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Thinking Classroom serves as an international forum of exchange among teachers, teacher educators, and others interested in promoting democratic teaching practices. The publication encourages professional development, research, and reflection. *Thinking Classroom* features articles that foster learner-centered teaching strategies including critical and creative thinking, active and cooperative learning, and problem solving. The journal also publishes articles about the institutional structures that support these practices.

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Letter from the Editor

Teaching is Many-Sided. So is Life.

People come to their *thinking classroom* in different ways.

Some realize that old methods do not work, and start looking for new ones. Others can't imagine themselves without professional communication, sharing creative ideas and discoveries.

I also have my own background, and my own story. I'm a university lecturer, a translator, and an editor. It so happened that five years ago I translated an article for *Thinking Classroom*. The first one was followed by a second, a third... A translator, as you may know, has to empathize with and experience the author's ideas, mentally (sometimes physically) performing whatever actions are described in the source text. As a result, many of the ideas that I had encountered while translating found their way into my work with students. I soon began to realize that my teaching was still full of untapped possibilities and that the unique spirit of this journal, always questioning, critical, and reflective, had already become a part of me.

That was how I remained in my *Thinking Classroom*—first as a translator, then as an editor. And always, as a most interested reader. For me, each issue, including the one you are now holding in your hands, opens up new horizons in my profession.

I know that many teacher-practitioners (and I certainly count myself as one!) turn their attention to practical pieces first: something we can read, adapt to our needs, and use in class. No wonder that in any new issue we look for William Brozo's column: Here it is, good! This time Brozo and his co-author Kristine M. Calo focus on the importance of systematic and effective ways of working with nonfiction texts. To

help the young readers comprehend informational text, some teachers use *think-alouds*. You may ask, what's so new about this strategy? Surely anyone can remember at least one considerate, thoughtful teacher who knew how to encourage student comprehension processes by reading and thinking aloud! However, many teachers find the method too time-consuming and are reluctant to use it in class. All the more reason for reminding us that think-alouds can be helpful, reliable, and effective.

Cinzia Bonotto from Italy is the author of another practical piece. She invites teachers to make connections between school mathematics and everyday knowledge. A simple and familiar tool, such as a ruler, can help the children develop new mathematical knowledge. Why necessarily mathematical, though? Many teachers know well enough that students' out-of-school experiences provide a mighty support for any school learning. So maybe it's worth asking ourselves: What notions do not come easily to our students? And is there a "ruler" at hand that may help them digest these notions?

Practical advice is always interesting and welcome, that's agreed. And yet as Lorraine Ling from Australia reminds us, professional educators cannot afford to turn away from theory and "expect practice to be the be-all and end-all." Quite so. If we do not want to become *armchair experts*, let us not forget that theory and practice in education interact with each other, creating and recreating each other continually.

Now imagine we've studied the theory, we know what to do in practice, we even have all the necessary conditions to make our effort worthwhile—but something is holding us back. It's stereotypes, our own as-

sumptions, often unconscious, but restricting our creative and professional development. "How can we help teacher-practitioners change their own thinking, so that they approach new practices with an open mind?" Questions of this kind quite often remain unanswered... but not in *Thinking Classroom*. The article by Yury Vasiliev from Kyrgyzstan is an account of some steps he and his colleagues are taking toward finding a satisfactory answer, and of the first results their joint efforts have yielded.

The society of tomorrow is molded by the school of today. It's the task of school—our task—to prepare students for life in this society. How do we open students' minds and hearts so that they learn to understand and value both themselves and other people? How do we read and analyze books portraying diverse cultures? Two articles from the United States, one by Bette Goldstone, the other by Mary Gove and Kay Benjamin, address the ongoing challenges of multicultural education.

Look at pages 5–7. These are pictures by schoolchildren from Iraq, Afghanistan, and Canada. The young artists are separated by wars and oceans, by language and political differences. But through this project they can communicate and understand each other, because art is a universal language. Kathy Sanford and Tim Hopper from Canada tell us about the Global Arts project, its origin and growth, the obstacles it faced, and the response it received in the world. Such initiatives have much to teach us about making the world we live in a little more like the World We Want.

Teaching is many-sided. So is life.

Natalia Kaloshina

Democracy in a Globalized World: Children's Arts Exchange from a School/University Partnership

In 2001 and 2003 the whole world watched American foreign policy lead to the invasion of Afghanistan and Iraq. Children were, and continue to be, bombarded daily with television news images of bombings and destruction and the inflammatory rhetoric of a "war on terror." Through such events, what is a teacher supposed to tell her students? How can such events be interpreted and explained so as to resist future repetition of the tragedy of war?

With these concerns in mind the LAWWW (Learning and the World We Want) peace conference of 2003 sought to find a way to connect with war-torn countries and to invite children from those countries to be a part of the conference. The authors of this paper developed the idea of an art exhibit based on the theme "The World We Want" with children's drawings from Iraq, Afghanistan, and Canada. The insight allowed the sincere, honest, and hopeful visions of children from these three countries to be connected and shared in one exhibit. The project attracted media attention, with articles in local newspapers and coverage on local TV stations. The artwork stimulated for teachers, university professors, and children questions about democracy, meaningful learning, and the role of education in society.

Educational spaces are critical for understanding, discussing, and developing a sense of democracy wherein children see themselves as active agents. It is the responsibility of schools to create those spaces, to involve children and their communities, to involve even young children in taking action, to transcend boundaries created by language and political difference.

We need to create spaces in schools through which children might learn to see differently, hear the voices of others, connect with the lives of others with different experiences, and collaboratively shape a new vision of the world. They/we cannot do this without knowledge of the other. Schools are locations where, with guidance and structural support provided by teachers, children can be enabled to connect with others throughout the world in a purposeful way. Through a range of communicative tools (mail, hand delivery, electronic media, telephone, video, travel) children can interact with each other in ways that break down barriers created by borders and by fear of difference in language, appearance, and belief systems. Schools are places for children to share, explore difference, support each others' learning, grow, and develop understandings in a community that reaches out to other children around the world.

Education for global literacy

Democracy as understood by Goodlad, Mantle-Bromley and Goodlad (2004), demands a special kind of literacy that goes beyond merely comprehending words on a page or adding up columns of figures. It requires a literacy that includes such skills as critical inquiry; knowing how to ask questions and what kinds of questions need to be asked in a given circumstance; knowing how to evaluate the legitimacy and accuracy of an argument and the data that accompany it, to view issues from a variety of perspectives, and to evaluate the implications of a given text, read between the lines, and recognize and understand the unstated, the omitted, the subtext (pp. 8–9).

Goodlad and his colleagues suggest that it is critical to reassert the centrality of preparation for democratic citizenship as the foremost mission of public schooling, but also to engage others (politicians, journalists, parents, sociologists) in ongoing collaborative processes of study, evaluation, and discussion. If this process is to involve all learners, it must provide spaces and places for all voices to be heard, for connections to be made, and for learning to occur in spaces and places not previously imagined, not contained within classroom walls.

Theoretical perspectives and narrative

This paper draws on three theoretical perspectives to frame the analysis: (1) social-movement learning; (2) democratic education for global citizenship; and (3) situated learning.

