Developing Critical Thinking Skills in Eastern Europe

Paper presented at the World Bank’s International Workshop
Curricula, Textbooks, and Pedagogical Practices and the Promotion of Peace and Respect for Diversity
March 24-25, 2003

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Traditional approaches that foster civil societies, promote tolerance, and celebrate diversity typically emphasize attention to literacy. The notion of literacy as a prerequisite skill for civility and tolerance is, unfortunately, based on some questionable assumptions about civility and a flawed perception of literacy.

Traditional approaches to civic education tend to focus attention on the mechanical organization and operation of civil societies. The underlying paradigm, that peace, tolerance, and stability are outcomes of systems of good governance, has its roots in Western ideology at least as far back as Plato’s Republic. The aims of achieving peace, tolerance and democracy has always been linked to educating youth and other citizens. They are taught the structures of civil government and roles and responsibilities each in individual should have to achieve good citizenship.

Experience in civic education in the Western nations suggests, however, the strategy of teaching about democracy and governance produces less than satisfactory results. Many Americans and Britons, for example, develop a poor understanding of their own government as students and this modest level of understanding appears to contribute little toward enabling or encouraging participation in civic affairs or to developing moral attitudes about tolerance and diversity.

Not surprisingly, when the approach of teaching about democracy and governance was implemented in countries of Central and Eastern Europe (through such agencies and programs as PHARE, Socrates, USIS) immediately after the change of political regimes in the early 1990s it produced similar results (Foster, 2000; UNICEF, 1999). Individuals in Albania, Romania, or Ukraine may have gained familiarity with civil society structures but their familiarity was limited to only superficial features. Indeed, the effect was often a simple re-labelling of existing ideas and justification of old habits. Citizens of these new democracies proved no less immune to ethnic cleansing and other forms of intolerance than those under the previous regimes.

The education traditions of Central and Eastern Europe may have worked against approaches that largely consisted of teaching about democracy and governance. Traditional education in those countries is characterized by methods of instruction that emphasize rote-learning and memorization, and assessment schemes that value students’ ability to recall information. The same education system that failed to provide students with depth of understanding, an ability to interpret and apply information—about traditional curricular subjects from chemistry to literature—clearly lacked the capacity to convey to students anything as
sophisticated or radical as the idea of a civil society founded upon the goals of openness, tolerance, and respect for the individual.

Furthermore much of the information used in civic education in Central and Eastern Europe was imported from abroad and introduced through written texts. While the literacy levels of most countries in Central and Eastern Europe was relatively high and broadly distributed during the communist regimes, text-based approaches to teaching about democracy and governance failed to take into account certain key characteristics of the cultural context of the region. For most people in Central and Eastern Europe, state news agencies, politicians, and propagandists had corrupted the written word. Texts were used to limit knowledge rather than to expand thinking. And the discussion and interpretation of texts was not encouraged. Not surprisingly, few Eastern Europeans who grew up in the era of state-controlled publishing placed much faith in the legitimacy of ideas they found in print. Worse, the rush of new freedoms in the immediate period of post-communism imbued writers and journalists with a reckless sense of license to print any allegation, rumor, or insinuation as though it were truth.

The disconnect caused by an educational tradition of rote learning combined with a reasonably warranted mistrust of print should have foretold the futility of a text-based approach to civic education and the promotion of tolerance. What was needed was not new texts, but a new approach to civic education. Such an approach does not teach about democracy, governance, or tolerance but teaches with a democratic pedagogy. Teaching democratically means encouraging the habits of critical thinking—reflection, the ability to form opinions, and to value the expression of diverse opinions, and the ability to apply school knowledge to the realities of personal experience and the problems of everyday life.

Somewhat ironically, then, one critical thinking approach to democracy derives its strength from new concepts about literacy and literacy pedagogy. The International Reading Association’s *Reading and Writing for Critical Thinking* program is one example of how literacy pedagogy was used to reshape classroom thinking, discourse, and social behavior. This program helped teachers transform their classrooms into places where habits of critical thinking were developed. Linked to critical thinking were the social and moral issues of peace and tolerance.

This paper begins by offering a review of several important concepts in literacy and literacy pedagogy. I then link these concepts to the pedagogical framework of the *Reading and Writing for Critical Thinking* program. After describing the components of this program and its structures for implementation, dissemination and institutionalization in Central and Eastern Europe and Central Asia, I will briefly discuss the evaluation and some of the outcomes of the *Reading and Writing for Critical Thinking* program.

**Changing Notions of Literacy**

Traditional notions of literacy, both within the economically developing and developed countries, tend to take a narrow view of reading and writing as processes of transferring information—that is, decoding print into speech and encoding speech into print. Similarly, traditional assessments of literacy measure the reader’s ability to decode accurately and to recall literal information and the writer’s ability to encode with proper spelling, grammar, and
paragraph organization. In many countries, such limited literacy objectives continue to dominate the curriculum during the first levels of primary education.

The knowledge demands of the Information Age require far more than basic literacy competence. Over the last two decades, literacy scholars and classroom practitioners (many of whom are members of the International Reading Association) informed by extensive research in the fields of cognitive psychology, linguistics, cultural anthropology, and pedagogy, have, in effect, redefined literacy in several fundamental ways. This re-definition has enormous implications not only for the daily teaching and learning within individual classrooms, but permeates other aspects of the education system including curriculum design, assessment and evaluation, textbook development, and programs of teacher education.

