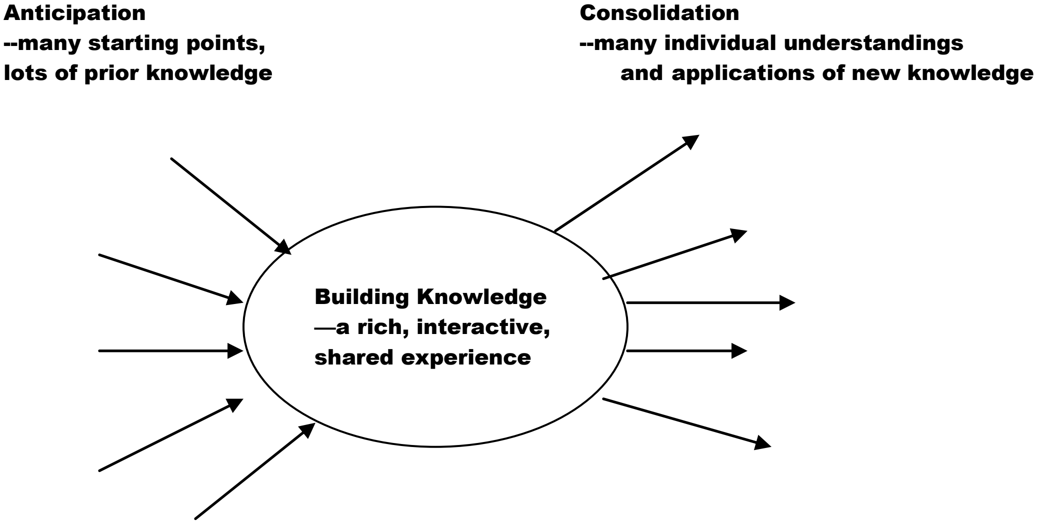
[3] The A-B-C framework is fully described in *Teaching and Learning Strategies for the Thinking Classroom*, by Alan Crawford, E. Wendy Saul, Samuel Mathews, and James Makinster. New York: IDEA, 2005. This book, a publication of the Reading and Writing for Critical Thinking Project, contains a full introduction to the program and a number of sample lessons.

A traditional lesson often has three parts as well, but they serve a much different function. Often a traditional teacher begins with a brief review of the previous day's lesson to remind students of what they should know. Then the teacher speaks, reads, or demonstrates the new lesson at the front of the room for a half hour or more, while students sit silently and write down what the teacher says. Finally, the teacher calls on selected students individually to quiz them on their mastery of what has just been taught, rewarding them for the accuracy with which they can repeat what the teacher just said.

We might draw the traditional lesson like this:


Review of previous lesson
Teacher presents new information, usually in a lecture
Quiz

The greater complexity and activity of the critical thinking lesson can be seen in the following drawing:


Anticipation
--many starting points, lots of prior knowledge
Consolidation
--many individual understandings and applications of new knowledge
Building Knowledge
—a rich, interactive, shared experience

When teachers first begin using the Anticipation-Building Knowledge-Consolidation (A-B-C) framework, they often report some new experiences. Often they are surprised and impressed with how interesting their students' existing knowledge is on the day's topic. As soon as they ask students in a serious way what they already know, they begin to see students not as empty, ignorant, or deficient, but as smart, curious, and capable. Second, they frequently report that both they and their students find learning to be fun and enjoyable. Students respond with new interest and excitement to the lessons teachers bring home from the CT workshops. Third, teachers report that their view of their work changes. Instead of being the controlling authority figure at the front of the room, teachers find that they shift their work to preparing engaging activities that involve students in their own learning and help them be more responsible themselves for what they learn and what they do with their new knowledge. Fourth, teachers almost always report that students are learning more, remembering it better, and are coming to class with a new enthusiasm for their work. Fifth, many teachers report a new sense of satisfaction with their work, as they see the ways learning is more closely connected to life beyond the classroom and as they see that students are better prepared for the complex worlds they live in. Finally, some teachers report that the skills of critical thinking and active learning they are helping their students acquire also become new priorities in their own lives. They begin to use some of these strategies in their own families and in their communities, and they tell us that they begin to feel a new sense of optimism and ability in their personal lives.