(1) Social movements are based on social action where new knowledge, including world views, ideologies, religions, and scientific theories, originates (Eyerman & Jamison, 1991). Social-movement learning provides the tools to act on the world and in the world. Social movements have been reported as providing powerful learning for the participants, including learning as a democratic right (learning by all) and learning from the world (epistemological dimension). Social-movement learning is in contrast to the knowledge transmission model in which schooling is a tool of the system, offering one package for all, and education is about the world (Freire, 1982).

(2) Goodlad and his colleagues comment that “schooling as reading, writing, and a little arithmetic and science . . . [has] universal appeal: the same model would serve a democracy and dictatorship equally well” (Goodlad, et al., 2004, p. 55). However, they suggest that schools have a moral responsibility not just for what they teach but how they teach. They say that too much of schooling seems focused on creating “a nation of well prepared takers of standardized tests” (ibid.). The right of “liberty and justice for all” is not a given; democracy has to be continually worked at, refined, and fought for, even in modern states that have built their prosperity on the democratic ideal. Schools are the institutions of society that must equip children as citizens with

knowledge, skills, and dispositions necessary to sustain democratic societies.

(3) Situated learning is seen as “an integral and inseparable aspect of social practice” (ibid., p. 31). In schools, situated learning takes place within a social milieu where the community of practice understands knowledge based on “the power to renegotiate the meaning of the past and future in constructing the meaning of present circumstances” (ibid., p. 34). Within this research we have recognized the power of the situated social learning within authentic communities of practice where university-school partnership develops a sense of education that connects the local personal knowledge of themes such as the one we are going to expand upon, “The World We Want,” to collective expressions of children’s understandings (Hopper & Sandford, 2004). This local/global dimension to learning (Wenger, 1998) connects to Goodlad’s hope for a democratic education as an ongoing struggle to be understood, realized, and sustained.

The narrative structure, including details of lived experience, is a valuable tool in the search for self and also in discovering the self in the other and the other in the self. As Smith (2006) notes, “whenever I think of myself, I at the same time think of you, because you are part of me and vice versa” (p. 126). Narrative enables us to share the world of the other and connect with our own world. The narrative that follows, our narrative, suggests the possibility and potential for sharing worlds and in so doing creating empathy and transcending borders and language through exchanged artwork and vision.

A story of democratic education – children’s global artwork

This narrative tells of a democratic project intended to engage students with each other around the world, to help them gain a greater depth and breadth of understanding of others who live in our world and the conditions in which they exist, to enable children to make connections in personal and caring ways. In February 2003, in the wake of the U.S.-led “war on terrorism,” Budd Hall (Dean, Faculty of Education, University of Victoria, Canada) invited colleagues to his home to talk, most seriously, about ways we could engage in projects to promote

peace and education in the world. These projects would then be featured at the Learning and the World We Want conference to be held in Victoria in November of 2003. We suggested connecting local schools to the conference with a curricular-based idea. Artwork was proposed as the medium through which children in local schools could connect with children in Iraq and Afghanistan, using the theme “The World We Want” as a starting point.

Four schools in the Victoria school district were approached in May 2003 to see if they were interested in developing an art exhibit in collaboration with schools in Iraq and Afghanistan. In September of that year, these four schools joined the artwork project and committed to enabling their students, with a range of ages, to create a variety of art pieces based on the theme “The World I (We) Want.” Many teachers in each of the schools enthusiastically embraced the idea of using children’s artwork to communicate with the international conference delegates, and their enthusiasm was apparent as they worked with their students. Each teacher chose to initiate the project with his or her students in different ways, but all began with discussions about the state of the world for children in different parts of the world and helped their students to recognize their good fortune. They located Iraq and Afghanistan on maps, shared experiences, and brought in guests to talk with their students. These discussions inspired the students to create their artwork using a variety of media in a variety of forms such as narrative illustrations, symbolic representations, and collages. All of the students’ artwork was displayed in some way around their schools, but 10 pieces of art were selected from each school by the teachers themselves to represent a range of ideas and understandings. The students whose artwork was selected were invited to present their work at the conference, and many of them chose to attend the conference to show their work in person.

Through his extensive work in international education, Budd Hall was able to provide contacts in Suleimaniyah Province of Kurdistan-Iraq and in Kabul, Afghanistan, who agreed to help children from schools in these two areas express their ideas about the world they wanted to see.

The artwork that was received from Iraq came from a children’s centre in the

Figure 1: Two examples of Canadian children’s artwork



Co-operation: Different cultures or countries need to cooperate in areas like eliminating war or racism.

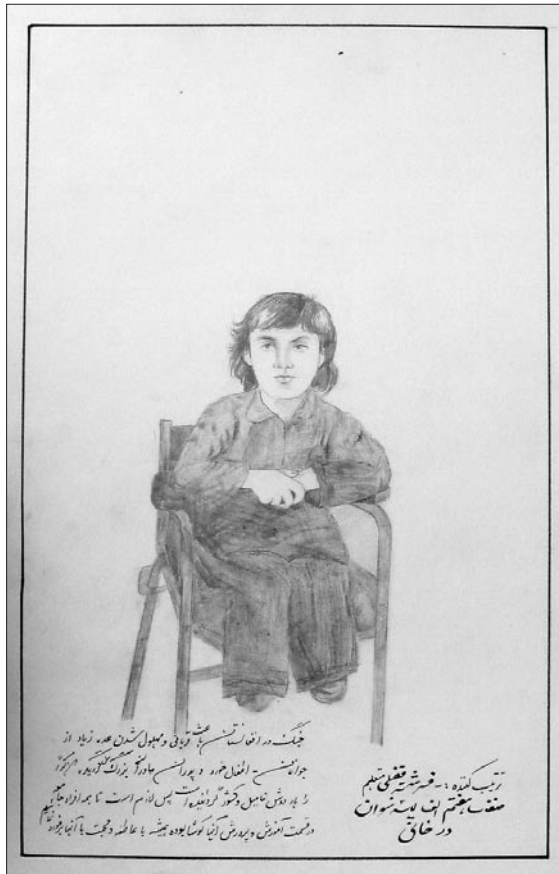


Be a team if you want to work together. Be a team and be happy. That is my wish for peace.

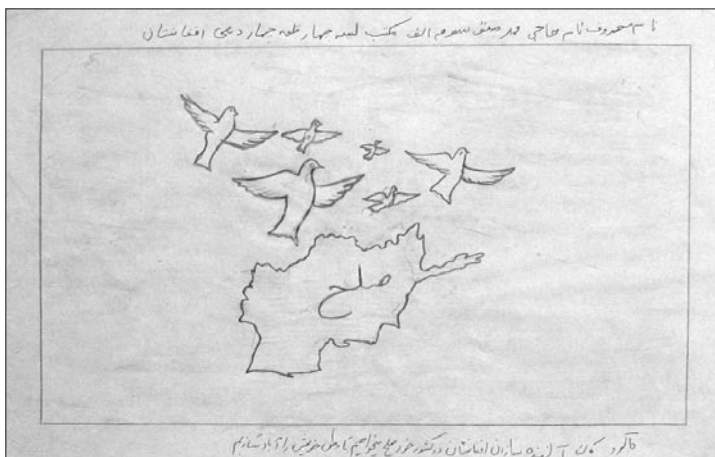
Kurdish territories, and its creation was supported by the local Kurdistan Save the Children Fund in Suleimaniyah. Forty-two drawings, 40 cm by 60 cm, were smuggled out of Suleimaniyah via Iran and transported through London because the postal services in the Kurdistan region of Iraq had been cut off by Saddam Hussein’s government at the end of 1991. The only possibilities of communicating with the outside world for people in this region have been by fax, telephone, Internet, or through the assistance of people traveling. Without the assistance of many people willing to help local teachers to find art supplies, enable the children to create their artwork, and then find creative ways to move the art from Iraq to Canada, these connections would not have been possible.