In general, new concepts of literacy (i.e., the ability to read and write) grew out of an important shift from behaviorist to constructivist models of learning. A traditional behaviorist model of literacy learning is text-based. It defines reading and writing in terms of the ability to accurately decode phonetic and linguistic cues to retrieve information encoded in texts. In this sense, meaning is inviolate and said to reside within the text. This stands in sharp contrast with a constructivist model (see for example, Lipson & Wixson, 1997). This perspective of literacy is reader-based and defines literacy in terms of the individual’s ability to construct meaning when she reads or writes. In a constructivist sense, meaning is interpretive and resides within the individual. Individuals construct meaning by linking text information and their background knowledge and personal experience. A constructivist perspective views literacy as an active, transformative learning process, while behaviorist models imply a passive, receptive process of learning (Pearson & Fielding, 1991).

Further, because meaning is constructed by an interaction of the author’s ideas represented in the text and the reader’s background knowledge (Rumelhart, 1982) meaning construction, then, varies depending upon the reader’s background knowledge as much as the reader’s acquired level of literacy skill. The constructivist model of reading comprehension uses the term schema to describe the organizational structure of an individual’s background knowledge and personal experience. A person’s schema allows a reader to construct meaning or conceptualize the information in texts. Since individuals have uniquely-formed background knowledge and experience, even the simplest text produces multiple meanings when read by a group of different people—like a classroom of students.

It may seem obvious that individuals are more likely to understand information in texts if they have some background experiences they can draw on to interpret this new information. However, the notion that the act of reading or writing is not complete until a reader actively connects information in texts to his or her own experiences has complex and profound implications for teachers, students, as well as those responsible for developing textbooks and other instructional materials.

Other reader-based factors that influence learning from texts include the individual’s motivation to read and write. Motivation to read and write not only varies among individuals, but each individual displays different levels of motivation to read and write different texts under various circumstances. Factors that influence motivation to read and write include a variety of personal variables such as the individual’s perception of the purpose of reading and writing, the value an individual places on reading and writing, and the individual’s concept of herself as a
reader and writer (Rudell, 1990). Motivation to read and write is also influenced by contextual factors such as where reading and writing takes place and whether reading and writing is done in isolation or as a shared social activity (Paris & Turner, 1995). Thus, motivation to read and write is intimately connected to factors of culture, gender, and local language traditions.

New concepts of literacy view reading and writing as sets of strategic processes that are crucial for independent thinking and critical for life-long learning (Tierney & Pearson, 1983). The irony of school learning is that much of the content information students often are required to learn by rote and recall becomes obsolete and irrelevant shortly after they complete their education. For some students, content learning dissipates shortly after they leave the lecture hall! The goals of literacy pedagogy now emphasize providing students with tools of the process of learning as much as the product or the content of learning. New pedagogical techniques and curricula help students become life-long learners include such critical thinking skills as the ability to evaluate text information, analyze ideas in print, and to form and articulate personal opinions based on text information, and to transform information or apply information in novel situations. Clearly, new concepts of literacy go well beyond the simple goals of decoding text and locating information.

Current understanding of the literacy process has greatly expanded the notions of what it means to be a literate individual. In turn, this has had an enormous impact on what it means to be a teacher. This re-visioning of literacy also provides direction for the development of new detailed and comprehensive educational elements—curricula, textbooks, assessments, teacher education— that can support the goals of lifelong learning, literate behavior and the development of literate families and literate communities.

Archimedes is said to have made the claim, “Give me a lever and a place to stand and I can move the world!” Educators wishing to have the same impact on the world of curriculum and classroom practice might find no better lever than literacy. Such was the strategy employed in the International Reading Association’s program, Reading and Writing for Critical Thinking.

**The Reading and Writing for Critical Thinking Program**

The Reading and Writing for Critical Thinking Project (RWCT) is an initiative of the Open Society Institute (OSI) and the International Reading Association (IRA) with a focus on methods of teaching. It is a professional development project for educators with the purpose to provide participants with strategies for interactive methods of teaching that prepare students for citizenship in open societies.

The project was originally implemented in 5 countries in Eastern Europe during 1997. Given the flexibility of the RWCT framework and the progress of the project in the initial five countries, additional countries requested to implement the project. Since 1997 the project was implemented in 29 countries throughout Eastern Europe; Central Asia; South East Asia and Latin America and more than 15,000 teachers successfully attended a series of RWCT training workshops. In addition, RWCT enlists more that 70 professional educators chosen from the IRA’s professional network who volunteer to serve as workshop leaders, delivering a comprehensive series of professional activities to participants.
As its name implies, the *Reading and Writing for Critical Thinking* (RWCT) program marries current concepts of literacy with the goals of critical thinking. It further suggests that critical thinking—the ability to analyze information, to form opinions, and to value the opinions of others—is fundamental for creating and sustaining open societies. The simple genius of this program is that strategies of literacy pedagogy can be used to help students develop attitudes and perspectives that encourage tolerance and respect for diversity. Not only is this pedagogy effective for developing such attitudes and skills, it does so in ways that create micro-communities of tolerance and student-centered diversity within the classroom.

At the heart of the RWCT program is its pedagogical framework. The framework describes three aspects involved in learning—Evocation, Realization of Meaning, and Reflection. It should be pointed out that, unlike stages of a lesson plan, these aspects refer to the types of cognitive processes that are occurring throughout a lesson. In fact, while every lesson has these three aspects, effective lessons constantly weave these different cognitive functions in and out like threads of thought until learning is shaped into a rich and vibrant cloth. While they are integrated in the learning process it is useful to describe them as specific cognitive activities.