How Critical Thinking Workshops Help Teachers Acquire New Approaches to Teaching

The changes I've just described in teachers' attitudes about their work don't happen immediately. Genuine change in the classroom is a slow process that takes time and practice. The CTP workshop experience is built on a model of teacher change that includes these elements:

1. *Change must be felt, not just described.* Every CT workshop offers participants a chance to experience real critical thinking lessons. As soon as the preliminaries of introductions and an overview of the workshop are provided, the CTP trainers ask participants to imagine that they are students in a classroom, and then the trainers conduct a critical thinking lesson for 30 or 40 minutes, using the strategies and materials appropriate to the local context. When the lesson concludes, the trainers invite the participants to resume their role as professional educators to debrief the lesson, to analyze its parts, to discuss its effects, and to imagine how it could be adapted to participants' classrooms. Towards the end of the workshop day, after participants have experienced three or four demonstrations lessons and discussed them together, we ask the teachers to use the methods they have learned to plan an A-B-C lesson on a topic they will teach in their own classrooms in the coming week, and then small groups listen and respond as each participant describes the lesson plan and teaches a small portion of it to colleagues. This kind of active, participatory workshop, based on genuine lessons taught by the trainers and experienced by the participants allows the teachers to gain a deeply felt understanding of the new methods.

2. *Change takes time.* We know that deep and lasting change in the classroom practices of teachers is a long project that can't be achieved quickly or easily. After all, by the time a teacher assumes her position in front of a classroom of students, she has spent many years, both actively and passively, absorbing the educational values and practices of her society. To alter these practices takes time. Therefore CT workshops are always planned to provide repeated, concentrated experiences with the new pedagogical practices. Our most common pattern is to offer four workshops of four or five days each, spread out over a full academic year. These workshops, meeting every two or three

months, draw participants away from their daily responsibilities and give them a chance to think, experience, reflect, and plan. Between workshops, teachers are encouraged to gather once a month to compare their experiences, to help one another solve problems, and to support one another in the interesting but challenging work of change. As the same teams of trainers return to the workshop throughout the year, and as the group of 30 or 40 teachers reassemble throughout the year, important and rewarding professional relationships develop and friendships emerge. Because CTP recognizes that change takes time, participants have the opportunity to be involved over multiple workshops spanning many months.

3. *Change requires support*. It is very difficult to achieve and sustain genuine change when one works all alone. Therefore, CTP encourages small teams of teachers and administrators from a single school or from a small geographical area to participate together in a workshop. We want participants to have a support network back home when the workshop is over to be able to celebrate successes and diagnose difficulties on a day-to-day and week-to-week basis. In addition, we encourage the formation of professional national and international networks of teachers, through websites, publications, and occasional conferences. We want teachers to recognize that they are part of a larger professional movement of progressive educators, and not just individual teachers working in isolation.

4. *Change requires a steady infusion of new ideas.* CT workshops require no special facilities or equipment. We work in school classrooms or other modest settings, and we use resources that are available to local teachers at little or no cost—a chalkboard, some pens and paper, maybe a notebook. We ask teachers to plan lessons using their own textbooks and the resources of the existing curriculum. Our program is not dependent on special equipment, new technologies, or expensive new books.

But we do recognize that teachers need a steady supply of new ideas. By planning the workshops to take place over the span of a year, we are able to bring new strategies, new approaches, and new ideas to the participants throughout the year. As we go, we rely more and more on the participants' own creativity and inventiveness as they bring ideas and materials from their own classrooms and of their own devising to share with their peers in the workshop. CT workshops provide a steady flow of new teaching ideas, and by the end of the year, teachers are amazed by the extensive array of new classroom methods they have acquired.

5. *Change requires an opportunity to share new ideas with others, and to influence change in schools and communities.* As critical thinking teachers experience the kinds of satisfactions described above, it is natural that they will want to share their new knowledge and new pedagogical strategies with others. In CT, we hope that participants in the program will become advocates for change in their schools, and we build development opportunities into the later workshops so that participants can in turn become trainers in the second and third years of the program. The first year is focused on equipping teachers for change in their own classrooms, and in subsequent years, our focus shifts to equipping participants to become trainers of others. CT provides well developed standards and rubrics to assess progress of students, teachers, and trainers, and to maintain quality standards over the course of the program. It is the vision of the CT program that the pedagogical strategies we offer be deeply and enthusiastically embraced by participants during the first year of workshops and then be shared with others in subsequent years.

Over the past decade, the Reading and Writing for Critical Thinking and the Critical Thinking have reached out to hundreds of thousands of teachers and millions of students in many countries around the world. From Argentina to Albania, from Lithuania to Liberia, and from New Zeeland to Zambia—and many places in between—teachers and students have enjoyed new ways of learning in the classroom and new ways of preparing for the lives they live beyond the classroom.

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