Children and their teachers in Afghanistan faced different difficulties. The local

Figure 2: Two examples of Afghan children's artwork



Landmines have caused death and dismemberment to many children.



Peace. We are future children of Afghanistan, we want peace in our country so we can fix up our country.

schools in Kabul have almost no supplies and relied on others to provide them. As one of the volunteer coordinators commented,

There are so many dire needs, such as no roof over the classroom (November is cold and rainy there too!), children coming to school hungry and leaving hungry. Parents, mostly mothers, begging in the streets. So, all these things are distractions from art. Of course, once we find our way into art, then the energy and strength that come from that experience are immense and help us overcome so many dire things. The challenge of this project might be just that: lifting teachers and pupils into art to uplift their hearts.

A commander of Camp Julien, the Canadian Armed Forces command post in Kabul, scoured the base for materials to give to the children so that they might create artwork to send to Canada. He and his troops located pads of paper, pencils and pens that they delivered to the children¹. Another of the volunteers for this project was an Afghan elementary teacher who left Afghanistan as a refugee in 1980 and had recently returned to Kabul from North America; he was the local coordinator and ongoing liaison for the project. Through these efforts and encouragement, the children were able to produce 40 pieces of art to send to Canada.

Transportation of the artwork from Kabul to Canada posed considerable problems for the Afghan teachers and children as well. Again with the assistance of the Canadian Armed Forces, an arrangement was made to send the work back to a military base, Trenton in Ontario, from where it was transported to Victoria. The artwork from Kabul, as well as the artwork from Suleimaniyah, arrived only days before the Learning and the World We Want Conference in November 2003, where it joined the artwork of the local Victoria students. All 120 pieces of art were professionally mounted and prominently displayed at the conference, thus interweaving the stories and visions of three international regions in a visual display. The display garnered overwhelming interest and support from the conference participants, as shown by the comments they wrote: "Dear Children

¹ The Canadian contribution to the NATO-led International Security Assistance Force (ISAF) is known as Operation ATHENA. With about 1,900 personnel deploying in each rotation, the Canadian contingent is the largest in ISAF. Canadian soldiers conduct regular patrol missions in the Canadian area of responsibility. In addition, they are involved in a number of projects, such as digging wells and repairing buildings, to help improve the quality of life of the people in their area. Of the 1,900 troops deployed on Operation ATHENA, about 1,700 are deployed in Kabul.

of Iraq, Afghanistan, and Canada: Your artwork is so beautiful. It made my heart beat stronger. We adults will do our best to teach peaceful, respectful ways of solving disagreements." Others wrote: "These images are poignant and powerful—you touch our hearts across cultural boundaries"; "I am touched and exhilarated by your wonderful work. It is strange that art is a universal language"; "Thank you for bringing these drawings here. They are an eye opener to the privileged children and adults of the North American World. And the unvarnished expression of hope—or sadness—is so moving."

Support was also expressed by the educational and academic communities. One teacher wrote: "This has been a very powerful experience. Being here with my students has encouraged us to continue to imagine and work towards a positive future." A community member was moved to write to the young artists:

Hi kids—I am writing this from a big fancy hall, marble, wood, glass. I am a security guard. In Canada security guards do not carry guns, clubs, we just use words. In Canada we have to argue with our kids to get them to eat, very hard for you to believe is it not? I was in the Canadian Navy, my own father died in World War II, but Canada has not seen a war in a very long time on her own shores. Afghanistan is about the size of one of our provinces and we have eleven of them now. Afghanistan could probably fit in Lake Superior. Such a small country for such big problems, maybe I hope the world will get Afghanistan back, better than ever. I believe education is the key and hands across and around the world in peace. Our soldiers are in Afghanistan to help with peace. We hope they come home soon.

The artwork display caught the attention of local media and of the internationally renowned children's advocate and entertainer Raffi. The recognition of the importance of the children's work as a medium to speak to the world has inspired continued showings of the work in diverse community forums, financial support from Raffi's Troubadour Foundation, and further international development of the artwork project.

Another chapter in the story

The initial story, narrated above, was powerful in the telling, for the artists, the viewers, the conference organizers, and participants. Canadian children embraced the project and became presenters

Figure 3: Two examples of Iraqi children's artwork



The inhuman act of "The Anfal Campaign" done by the Baath Regime against the Kurds in my country.



Celebrating freedom in my country.

at the conference, drawing in their families and friends, connecting with international delegates. The students, dressed formally, stood by their drawings explaining the ideas behind their art, sharing with delegates their commitment to peace and to care for the other.

The story did not end with the conference, however, and its ability to create so many sequels is perhaps the most powerful aspect of this story. The situated learning of the project strengthened already formed communities and spawned new communities. Within the local and global community of practice (Wenger, 1998) forming around the arts project, new relationships and practices evolved. One immediate sequel was that the funding provided by the Troubadour Foundation enabled a catalogue of the artwork

to be created, with the text translated into three languages, to be returned to the children of Iraq and Afghanistan as part of the ongoing dialogue of the story. The catalogue was sent back to Afghanistan by a local group of firefighters who were traveling to take firefighting equipment and knowledge to the Afghan people. They also took back more art supplies and created a documentary of their experience (to be aired on national TV), of which the delivery of the artwork to the children was a part.

All of the original artwork has been catalogued and stored by an art educator, Dr. Robert Dalton, at the University of Victoria, and is maintained as a significant art collection. The collection has recently been supplemented by 150 additional pieces of art returned by the firefighters from Afghanistan.

Through further funding, a website (<http://www.educ.uvic.ca/site/Lawwwart/lawwwart.htm>) was developed and maintained and has now become <http://www.childrensglobalarts.ca/> as the project has grown. Like a rhizome, the project has spread throughout the world, where connections in South Africa, Belize, India, and Chile are being made. Art supplies are being sent by any means available between ourselves and the destination communities, so that more children can use the medium of art to share their vision for the world they want to see. The artwork has given voice to many communities that previously were silent, because of location, language, financial situation, or ideology. We are recognizing that the arts, including visual art, music, drama, and creative movement, are powerful media that transcend boundaries of language. The arts are also powerful expressions of our beliefs, our hopes, and our visions. These art forms give voice to the passion and the pain that is felt, together and apart, and allows us to connect through the emotions expressed artistically.

The invitation for participation in this artwork project, which has been widely sent to communities around the world, has created recognition that Canadians are people who have interest in and compassion for the lives of others. The response has instilled a hope that there is a way to connect with even very remote communities, and to share a vision for a democracy that truly serves all the people

and enables them all to be heard and recognized. A DVD has been created to capture the story visually, enabling it to be shared widely. The intent is that the DVD will provide inspiration for teachers and community leaders to consider alternative ways to learn, to connect, to share ideas, and to address difference through understanding rather than conflict. The DVD offers alternative forms for addressing curriculum, both critiquing and changing current conceptions of “curriculum” that are static and entrenched, and reminds us all of the power of visual media and the arts for transcending language barriers. The DVD can be obtained from the project website <http://www.childrensglobalarts.ca/> as video clips or as a DVD that can be sent for minimal charge.