Evocation refers to the cognitive process in which the learner calls up his or her background knowledge of the topic soon to be learned. In this portion of a lesson, the teacher helps the learner activate background knowledge by such activities as brainstorming, listing, webbing, completing graphic organizers, word sorts, or writing. Teachers also use this aspect of learning to help students set purposes for their own learning. For example, they might be encouraged to make predictions based on their prior knowledge, they may form questions, or pose problems they wish to solve. These student-centered activities help them understand how new information in a lesson connects to his or her prior knowledge and it helps increase the

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**Participating Countries in the RWCT program**

*Eastern Europe*
Albania; Armenia; Azerbaijan; Belarus; Bosnia and Herzegovina; Bulgaria; Croatia; Czech Republic; Estonia; Georgia; Hungary; Kosova; Latvia; Lithuania; Macedonia; Moldova; Romania; Russia; Serbia and Montenegro; Slovenia and Ukraine.

*Central Asia*
Kazakhstan; Kyrgyzstan; Mongolia; Tajikistan and Uzbekistan

*Latin America*
Guatemala

*South Asia*
Pakistan and Thailand
learner’s motivation to learn—to satisfy one’s own goals. Teachers must acknowledge that their students already know a great deal of information. They are not empty slates passively receiving the teacher’s ideas or an author’s text. They are active participants in the construction of their own knowledge. In effect, learning becomes “a process of linking the new, with the known” (Pearson & Fielding, 1991).

Realization of Meaning refers to the aspect of learning in which the learner comes into contact with new information. The information may come in the form of a text, a lecture, a science experiment, math manipulatives, or a film. During this aspect of learning, teachers use specific techniques to guide the students in actively comparing their background ideas with the new information, they confirm or revise predictions, or make inferences (Ogle, 1989). Importantly, teachers also employ techniques that help students monitor their own learning. Some best-practice techniques for guiding the realization of meaning include the Directed Reading-Thinking Activity, Venn Diagrams, and Note-Taking.

The techniques in RWCT insure that all students in the classroom “realize a meaning” of the content presented in the lesson. In many cases, the notion that effective teaching means providing time and techniques to insure student success is quite innovative. Traditional teaching often consists of broadcasting information then calling on the few students who raise their hands to respond. Such teachers are challenged, at first, to see the possibility that all of their students are capable of learning. Ultimately, however, they become energized to see that when they employ such techniques they dramatically increase the amount of active class participation and learning.

Reflection refers to the aspect of learning when the student pauses to consider the value of the information learned. She may evaluate the trustworthiness of the ideas or identify bias. She might consider how this information applies to her own values, her past experiences and background knowledge, as well as her present life outside of school. Instead on simply recalling information, reflection activities require students to manipulate or transform the information in some way. Two important cognitive issues need to be resolved before the student can make such transformations. She must first consider such questions as “What do I understand this information to mean?” , “How can I use this information for my own purposes?” and “What is the most effective way to express my understanding of this information so that it will serve the purposes I identified?”

The notion of reflection is related to contemporary theories of reader response (Rosenblatt, 1985). This theoretical perspective extends traditional notions of comprehension. It suggests that text information is meaningless until the reader interacts with it and depending up the reader’s stance toward the text, that is whether the purpose is primarily to gain information or primarily to enjoy the aesthetic value of the literature readers will respond in rich and diverse ways.

Reflections might be expressed in a variety of formats including visual arts, song, dance and movement. More typical, classroom reflection activities involve composition. In RWCT, teachers are reminded that, again, they have an obligation to provide various levels of instructional support to facilitate the application of critical thinking strategies to enable students to reflect on their learning and themselves as learners (Matewson, 1985). In other words, it is not sufficient to simply assign reflection tasks, just as it would be inappropriate to merely assign
reading tasks. Instead, the program provides teachers with a number of strategies for guiding students’ written and oral expression. Teaching techniques used to facilitate student reflection and response include Literature Circles, Discussion Webs, and Writers’ Workshop.

**Implementing the Critical Thinking Program**

RWCT training is designed to be applicable to educators at every grade level, from primary school through post-secondary education, and is not limited to specific subject areas. Based on the “Train the Trainer” model the project is delivered through nine workshops supported by guidebooks and designed to model interactive instruction and learning built around demonstration lessons, with opportunities for discussion, practice, and questions. Workshop participants first experience new methodologies, then after de-briefing discussion workshop facilitators guide the participants in designing lesson plans through which they will implement the new pedagogy in their respective classrooms. Before leaving the workshop, participants have an opportunity to micro-teach portions of their lessons and receive feedback from facilitators and peers.

The workshops are delivered in five (4-5 day) sessions during a 12-15 month period. Each of the first eight guidebooks addresses teaching strategies. The ninth course focuses on becoming a trainer.

Teachers learn strategies to help students use self-reflection to solve problems and to engage actively in the educational process. They are then supposed to incorporate these strategies into their instructional practices—using reading and writing activities to encourage students to examine the implications of their ideas, exposing those ideas to polite skepticism, balancing ideas against opposing points of view, constructing belief systems to substantiate the ideas, and taking a stand based on those structures.

The workshops were organized by national offices of the Open Society network with one staff member responsible for selecting and contacting participants, coordinating meetings, organizing logistics, etc. The participants included a mix of primary and secondary level classroom teachers, teacher educators, and school inspectors. Participants were selected on the basis of achieving balance in such categories as gender, first language, age, regional location, and primary educational responsibility. In addition, because the RWCT model followed a train-the-trainer cascade model, initial cohorts of approximately 30 participants were comprised of individuals who were acknowledged leaders in their respective schools. In general, participants attended preliminary “sampling” workshops during which they were introduced to the basic purpose of the program, its pedagogical framework, and implementation plan. Prospective participants had the option to opt out of participation in the program after attending the sampler workshop.

**Employing a Cascade Delivery Model**

The complete RWCT program was designed to run for three years in each country in which it was introduced. Underlying this three-year approach was the intent to ensure guided success of all participants, a gradual release of responsibility, and long-term program fidelity and quality. The first year of the program focused on implementation, that is the training of an initial cohort of participants. Activities during the second year were dedicated to dissemination. During this period, the participants in the initial cohort grouped into regional teams and replicated the
training series using the RWCT guidebooks to organize and deliver the workshops. The third year of the program emphasized activities aimed at institutionalizing the program, or finding permanent homes for the program once the funding from the Open Society Institute ended.

Volunteer teacher educators from the International Reading Association facilitated the workshops during the implementation year. A team of four volunteer teacher educators was assigned to each of the country cohorts. Traveling in pairs, each volunteer made two visits to their country team during the school year for a total of four visits. Each visit lasted approximately two weeks. During the implementation year, volunteers spent one week facilitating workshops and a second week observing and mentoring participants in their classrooms or meeting with education officials, school administrators, and other stakeholders. At the conclusion of the implementation year, participants presented professional portfolios demonstrating their use of RWCT techniques in their classrooms. They were also observed by the volunteer teacher educators and evaluated using a set of mutually agreed upon standards and rubrics. Participants who met the standards received certification as RWCT teachers.

RWCT standards and the associated assessment and certification processes are designed to meet three needs:

- To serve as tools for participant self-assessment
- To serve as a focus for peer evaluation and dialogue
- To serve as the basis for certification in order to establish and maintain RWCT standards for the long-term

The assessment and certification processes were designed to be accessible and transparent to those being certified and to those who certify. Certification was viewed as a developmental process in which participants are provided with clear recommendations and effective mentoring so that they can prepare for review. By becoming familiar with the standards and assessment processes and by incorporating them as goals into their vision for excellent teaching, RWCT-certified teachers and trainers took important professional steps for themselves and the students they serve.

During the second year, the dissemination phase, volunteers maintained the same level of visits in country but shifted to a more collaborative stance. Volunteer activities included assisting in workshops facilitated by first year participants. They observed and mentored in-country trainers in methods of working with adult learners. Volunteers also observed classroom implementation activities of the second generation participants to assure program fidelity in the cascade. Volunteers also participated in discussions with institutional leaders regarding the possibility of eventually placing the program in a permanent location in the country. At the end of the second year, in-country trainers were again evaluated using a set of standards and rubrics for trainers. Individuals who met these standards were then certified as RWCT trainers.

By the third year, volunteer teacher educators assumed a consultative and evaluative role. As dissemination continued into a third generation of the cascade (in most instances the total numbers of RWCT participants in country after the third year ranged between 400-600 individuals) volunteers monitored workshops and facilitated the eventual spin-off of the
program. The final stage in the spin-off was to identify a set of in-country certifiers and to establish a national board of certification to maintain program standards. Institutionalization varied by country. In some places the teams of trainers formed RWCT organizations (NGOs) and continued to provide independent in-service staff development. In other countries, the program was incorporated into courses and departments of teacher education.

The certification of RWCT participants is an ongoing effort. Most of the countries have completed their certification based on the RWCT Standards. To date, there are 319 RWCT certified trainers and 119 RWCT certified certifiers in 20 different countries.

Guidebooks
The guidebooks in the RWCT series (Meredith, Steele, Temple, 1997) present a variety of teaching techniques organized around specific components of the traditional language arts curriculum. These include reading comprehension, vocabulary, discussion, and composition. The program also introduces strategies for cooperative learning. Because much of the pedagogy is innovative and does not map directly onto existing traditions for lesson planning and assessment, specific guidebooks and workshops are devoted to those topics as well. The content of each of the guidebooks is described below in the sequence in which they are presented.

1. A Framework for Active Learning and Critical Thinking
   Presents the rationale for critical thinking and interactive learning, and demonstrates a research-based three phase model for organizing teaching and learning. In phase one, students are encouraged to consider their assumptions about a topic, and frame their questions about it. In phase two, students actively inquire into the topic. The third phase encourages students to consider what they have learned and compare it to their prior assumptions, question and debate the claims of the material, consider its implications, think of the topic in different ways, or apply the ideas to new situations. In this course teachers learn a preliminary set of teaching strategies for applying this three-part model. By the time they have completed the course, they will have learned more than sixty such alternative strategies, for use with different materials for different purposes.

2. Methods for Promoting Critical Thinking
   Presents ways of using different levels of questions to evoke discussion. These range from “lower order” questions of fact and comprehension, to “higher order” questions that ask students to use ideas to solve problems, compare different points of view, and evaluate responses.

3. Reading/Writing/Discussion in Every Discipline
   Stressing the inter-relatedness of the language skills (reading, writing, speaking and listening) in an interactive classroom, the workshop focuses on techniques for all subjects that use reading and writing as means of learning. The workshop also demonstrates ways to enliven lectures with questions that heighten student engagement and original thought.
4. Further Strategies For Promoting Critical Thinking
   Revisiting the RWCT project’s three-part teaching model, this course presents further methods for use in all three phases. Here teachers learn strategies for encouraging discussion, strategies for debate and for the analysis of arguments, and ways of using these techniques to rehearse argumentative essays.

5. Cooperative Learning
   Methods of cooperative learning help students learn material more thoroughly and deeply, and also cultivate respectful relationships among students. Cooperative learning techniques are introduced and reinforced throughout the courses. This course shares a host of strategies for giving students active roles in helping each other learn.

6. Lesson Planning and Assessment
   As RWCT teachers seek ways to promote critical thinking and active learning at the same time they teach their standard curriculum, time is always a constraint. This workshop presents a lesson-planning model that allows teachers to teach the required content, and at the same time helps students to inquire and reflect. RWCT methodologies also help teachers who value independence and creativity to assess progress and assign grades.