The story: Chapter three

An institute was offered in the summer of 2005, enabling participants to spend a week with colleagues to engage in creative, purposeful classroom projects; address the urgency for educators to respond to our current world; develop a passion for social action; build international connections; sustain peaceful understandings; honor children’s rights; and inspire democratic ideals in global learning. This professional development institute built on “The World We Want” project and conference that attracted children’s artwork from Canada, Afghanistan, and Iraq. The World Peace Forum, (<http://www.peace.ca/worldpeaceforumvancouver.htm>), a worldwide peace movement “to help consolidate the capacity necessary for communication, coordination, and action on a global scale to stop war and end global militarism” to be held in Vancouver, B.C., in June 2006, will enable participants to continue developing and sharing their classroom initiatives for an ideal democracy.

Cultural identity

The most important undertaking for schools, suggests Lanik (2002), is no longer to promote tolerance toward other cultures, but rather to help young people find their cultural identity while participating in education. Thus the highest priority of intercultural learning should be the acquisition of cultural maturity, the ability to understand the world of the *self* but also of the *other*. All students “should be able to find themselves in the faces of

other students” and in the faces of their teachers, as well as be reflected in the curriculum (Tatum, 2000, p. 22). School projects should assist students to make connections that recognize people’s similarities and to reduce prejudice caused by ignorance and fear. Instead of continuing to sort out cultural differences, adopting an approach which assumes that culture is relational and constantly created anew can open possibilities for a more connected and culture-based curriculum (Hermes, 1999, p. 391).

Multiculturalism should not be an isolated song and dance, as so often presented in many classrooms, but an individual and social quest into the diverse strands of a person’s life, today and yesterday; through thoughtful reflection on the meanings of our everyday lives we can better understand what it means to be human (Hansen, 2005). Understanding of the *other* cannot be reduced to sharing ethnic foods and dressing up in traditional costume; these types of activities only serve to trivialize and disguise the existence of myriad ways of being and believing in the world. Smith (2006) writes, “the paradigmatics of Western consciousness are completely self-enclosed, blind and deaf to all voices outside of their own logics and self-understandings” (p. 7). He points to a need for a different kind of partnership within a newly emerging global community, a greater attendance to the “underside of modernity” (p. 8). This attention demands that the “undiluted suffering of those making the *freedom* of Europe/America possible has to be brought into the centre of deliberations regarding human futures” (p. 8).

“Let us hear the real story,” demands Smith, “then let us decide if these [material] things are really what is needed to live decent human lives” (p. 8). He suggests that freedom is understood differently by those who possess it and those who do not; those of us who live in “freedom” are “conditioned to be deluded about its essential qualities.” He calls for a “new logic of freedom, not freedom whose very source is money,” not an illusion of freedom that is regulated by media. What is needed is for educators to seek sources for a “new kind of public knowledge that can genuinely provide insight... so that a new curricular narrative may be woven” (p. 9). We need to realize the gifts of the young,

to recognize their wisdom and listen to their voices. Through this Global Arts project, the real story has begun to be told by the children themselves; it has begun to be shared, transcending barriers of language and ideology. The voices and visuals created and collected are what transform the curriculum and transform our lives. As educators we must be committed to sharing stories and showing people’s lives, not reproducing traditional forms of Eurocentric history that serve to cover up and ignore the stories of the *other*.

Drawing on Wenger’s (1998) notions of situated learning, teachers participating in the Global Arts project have been encouraged to make a different, less prescriptive (reified) reading of the curriculum, enabling curriculum documents to be seen as guides that provide avenues for teachers to explore opportunities with their students. The British Columbia art curricula guide teachers in this way: “The fine arts are important to our understanding of society, culture, and history, and are essential to the development of individual potential, social responsibility, and cultural awareness. The fine arts are expressed in and influenced by personal contexts (e.g., gender, age, life experience, beliefs, values), social and cultural contexts (e.g., ethnicity, religion, socio-economics, evolving technologies), and historical and political contexts... An understanding of the fine arts fosters respect for and appreciation of the diverse cultural heritages and values within Canada and around the world” (BCED, 1998a). In situated learning terms, this project allowed the meaning of the artwork to emerge as Canadian children shared their visions with children from Iraq and Afghanistan. Students need to be helped to become Canadian citizens and citizens of the world, as recognized in social studies curricula where the overarching goal is to develop thoughtful, responsible, active citizens who are able to acquire the requisite information to consider multiple perspectives and to make reasoned judgments. Social studies curricula emphasize developing understanding, making connections, and applying knowledge from multiple perspectives (e.g., time, place, culture, values), practicing active citizenship, and using critical, reflective thinking (BCED, 1998b). The art exhibit has already been used by teachers to connect

Canadian children to the perspectives of children in war-torn countries, thus illustrating powerfully the basic human needs, including the need for child protection and human rights, as well as the effect of war on the environment.

This Global Arts project, and other projects with these goals, can help children connect in a shared vision of our future world most closely connected to the Canadian International Development Agency (CIDA) priorities of basic human needs—health and education, the environment, gender equality, child protection and basic human rights. The children’s art also reveals startling differences between and among us—horrors and injustices that will help all children understand the plight of others, enabling them to work towards a more equitable and peaceful world. The Children’s Global Arts project provides a forum where children’s voices can be heard and can make an impact on the future of the world. To quote the Earth Charter (Earth Charter, 2005),

We stand at a critical moment in Earth’s history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at once holds great peril and great promise. To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations.

In is our hope that this Global Arts project will enable children in Canadian schools to make meaningful connections to the ideals of the Earth Charter, and to connect as one human family to children and communities in other countries, where the *other* will then seem less strange and more connected in shared visions of peace, democracy, and freedom.

References

BCED (1998a). *British Columbia Integrated Resource Package*. Retrieved March 9, 2004, from <http://www.bced.gov.bc.ca/irp/fak7/rational.htm>

- BCED (1998b). *British Columbia Integrated Resource Package*. Retrieved March 9, 2004, from <http://www.bced.gov.bc.ca/irp/ssk7/rational.htm>
- Eyerman, R., & Jamison, A. (1991). *Social movements: A cognitive approach*. Cambridge: Polity Press in association with Basil Blackwell.
- Earth Charter. (2005). The Earth Charter initiative. Retrieved March 29, 2005, from <http://www.earthcharter.org/>
- Freire, P. (1982). *Pedagogy of the oppressed* (M. Ramos, Trans.). New York: Continuum.
- Goodlad, J., Mantle-Bromley, C., & Goodlad, S. (2004). *Education for everyone*. San Francisco: Jossey-Bass.
- Hansen, J. (2005). Young children’s versions of curriculum: “How do you turn a square into a grown-up?” *Language Arts*, 82 (4), 269.
- Hermes, L. (1999). Learner assessment through subjective theories and action research. *Assessment & Evaluation in Higher Education*, 24 (2), 197.
- Hopper, T. F., & Sanford, K. (2004). Representing multiple perspectives of self-as-teacher: Integrated teacher education course and self-study. *Teacher Education Quarterly*, 31(2), 57–74.
- Lanik, J. (2001). Goal of education: Cultural maturity. Twenty ideas for intercultural education. *European Education*, 33(3), 85–94.
- LAWWW. (2004). Learning and the World We Want. Retrieved March 29, 2005, from <http://www.educ.uvic.ca/learning/proceedings.pdf>
- Smith, D. (2006). Troubles with the sacred canopy: Global citizenship in a season of great untruth. In G. Richardson & D. Blades (Eds.), *Troubling the canon of citizenship education* (pp. 124–134). New York: Peter Lang.
- Tatum, B. (2000). The ABC approach to creating climates of engagement on diverse campuses. *Liberal Education*, 86(4), 22–30.
- Wenger, E. (1998). *Communities of practice*. Cambridge: Cambridge University Press.