7. Writing Workshop: From Self-Expression to Written Arguments
   Personal writing offers students the opportunity to make meaning from experience, to form opinions, and to know each other more fully. This guidebook shows teachers how to use a workshop approach to writing, and how to move students along the spectrum from writing about personal experiences to more disciplined exposition and argument. The workshop also addresses how writing can be used as aid to inquiry and reflection.

8. Creating Thoughtful Readers
   This guidebook shows teachers how to set up and conduct readers’ workshops, which are intended to offer students a range of choices of what they read, while providing encouragement for deep reflection. The goal is to create authentic reading experiences and related discussions, to foster genuine inquiry, and to develop the habit of voluntary reading.

9. Becoming Trainers
   It is expected that those trained in the RWCT methods will train others; but experience has shown that participants in workshops cannot become trainers without careful instruction in planning and conducting workshops. Participants leave this workshop with detailed plans for their first workshops and also with the skills, knowledge and attitudes they need to work with other adults.
Program Evaluation

In 2000, the American Institutes of Research (AIR, 2001) was contracted to conduct an independent evaluation of the Reading and Writing for Critical Thinking program. The study explored three main issues:

1. To what extent do RWCT teachers maintain the fidelity of the RWCT model in their teaching practices?
2. To what extent do pupils whose teachers participate in RWCT have higher critical thinking skills than pupils in a non-RWCT control group?
3. To what extent do RWCT teachers’ and pupils’ attitudes about teaching and learning differ from those of teachers and pupils in control groups?

The evaluation was conducted in four countries where the RWCT program had been in effect for three years. These countries were the Czech Republic, Kyrgyzstan, Latvia, and Macedonia. Each country varied in terms of educational resources, the level of teacher preparation, and its own mix of ethnic, religious, linguistic, and socio-economic conditions.

The data collection tools included surveys, classroom observation, and an assessment of pupil performance on a test of critical thinking skills. Data collection tools were designed by AIR. In-country workers trained and supervised by members of the AIR evaluation team collected data.

The results of the evaluation revealed that the RWCT program was “positively and significantly” associated with each of the three aspects of teaching and learning. The evaluation surveys pointed out that RWCT teachers were more likely to increase the amount of critical thinking pedagogy over time (Table 1).

**Table 1: Integration Scores Among RWCT Teachers over Time**

<table>
<thead>
<tr>
<th>Years of RWCT Participation</th>
<th>Overall Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.28</td>
</tr>
<tr>
<td>2</td>
<td>2.83</td>
</tr>
<tr>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>4</td>
<td>3.38</td>
</tr>
</tbody>
</table>

**RWCT teachers integrate more critical thinking principles into their classroom practices as they gain more exposure to RWCT strategies over time.**
The data support the notion that the adaptation of critical thinking pedagogy into an entrenched educational program required time, patience, and inventiveness. It further suggested the need to include peer-support systems and to coordinate teacher education with an awareness program for school administrators and inspectors.

The data also revealed a significant difference between the classroom practices of teachers who participated in RWCT workshops and teachers who had not. Not surprisingly, RWCT teachers included more teaching techniques aimed at fostering critical thinking, used communication patterns and other classroom techniques that supported critical thinking and discussion (Table 2).

**Table 2: Classroom Communication Patterns, RWCT and Control-Group Teachers**

<table>
<thead>
<tr>
<th>Category</th>
<th>RWCT Teachers</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher – Pupil</td>
<td>29.6</td>
<td>14</td>
</tr>
<tr>
<td>Teacher – Pupil – Teacher</td>
<td>45.8</td>
<td>31.5</td>
</tr>
<tr>
<td>Pupil – Pupil</td>
<td>26.4</td>
<td>11.5</td>
</tr>
<tr>
<td>Teacher – Pupil – Teacher</td>
<td>13</td>
<td>5.8</td>
</tr>
</tbody>
</table>

RWCT teachers spend substantially more time than teachers in the control group promoting classroom discussion and pupil interaction and less time lecturing and asking questions to individual pupils.

In these comparisons RWCT teachers used the same curriculum and the same instructional materials as their non-RWCT peers. The data suggest that the RWCT teachers were able to adapt the pedagogical framework and the teaching techniques to fit the existing constraints of time, learning objectives, and instructional materials.

The introduction of critical thinking pedagogy also had significant impact on student performance. Students in RWCT classrooms performed significantly better on tests of critical thinking when compared to students in control-group (non-RWCT) classrooms (Table 3).
According to the evaluators, student characteristics such as background knowledge, attitudes, and subject area appeared to contribute little to the differences between the student performance in RWCT classrooms and non-RWCT classrooms. Interestingly, classroom communication patterns and the teachers' integration of critical thinking principles proved to be important variables. Among these variables, the evaluators reported “the facilitation of pupil-to-pupil interaction has the most substantial effect on critical thinking differences.”

**Major Outcomes of the Program**

As the evaluation suggests, the Reading and Writing for Critical Thinking program proved effective in achieving its aims of implementing and disseminating critical thinking pedagogy across a widely diverse range of educational contexts. The data revealed that the program had an impact on teaching practices and student performance as well as the attitudes of teachers and learners. In addition to the effects represented by statistical analyses, the program had other important outcomes. The nature of these outcomes foretells an even more powerful and potentially far-reaching impact of the program. Three outcomes—the establishment of new traditions of classroom pedagogy, the development of a program for higher education, and a workshop for textbook developers—illustrate that the RWCT program achieved more than simply providing educators with innovative technical skills. The program implemented a new perspective or mindset on teaching and learning, dramatically altering the educational landscape.