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Raising Pre-Service Teachers' Cultural Antennas: Choosing and Using Quality Multicultural Literature

- *Teachers have too many things to do to spend time searching for authentic, engaging children's literature portraying diverse cultures.*
- *Remembering and using all these criteria is difficult!*
- *The ten quick ways are not quick enough.*

The above statements were exit-log responses to a class event in a pre-service section of a course on Literature-Based Reading Methods. During this class period, Mary Gove and her students discussed the article "Ten Quick Ways to Analyze Children's Books for Racism and Sexism" (Council on Interracial Books for Children, 1994). Even though they had read and discussed these important guidelines, Mary decided their responses reflected a lack of understanding of the importance of what Pappas, Keifer, and Levstik (1999) call "culturally relevant teaching as a day-by-day enterprise" (p. 37). Specifically, these undergraduates lacked a disposition and commitment to using multicultural children's literature in their future classrooms.

Mary discovered that her concerns were shared by her colleague, Kay Benjamin. We (Mary and Kay) then decided to collaborate in developing (1) a teaching project that would be taught in Mary's class, and (2) a study in which we collected and analyzed data from the students in the teaching project to determine its impact on them. The overall goal of this teaching project was to create in our pre-service teachers a disposition and commitment to choosing quality multicultural litera-

ture, a commitment they would take with them to their future classrooms. At some point during our discussions, we began to refer to this goal as *raising the antennas* of our students to the importance of using multicultural literature in the classroom.

The heightening of this disposition and commitment, or *antenna raising*, is extremely important in our increasingly multicultural societies. For example, by 2020 over half of all school children in U. S. schools will be from diverse non-White cultures (McLoyd, 1998). We agree with Galda and Cullinan (2002) that what happens in one part of the world affects every other part. Viewing our world as a global village makes it clear that children's literature should reflect the interdependence of nations and people everywhere. Thus, children of *all* cultures need to be engaged with books that, as Cai and Sims Bishop state, "open students' (and teachers') minds and hearts so that they learn to understand and value both themselves and other peoples' perspectives different from their own" (1994, p. 69).

We each had experience with practicing teachers who read aloud African American books only during Black History Month or books celebrating Mexicans and Americans of Mexican origin only for Cinco de Mayo. We hoped our undergraduates would not fall into this pattern. Part of the challenge in the educational setting of the urban university in which we teach is created by the nature of the experiences of the students in our classes. Only to a limited extent do our undergraduate students come from diverse cultural backgrounds. In this

particular class of 23 female students, three were African American, one was Latina and 19 were White. Therefore, the majority were from the dominant culture; however, many of these students will, in all likelihood, teach children from a diversity of cultures in an urban or an increasingly multicultural suburban setting. In talking to our students, who tend to be from primarily White suburban areas, we have concluded that most of these students have had few multicultural experiences. This was illustrated during a service learning component of the class in which the undergraduate students worked with children in an urban classroom: One White student from this class expressed fears of going to the urban elementary school. We speculate that unfamiliarity with other cultures, in this case African American culture, is behind this fear.

As a starting point, we agreed with Cai and Sims Bishop (1994) that the term *multicultural literature* implies a goal of “challenging the existing canon to include literature from a wide variety of cultural groups” (p.59). Since studies have indicated that students’ prejudices have been reduced because of their involvement with multicultural books (Darigan, 1991; Pate, 1998), as Jacobs and Tunnell phrased it, “We certainly cannot afford the increasingly deadly outcomes sparked by xenophobic behaviors” (2004, p. 222).

In deciding to *raise the antennas* of all our students to the importance of using multicultural literature in their classrooms, we acknowledge their lack of sensitivity to criteria for selecting quality multicultural literature. We agree with Galda (2001), that this commitment can be clouded with uncertainty about how to know “if a book is culturally sensitive or culturally authentic when the teacher is not from the culture depicted in the book” (p. 225). To meet this need, we planned to acquaint our pre-service teachers with resources they could use in selecting multicultural literature for their future classrooms.

We developed an inductive teaching project that would provide our students with the opportunity to compare and contrast rich, multicultural literature to the kinds of books our previous classes tended to select, and draw from these

comparisons to explore and create criteria. At each step, we planned to engage in whole- and small-group discussions about the literature and their experiences during this process. Finally, our undergraduates would write reflection papers about the process. We wanted our students to experience the powerful learning that comes from making discoveries. We agree with Starko, Sparks-Langer, Pasch, Fankes, Gardner, and Moody (2003) that the resulting *aha moments* in inductive teaching situations are not likely to be forgotten. In this way, we planned to create a disposition and commitment, or to *raise their antennas*, to the importance of using multicultural literature.

A three-phase model

We decided to use as our “working instructional guide” Steele’s (2001) three-phase model of the Reading and Writing for Critical Thinking Project:

- 1) **Evocation** is designed to help students “evoke prior knowledge, sentiment, and/or impression; create a context for new learning; provide stimulus for future exploration; and, generate individual and/or collective understandings about the tasks to be studied” (p. 7);
- 2) **Realization of Meaning** “when students are exposed to new information or ideas, new content or to new deliberations” (p. 8);
- 3) **Reflection** “marks the time when students begin to express new knowledge and understanding in their own words” (p. 8).

The project

Mary implemented this multicultural project at the beginning of the semester. This class met twice a week for an hour and fifteen minutes. The project spanned six class periods, plus students had one week to write their final reflection papers. Mary began by leading a dialogue and modeling ways to observe and brainstorm together responses to two books. Students then worked in groups during each phase of the process, with Mary providing periodic modeling and explanations of how they should proceed. Students individually wrote final reflection papers at the conclusion of the project.

Evocation – Phase I

Class 1: To begin this project, Mary asked her students to think of a book as a “friend” with whom one spends some time. She then gave a book talk on a familiar picture book, *Mike Mulligan and His Steam Shovel* (Burton, 1939), and led a discussion with the following questions: What are some of the ideas that this friend brings to your mind? What does this friend ask you to notice? What message does this friend invite you to view about our fellow human beings? Through this metaphor we hoped our students would see that every author/book has a voice and a point of view. Further, sometimes this point of view is conveyed by what is not focused on or is left out.

As students reflected upon these questions, they were reminded that many of the messages in books for the primary grades are found in the illustrations. One thing they noticed was that the few “people of color” in the *Mike Mulligan* book were background figures who were painted brown and were otherwise indistinguishable from other people in the background. Mary and her class noted that this book has some merits—for example, the story ends in a win/win solution to a problem. However, children will not grow in understanding and appreciation of different cultures if they are exposed *only* to books with characters of diverse cultures portrayed in the ways this book does.