**Changing Traditions of Teaching and Learning**

The RWCT program is more than an attempt to replace traditional methods with innovative techniques. By design and intention, the pedagogical framework (Evocation, Realization of Meaning, and Reflection) and the teaching techniques that support this framework introduce dramatic shifts in what it means to be a teacher and what it means to be a
learner. Further, these changing roles and responsibilities of teachers and learners not only affected the learning that took place, it affected the dynamics of social interaction between teacher and learner, and learners and their peers.

The program introduces the pedagogical notion of scaffolded instruction. Much the same as a physical scaffold supports a building under construction, this view of teaching and learning suggests that teachers have a responsibility to support the construction of knowledge in their classrooms. This perspective contrasts sharply with traditional notions of teaching which primarily are characterized as broadcasting or imparting information. In a traditional classroom in Eastern Europe for example, the typical teacher might lecture or assign a reading and students who were able to receive the information in a comprehensible way were successful, those who were not were more or less allowed to fail or keep silent.

The intention of the RWCT program was to provide teachers with sets of generic, high-utility techniques that scaffold instruction to achieve each aspect of the pedagogical framework in every lesson and for every student. In short, the program makes clear the teacher’s responsibility goes far beyond competence in her own subject area. She has the responsibility to ensure that all students in her classroom can and will succeed in learning, and the pedagogical competence to achieve this goal. Further complicating the task of teaching is the understanding that because students enter a classroom with different levels of background knowledge, different cognitive skills, and different levels of motivation, the scaffolding a teacher provides needs to be differentiated according to the student’s individualized need. Thus, in critical thinking classrooms, teachers must be able to assess their students’ needs, provide varied support structures, and monitor the effects of those structures on individual student learning.

Teachers support students in critical thinking classrooms in a variety of ways. As mentioned above, the pedagogical techniques provide procedures and activities that guide student learning. However, the techniques themselves do not teach, they merely guide the interaction between teachers and students. The techniques in the RWCT program provide opportunities for teachers to support student learning. Two teacher behaviors are particularly valuable in this process -- modeling and questioning.

Because critical thinking is a strategic process, the RWCT program is designed to give students access to those strategies. Teachers provide access to these strategies by modelling their own thinking processes. Teachers are trained to “think aloud” to make students aware of the reasoning processes involved in such cognitive tasks as making predictions, drawing inferences, forming opinions, etc.

Teachers also model their thinking strategies by participating in learning activities as co-learners. When students are asked to write a narrative, the teacher also writes her own narrative and use this to demonstrate how she organized her ideas, why she used the vocabulary she chose, and how she resolved various technical issues of composition. This sort of modelling helps students learn the processes of critical thinking and helps them become aware of their own reasoning (Brown, 1985). It provides students with the language readers and writers use when they are engaged in discussion of their ideas. One observable impact of the program is this very different use of language—the language of critical thinking.

Another crucial type of scaffolding teachers can provide is the type of verbal prompts or questions they ask students (McGonigal, 1999). Teacher questioning has been shown to have a
significant impact on the types of thinking students do. Research and classroom observation suggests that questioning characterizes the majority of communication between teachers and students. Most of the questions teachers traditionally ask are either commands in the form of questions (e.g., “Are you ready to begin?”) or tests that require the location or recall of factual information (e.g., “Who can tell us the atomic weight of carbon?”). These questioning modes do not support critical thinking. And, neither reflects the type of questions people ask outside of the classroom context.

The RWCT program raises teachers’ awareness of their questioning patterns. Rather than discouraging teachers from asking comprehension-checking (factual) questions, the program encourages teachers to expand the types of questions they ask to include those that require inferential and evaluative thought as well. The critical thinking classroom is intended to diverge responses and broaden the number of students who will respond, rather than to increase the number of students who will converge on a single correct answer.

The program uses a simple dichotomy to help teachers distinguish between types of questions. Closed questions have only one correct response (e.g., “Who is the main character of the story?”). There is no room for discussion or opinion formation. Open questions have multiple responses (e.g., “What advice would you give the main character in this story?”) and thus invite divergent thinking. For teachers and for students this expanded notion of questioning shifts the “goal” of instruction from answers that are accurate to answers that are reasonable, thoughtful-- those that can be supported by text and personal experience.

Changing teacher-questioning alters the dynamics of the classroom in observable ways (Young & Daines, 1992). As mentioned above, teachers in traditional classrooms initiate a cycle of question1 and response1, then proceed to question2 and response2. When teachers embed open-ended questions in their lessons (for the purpose of evocation, realization of meaning, or reflection) the cycle often sounds more like: question1-response1a-response1b-response1c, etc. Ultimately, the goal is that students will pose their own questions and define their own inquiries. Techniques in the RWCT program such as reciprocal teaching (Palincsar, 1986) for example, provide a structure for students to pose open-ended questions to their peers.

Teachers support critical thinking by learning to allow sufficient time for students to respond to open-ended questions with reasonable and thoughtful answers. In traditional classrooms in Eastern Europe, a few students in each classroom race to be recognized to respond to closed-ended test-like questions. The dominant instructional model reinforces this type of questioning as a sign of classroom efficiency. Clearly, asking students questions that require a more thoughtful response requires more time. Classroom research has demonstrated, that allowing students more time to respond both increases the number of students who will respond and increases the length of each response (Rowe, 1986). Teachers who participated in the RWCT program became expert in incorporating “wait-time” into their teaching styles and in their work as trainers.

Critical thinking was also supported by making use of collaborative learning techniques (see for example, Johnson, Johnson & Holubec, 1993). Collaborative learning techniques reflected the relatively innovative concept that students bring knowledge into the classroom and given the appropriate pedagogical structures were quite capable of sharing their knowledge with
each other. Collaborative learning techniques such as Jigsaw, Literature Circles, and Think-Pair-Share enabled students to work together to complement each other’s individual knowledge, to clarify misconceptions, raise questions, propose solutions, and support risk-taking.

The notion that students had valuable background knowledge and experiences worth sharing fit the RWCT pedagogical framework. However, it was difficult to change classroom traditions that required students to work in isolation. Initially collaborative or group work in which students discussed ideas and shared strategies and information was often viewed as a form of cheating. To address this tradition, the collaborative learning techniques introduced in the RWCT program emphasized two basic principles: group support and individual responsibility. Assignments were structured to allow individual students to have responsibility for their own work or portions of the group’s work but with specific structures and strategies for interaction, discussion, clarification, and affirmation.

Another structure that supported critical thinking was the use of classroom space (Manke, 1994). In traditional classrooms in Eastern Europe, desks and tables were often arranged facing the teacher in a theatre style. While such an arrangement is well-suited for a teacher-centered classroom where the students are the spectators of learning, it does not support discussion and peer learning. When possible, teachers in critical thinking classrooms clustered desks and tables to enable students to discuss ideas in groups. In classrooms where the tables were immovable, students turned around in their benches and sat facing their peers.

Other examples of space being used to support critical thinking were the Author’s Chair and the Gallery. Critical thinking classrooms encouraged student writing (the reflection aspect). These two spaces allowed students to make their reflections public. The Author’s Chair was reserved for students to share portions of their journals, drafts, or excerpts from books they were reading. Classroom wallspace was used to display student work, including works in progress. A technique known as the Gallery Tour enabled students to post positive comments, suggestions, and questions on their peers’ work.

A Program for Higher Education

The RWCT program was initially designed and implemented as a staff development course for in-service teachers. However, with the involvement of teacher educators as workshop participants, interest quickly turned toward institutionalizing the critical thinking pedagogy in programs of pre-service teacher preparation. Further as university level participants were also drawn from departments of sociology, psychology, and the natural sciences faculty began experimenting with critical thinking pedagogy in their classrooms as well.

Given the longstanding pedagogical and cultural traditions of the Academy in Central and Eastern Europe, it quickly became apparent that university faculty needed additional support to overcome the cultural and institutional barriers to implementing innovative approaches to teaching and learning. These barriers include marginalization of female instructors and junior faculty, inadequate reward systems for effective teaching, and lack of capacity for faculty development programs.

To overcome these barriers, in 2001 the developers of the original RWCT program worked with faculty members from RWCT countries to design a specific plan for implementing
critical thinking pedagogy in higher education. The outcome of this effort, *RWCT Higher Education Initiative*, was also supported by funding from the Open Society Institute.

The design team included university faculty representing Albania, Armenia, Czech Republic, Estonia, Latvia, Moldova, and the United States. The principal issue the design team wanted to address was how to support not merely the more widespread implementation of the pedagogical innovations of the Reading, Writing, and Critical Thinking program in institutions of higher education, but how to support and sustain widespread innovation in higher education.

The design team created three main products in developing the RWCT-Higher Education program: a text entitled *Critical Thinking Across the Curriculum*, a tool for conducting a *Contextual Analysis* of higher education institutions, and a model for a course in *Critical Thinking in the University*. Let me briefly describe each of these products and their function.

**Critical Thinking in the University**

Critical Thinking in the University is an intensive course in critical thinking appropriate for faculty and students. As a course for the professional development of faculty members, these materials can be used in an extended workshop setting (four or five days) to help instructors prepare to teach an introductory course in critical thinking, or, more broadly, to adapt existing courses in the curriculum to a critical thinking pedagogy. The intended final outcome of this experience is to develop a university level course in critical thinking.

**Strategies for Use Across the Curriculum**

Universities are called on to provide distinguished teaching as well as scholarship and research. While good teaching without good scholarship may be an empty exercise, sharing scholarship without empowering students to think productively within the disciplines falls short of what is expected from a higher education. This RWCT guidebook for faculty in higher education offers techniques for embedding a critical thinking perspective in university courses in every discipline. Similar to the original RWCT program, this material is used to transform traditional university courses, typically characterized by lecture format, into a meaningful, interactive approach to teaching and learning.

**A Guide for Contextual Analysis**

This guide is intended to direct faculty who wish to implement transformative pedagogy into the university system with a thorough consideration of factors within the context where innovation is taking place. Included is a series of seventeen elements to be evaluated and sets of related questions to direct the exploration of each factor.

These factors can be clustered around several aspects: the needs of potential workshop participants, the resource and climate of the institutional context, an assessment of current university and governmental policies (including reward systems), and external factors such as outside funding and public support for innovation. In addition to these sets of questions, the guide offers practical suggestions for pro-active strategies for addressing each of the seventeen factors.
This new initiative to implement critical thinking pedagogy in the higher education has been put in place in twelve countries in Eastern Europe and Central Asia. The training is delivered by local RWCT trainers and certifiers. While this program is still in progress in ten of the twelve countries, one country (Romania) that has completed the Higher Education Initiative offers a promising illustrative case.

After participating in an orientation workshop, an assistant professor at Babes-Bolyai University (Cluj-Napoca) organized a twelve-day summer seminar to disseminate the critical thinking program. Participants included 38 faculty members from ten universities in the country. The faculty members represented such diverse disciplines as History, Biology, Sport Psychology, Physics, Counseling, and Educational Science.