Next, Mary read aloud *Snapshots from the Wedding* (Soto, 1997), a book we termed for this project “a newer multicultural book.” This book had personal relevance and authenticity to Mary because her daughter had recently been married in a traditional Mexican wedding ceremony in Queretaro, Mexico.

She preceded the reading by sharing wedding photos and her memories of the event. After the reading, using the Think-Pair-Share (McTighe & Lyman, 1988) strategy, students made the following list of characteristics they had noticed about the book:

- Included language of the culture
- Told from a child’s perspective
- Extremely detailed and descriptive
- The illustrations were art
- The characters had authentic Latino names.

Granted, because of the personal connection, Mary may have shown more enthusiasm in presenting the second of these books, but this modeling did seem to provide a way for students to observe and talk about how what we called “older” picture books differed from quality multicultural books. (See Table 1 for list of older books we used.) After the modeling and discussion, students then formed groups, and each group was assigned one of the following cultural perspectives: African American, Arab American, Jewish American, Native American, Asian American or Latino.

Classes 2 and 3: Mary held the next class in our university library. Our education librarian provided an overview of resources available in the library useful for finding quality multicultural books. She presented reference material and Internet sources as well as introducing the students to some newer multicultural selections. Some references she emphasized were *Kaleidoscope: A Multicultural Booklist for Grades K-8* (NCTE, 2001); the websites: *Fifty Multicultural Books Every Child Should Know*, and *Notable Books for a Global Society*; and book awards, namely, the Hans

Table 1. Children’s Literature Selections (“Older Books” for Comparison/Contrast)

- Baker, B. (1962). *Little runner of the longhouse*. Pictures by A. Lobel. New York: Harper Trophy.
- Beskovo, E. (no date). Translated by M.L.Woodburn. *Pelle’s new suit*. New York: Harper & Brothers.
- Bishop, C.H. (1938). *The five Chinese brothers*. New York: Coward-McCann, Inc.
- Burton, V.L. (1939). *Mike Mulligan and his steam shovel*. Boston: Houghton Mifflin Company.
- Clark, A.N. (1969). *In my mother’s house*. Illustrated by B. Herrera. New York: Viking Press.
- McCloskey, R. (1941). *Make way for ducklings*. New York: The Viking Press.
- Mosel, A. (Retold by) (1968). *Tikki Tikki Tembo*. Illustrated by B. Lent. New York: Holt, Rinehart and Winston.
- Warren, B. (1969). *Papacito and his family*. Austin, TX: Steck Vaugh Company.
- Will and Nicolas. (1951). *Finders keepers*. New York: Harcourt, Brace & World, Inc.

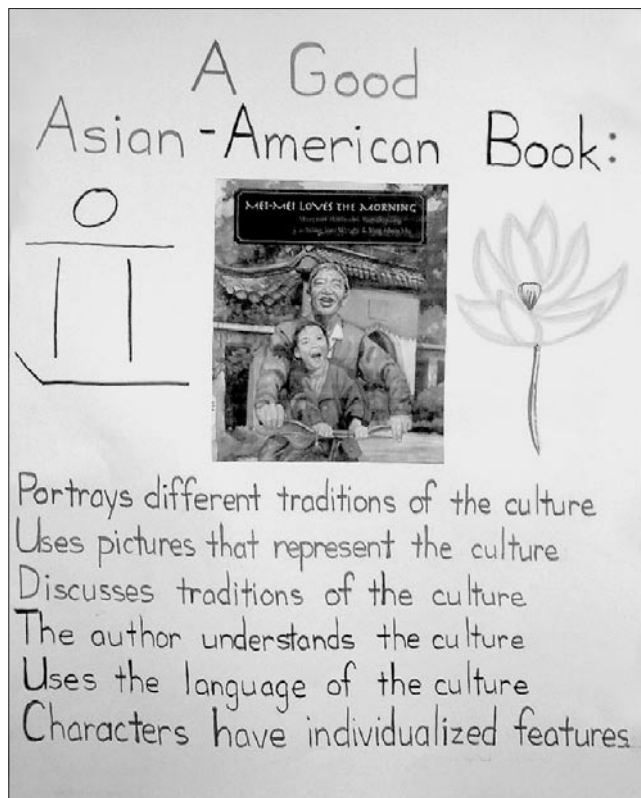


Fig. 1

Christian Andersen, Mildred L. Batcheler, Coretta Scott King, Pura Belpre, and Robert F. Sibert awards.

Using these resources, the groups' task was to find and investigate the literature of their assigned cultural perspective and engage in discussion to develop criteria answering the question: What qualities should I look for in choosing literature reflecting this culture?

The task was structured for each group to: (a) analyze one book from the historical collection (See Table 1); (b) locate, select and analyze five multicultural books from the mid-1980s to the present and to compare them to the "older book" which they had previously analyzed; and (c) develop a poster presenting their specific selection criteria in answer to the above question. See Figures 1 and 2 for criteria posters on the Latino and Native American cultures developed by two groups of undergraduates. The criteria posters were shared with the whole class.

Before the next class session, students were asked to read two articles in which experts gave criteria for choosing books about diverse cultures. The first of these articles, "Ten Quick Ways to Analyze Books for Racism and Sexism" (The Council on Interracial Books for Children, 1994), suggests ways to analyze books and the second, "How to Choose the Best Multicultural Books" (Scholastic, 2003), focuses on how to choose multicultural books about specific cultures.

Realization of meaning – Phase II

Class 4: The key points from these articles were discussed as a class. The students were then asked to revisit their criteria and expand or modify them based on their readings and class discussions and to revise their posters. With revision, their criteria became more specific. For example, drawing from the "Ten Quick Ways" article, they added such things as "Watch for loaded words" and "It is important that people of different cultures are not drawn with the exact same facial characteristics." One of the ideas students focused on from the second article was that these cultures are not *mono-cultures*. The students realized that there is diversity within each culture. For example, what is termed Latino culture includes Mexican, Brazilian, Guatemalan, and others. This exercise and subsequent understandings connect well to Steele's

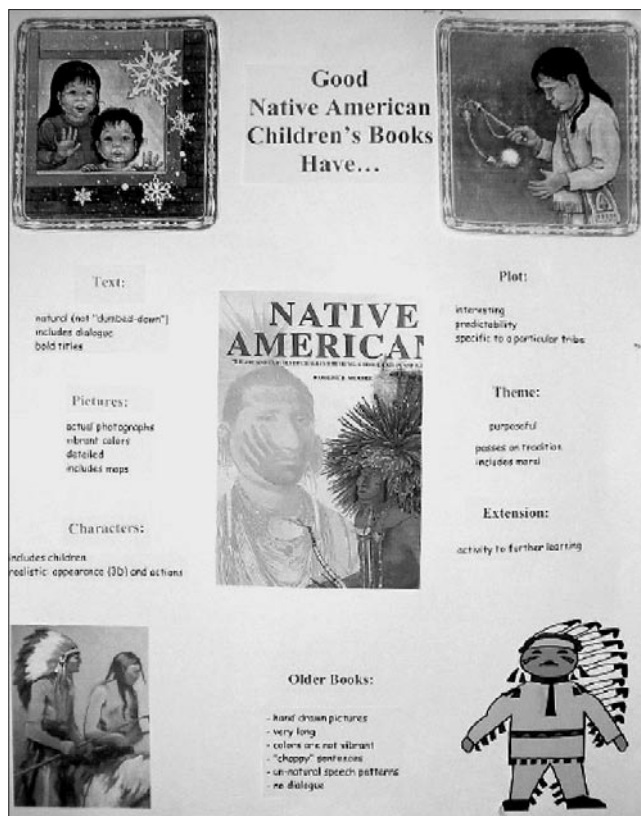


Fig. 2

task for students “to remain engaged with the content, remain cognizant of the mix of new ideas with already held knowledge and beliefs” (p. 8).