The immediate outcome of participation in this summer seminar was the development of individual course syllabi that reflected the pedagogical framework and techniques of critical thinking. Follow-up activities included three articles published in Romania about the seminar and the dissemination of critical thinking in higher education as well as the publication of an edited volume of articles contributed by the seminar participants.

The summer seminar organized as a result of the RWCT Higher Education Initiative had an immediate and widespread impact. Follow-up investigations are being planned to determine the extent to which such activities were sustained and further disseminated.

**Critical Thinking and Textbook Re-design**

The RWCT program featured a broad pedagogical framework and a compendium of high-utility teaching techniques. Other than the workshop materials, the program required no special textbooks or other instructional materials. In fact, the program had to be made to fit within the existing contexts of widely diverse educational settings. Participants were guided in adapting the pedagogical framework and teaching methods to their classroom contexts. As described above, participants brought their classroom texts and syllabi with them to the RWCT workshops and a portion of each workshop was set aside for planning implementation lessons.

As the program evaluation revealed, RWCT participants proved to be capable of adapting lessons to fit these contexts. However, their participation in the critical thinking workshops and their experience trying to adapt the pedagogy to their existing texts caused the participants to critically examine the quality of their instructional materials. In most instances, classroom teachers found their instructional materials did not support their new conceptual framework for teaching and learning.

While many teachers opted for supplemental texts or created their own materials to supplement their textbooks, the passionate commitment to a critical thinking pedagogy put pressure on textbook authors to begin to start incorporating the RWCT pedagogy in their work.

Albania, a country with a highly-centralized control over the development and publication of textbooks and other instructional materials offers an interesting example of how the RWCT pedagogy spread beyond the boundaries of classroom practice.

Facilitators including volunteer RWCT teacher educators, an executive from a Canadian textbook publishing company, and an editor from a school publisher in the United States organized and led a series of workshops for textbook developers. The workshop participants included authors and editors from the state publishing house, and from Albania’s emerging
private (supplemental) publishing industry, as well as classroom teachers trained in critical thinking pedagogy.

The RWCT teachers demonstrated the classroom implementation of the critical thinking pedagogy using excerpts from the texts that had been published by some of the workshop participants. The facilitators highlighted the pedagogical framework (evocation, realization of meaning, and reflection) and organized a discussion.

Following a presentation on the topic of creating “reader-friendly textbooks”, there was a detailed explanation of the publishing cycle (drafting, editing, field-testing, revision, publication). Of particular interest was the commingling of teachers, editors, and authors, each expressing different perspectives on the development and use of textbook materials. This face-to-face discussion between those who created the texts and those who had to teach with them was an historic moment.

The workshop participants were given a design assignment. Organized into teams comprised of teachers, editors, and authors, each team selected an objective from one of the Albanian primary (Grade 6) curricula for various subjects. Teams were challenged to design a complete lesson that embedded the critical thinking pedagogy. They were to use teaching techniques from the RWCT compendium and follow the principles of reader-friendly text.

Using large sheets of paper each team created a layout for a textbook lesson. The layouts included features such as motivational and purpose setting activities at the start of the lesson (evocation), first person narratives to help readers link textbook content to real life situations, a variety of genre intermixed in a single lesson, questions prompting higher order thinking (realization of meaning), on-going prompts and activities to guide readers’ response (reflection), and the use of typographical features that supported readability.

The enthusiasm for the ideas and prototypes developed during the textbook development workshop was very strong among all the participants. There was a feeling of hopefulness that the workshop would result in dramatic changes in classroom instructional materials. Follow-up discussions two years later revealed that the publishers of supplemental instructional materials had indeed revised their materials informed by the critical thinking pedagogy of RWCT. Unfortunately, the state-controlled textbook industry proved unable to implement changes in both content and design and a collegial developmental process that involved authors, teachers, editors, students, parents, etc.

**Implications for Developing Countries**

The International Reading Association’s Reading and Writing for Critical Thinking program proved that it was highly effective across differences in grade levels, subject areas, teacher qualification, and economic resources. Evaluation suggested that the program effects were not only sustainable but perhaps appeared to intensify over time. What’s more, the program was able to maintain a high degree of fidelity and quality over a number of generations in the cascade system of dissemination. In all, the program demonstrated that principles of effective teaching could be applied and adapted to virtually any context.

In the developing world, it turned out that these principles were not only easy for participants to grasp, but that they were perceived as particularly valuable. For teachers in the developing world who frequently lack access to high quality programs of in-service professional
development, the RWCT program filled a vacuum with impassioned and empowered educators.

The program developers and the funder intended the program to yield a critical mass of informed educators, knowledgeable in the pedagogy and practice of transformative education. But they did not set out to re-educate all the teachers of the RWCT countries. The point was to create a critical mass of change agents and a self-supporting institutional structure that would sustain this spirit of reform, eventually leading to educational systems that support critical thinking, openness, tolerance for diversity, and peace. Clearly the first part of this aim was realized. Today there are thousands of teachers whose personal and professional lives were clearly transformed by their participation in the RWCT program (Musai & Wile 2001).

The challenge for countries in the developing world, however is not to find pedagogical models that embrace critical thinking. These abound and appear to transplant rather easily. The challenge remains to create the sorts of educational structures and capacities that not only allow such seeds of change to exist, but whose vision and long-range planning ensure they will grow deep and wide. This can only be accomplished by a coordinated and integrated approach to the development of curricula, assessments, instructional materials, and rich programs of pre-service and in-service teacher education. It seems unlikely that such a lofty goal as educating youth for peace, tolerance, and living in the complex world can be achieved while such educational institutions themselves continue to promote values of conformity and simplicity.

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