Sims Bishop states, “Probably the most controversial current issue swirling around the literature about people of color is that of authenticity, and closely related to that, whether or not authentic literature about people of color can be created by people who are not members of the group portrayed” (1997, p. 16). Thus, Mary engaged the class in thinking about this issue by discussing a movie familiar to most of our students: *Romancing the Stone* (1983). The main character, a writer, portrayed by Kathleen Turner, lived with her cat in New York City, met her editor at a small restaurant and rarely ventured out of the city. Mary asked her students if such a person could write authentic adventure romance stories set in the Wild West. This discussion looked at the extent to which writers can use their imaginations to write authentic stories when they do not have life experiences relating to their stories. From this Mary moved the discussion to the “authority of the author,” sometimes called the insider/outsider question concerning multicultural books: “To what extent does an author need life experience to write authentic stories about a specific culture?” In this way we attempted to raise our students’ awareness of this issue.

Mary concluded this discussion with the following questions as an additional way to judge the appropriateness of a multicultural book in light of the insider/outsider debate:

1. Is the book truthful?
2. Is the book respectful?
3. Is there anything in the book that would embarrass or hurt a child of the culture portrayed?
4. Is there anything in the book that would foster stereotypic thinking in a child not from this culture? (Slapin, Seale, & Gonzales, 1998, p. 179)

As we pondered these questions using specific books, we realized they were not necessarily easy to answer without some knowledge of the culture portrayed in the book. Yet when comparing such books as *Snapshots From the Wedding* (written by an insider) to *Papacito and his Family* (written by an outsider) the discussions seemed to raise antennas to the issue of the authority of the author.

Reflection – Phase III

Class 5: Connecting back to the exit logs and the arguments that “teachers are too busy to be concerned with using multicultural literature,” students were asked to reflect on this statement and develop a discussion web (Alvermann, 1991). Working in groups, they were asked to think through both sides of the argument for the question: “Are these multicultural criteria overly taxing for the busy life of an elementary teacher?” and then come to a conclusion to share with the whole class. Table 2 shows one group’s discussion web. Mary asked for dissenting voices and no class members opted to dissent. Though we acknowledge

Table 2. Discussion Web

NO		YES
<ul style="list-style-type: none"> • Stereotypes are hurtful to the people they concern • Books could be offensive to students if the teacher does not use the criteria; this affects self-esteem • Helps students become more accepting of other cultures 	<p>← REASONS →</p> <p>Are these multicultural criteria overly taxing for the busy life of an elementary school teacher?</p> <p>CONCLUSION</p> <p>It’s the teacher’s responsibility to share books with students that reflect positive images of all cultural groups so that children will feel pride in themselves and learn about and appreciate cultures different from their own.</p>	<ul style="list-style-type: none"> • Teachers already have a lot of work to do • There are so many books to look into and review before using them in class • They are time consuming

some students may not have felt comfortable dissenting because of Mary's enthusiasm for the use of multicultural books, we concluded the group's discussion web responses indicated they were moving toward a commitment to use this literature in their future classrooms. We planned to further assess the impact of the project through analysis of the undergraduates' reflection papers, as well as book choices made and other interactions throughout the remaining class sessions.

Class 6: For the final step students wrote reflective papers on what they had learned during the project.

Assessing the Impact of the Project

The directions given for the reflection papers were open-ended: *Tell what you learned from this process. Include the names of the books your group used to determine the criteria for the poster. You will determine the length of this paper.*

The students' reflective writing seemed to reveal their own thoughts and not just words pulled from sources they had read. This heartened us. In addition, our undergraduates wrote statements in their reflection papers that indicated to us that they had been influenced by the project:

- *It will be very hard to look at a children's book now and not see if it is multicultural or stereotypical.*
- *I am not a member of [these] other cultures and would really have no way of knowing how authentic a book is... So every teacher should keep the criteria we have discussed in mind while reading a book through.*
- *Stereotypes portray a group in a negative light. I need to be a critical reader.*

When further analyzing their reflective papers, we noticed that the students and experts in the field of children's literature touched on many of the same concepts. The experts elaborated to a greater extent and were more articulate of course, but similar ideas could be found in both sources. We chose quotes from the research of Rudine Sims Bishop and made a chart matching them with similar statements made by the undergraduates in their papers. In addition, we chose one quote from "Ten Quick Ways to Analyze Children's Books for Racism and Sexism." (See Table 3) We placed the Concepts

Concerning Multicultural Teaching in the first column, selecting them as we read the students' papers; the second column gives representative statements written by the undergraduates; and the third column gives statements on the same concept by the expert. This finding of similarities between what experts in the field of children's literature have written and what our undergraduates wrote in their reflection papers is one way to gauge the growing awareness of our students about using multicultural literature. We were pleased with this.

On the other hand, we did have one student who stated in a self-evaluation conference, a one-to-one interaction with Mary, "I don't think students should be 'singled out' for their cultural background." To her, reading material depicting the culture of a child would be "singling them out." She further stated, "Any education concerning differing cultures should be left to the parents." We concluded from these comments that this student *may* have had neither a disposition nor a commitment to use multicultural literature in her future classroom. However, as we talked further about this student's position, we thought this student may perhaps have been justly concerned about well meaning but insensitive teacher efforts at introducing multicultural books that uncomfortably focus on specific students. However, we hope this prospective teacher did learn, through the readings, discussions, and literature immersions, the importance of using selection criteria for her classroom library and read-alouds, as well as ways to involve the children themselves in choosing books for the classroom library and read-alouds.

Another way we assessed the impact of this project, rather than solely relying on students' written and spoken comments, was through their book selections during the remainder of the semester in an activity called literature immersion (Gove, 2001). In literature immersion, students bring in children's literature of their choice to each class. They share and critique these books in small groups and choose one to present to the whole class. As the semester unfolds, the small groups focus on different kinds of books and think through different teaching techniques that can be used with the books. The expectation is that students

Table 3. (Concepts/Student Views/Expert Voices)

Concepts Concerning Multicultural Teaching	Undergraduate Voices	Reference
(A) Read the book ahead of time! Be sensitive to stereotypes.	I discovered that you really need to look in the book to make sure that it is a good multicultural book and that it reflects the culture as it really is. It is important to know the book before sharing it with your class so that you are aware of any stereotypes it may have and can address them as needed.	Look for stereotypes. A stereotype is an oversimplified generalization about a particular group, race or sex, which usually carries derogatory implications. In addition to blatant stereotypes, look for variations that in any way demean or ridicule characters because of their race or sex. (The Council on Interracial Books for Children, 1994, p. 14)
(B) Check into the authority of the author.	I think one of the most important things I learned was to check the authors of multicultural books we share with our students. If the author is from a different culture and is writing a story about that culture, it is not unlikely that there will be stereotypes in the story. I know that I have never really paid attention to authors, but I now realize the importance of doing so.	Probably the most controversial current issue swirling around the literature about people of color is that of authenticity, and closely related to that, whether or not authentic literature about people of color can be created by people who are not members of the group portrayed. (Sims Bishop, 1997, p. 16)
(C) Every student needs to feel special.	Being an African American, I felt good about seeing people who looked like me in positive books.	As part of the social and scholastic context, literature can contribute to the development of self-esteem by holding up to its readers' images of themselves. When children are invisible in the literature sanctioned by the school, or when the images they see are distorted or laughable or inaccurate, the effects on their self-esteem is likely to be negative. (Sims Bishop, 1997, p. 4)
(D) Every student ought to be able to learn about diverse cultures through books.	Every student should be able to learn about every culture around the world. Even if students may never encounter another culture, they should have the opportunity to experience one or 20, through books.	Multicultural education is for all students. So is multicultural literature. Underlying this assertion is the idea, that, if our society is to meet the challenges of democratic pluralism, all students need to recognize the diversity that defines this society, learn to respect it, and see it in a positive light. (Sims Bishop, 1997, p. 3)
(E) Teachers are busy; how can they find multicultural books?	<p>I now look at things such as the author's background and perspective, illustrations, storyline and copyright date. These guidelines will help me not perpetuate racism and sexism.</p> <p>There are resources I can use to help me find quality multicultural books like Kaleidoscope and looking for award-winning books like the Coretta Scott King Award.</p>	It is unreasonable to expect that busy teachers will become expert on the culture and literature of numerous social groups. Nor is it necessary to attempt an in-depth reading of every book as an exemplar of a literature or cultural tradition. On the other hand, it is not unreasonable to expect that teachers committed to multicultural education will, as they incorporate diverse literature into their classroom, make an effort to increase their knowledge about those related cultures and literacy traditions with which they are unfamiliar. (Sims Bishop, 1997, p. 15)
(F) Importance of using multicultural books.	I did not realize how important it is to be able to choose high-quality multicultural books until I completed this project. Students need to be aware of and learn about various cultures. They need to be able to read literature that will benefit this learning process and not hinder it by stereotypic thinking. It is important for me to look at different aspects of a book and determine if it is valid and beneficial for my students and me. I definitely believe that taking time to evaluate and analyze books for students is a necessary step for elementary teachers to take.	Multicultural literature can engender an appreciation for the diversity that occurs both within and across social groups. Simply including, as a matter of course, multicultural literature in the classroom library implicitly makes a statement about the normality of diversity. That alone, however, does not constitute a multicultural literature program. Actively incorporating such literature into the classroom—all year, throughout the curriculum—can help students come to respect and value diversity as natural and enriching. (Sims Bishop, 1997, p. 6)
(G) Look for authenticity in the way the culture is portrayed.	We found books that portrayed authentic Latino American culture. The illustrations were genuine to the culture, having bright colors and abstract drawings, and depicted very real-life stories of children who are from Latino cultural homes.	Multicultural literature is to help correct misconceptions and eliminate stereotyped thinking, and if it is to help readers gain insight into an appreciation for the social groups reflected in the literature, then the literature ought to reflect accurately those groups and their culture. (Sims Bishop, 1997, p. 16)

will create a list of books that they have become familiar with and plan to use in their classrooms. In using this strategy, we recognize that individual classroom teachers develop their own canon of literature that they use in their classrooms.

After the completion of the multicultural project, we observed that the undergraduates *did* bring in authentic multicultural books! Plus, they began to talk to their classmates and to us about such things as the extent to which the dialogue in a book was authentic and how teachers could effectively share specific multicultural books with their classes. Further, we analyzed the list of books each student created during the semester—books they had become familiar with and planned to use in their classrooms. From 10% to 40% of these selections were multicultural books. In previous classes without this beginning multicultural project, the percentage of multicultural books brought in for literature immersion was between 5% and 15%. Further, 50% of the books these undergraduates chose to use in the required service-learning project were multicultural books. In addition, the one student who expressed fear of going to the urban elementary school wrote: “I really enjoyed this class. I walked in the first day and thought I would HATE it. I didn’t want to go to (this) Elementary School and I definitely didn’t want to work with third-graders! I was wrong in taking that attitude and now realize... not to judge a school by the city it is located in.” This student selected multicultural literature to use with her third-grade *buddy*. Perhaps this literature choice and the enthusiastic response of her *buddy* were one aspect of the experience that spurred this attitude change.

To further evaluate the impact of the project on their commitment to use multicultural literature, we asked ourselves: Would these undergraduates *unequivocally* incorporate rich multicultural literature in the same space and time as more traditional children’s literature? Knowing that the first years of teaching are quite stressful, we realized using multicultural literature may not be a priority. At this point, this is difficult to evaluate objectively. This question requires a longitudinal study.

Based on our experiences, we speculate that classroom teachers tend to use children’s literature with which they are familiar, in a sense their own canon of

literature, and these undergraduates had become familiar with many multicultural books and resources during this project. As well, they had written statements that were similar to, if not as articulate as, those of an expert in the field of children’s literature, and they had voluntarily chosen authentic multicultural books for literature immersion and for their service-learning project.

Our reflections

We talked over ways the project could be refined for the next semester. Specifically, the group that focused on Arab culture had fewer books to examine and was frustrated by this. We plan to work with the librarian to purchase books to fill this need.

This project has influenced us as well as our students. We were personally renewed by our collaboration. We acknowledged our feelings of involvement during the process, which included our reading and discussing of the literature, discussing what the students wrote in their reflection papers, their responses to class events, and their literature-immersion and service-learning selections. As we shared ideas with each other, other colleagues, and our students, we also continued to learn about teaching with multicultural literature. We are acutely aware that this process is ongoing, for Mary, who is White and Kay, an African American. For example, we laughed at how we both now shudder to think that, as first-grade teachers many years ago, we read *The Five Chinese Brothers* (Bishop, 1938) to our classes and did not notice the stereotypic nature of the pictures and how little the book was grounded in authentic Chinese culture. We now would share this book and two other books, *The Seven Chinese Brothers* (Mahy, 1990) and *Coolies* (Yin, 2003), with children. We would share the historical information included in these two books. As a group we would discuss with participants “what they notice” about all three books, emphasizing the pictures, and then making lists of the similarities and differences in the stories. In this way, we would encourage children’s critical reflection of books about cultures different from their own. We plan to share this strategy with our undergraduates.

For us, this process is spurred on by a lively curiosity to learn about cultures other than our own, through traveling,

talking to others, and of course through reading. We are developing sensitivity to multicultural issues; we like to say we, too, are developing antennas for multicultural issues. We continue to buy into the importance of this literature and are seeing our students do so also. We see this approach of raising antennas as not “so difficult,” but rather crucial and possible, even in the “busy life of the elementary teacher.”

References

- Alvermann, D.E. (1991). The discussion web: A graphic aid for learning across the curriculum. *The Reading Teacher*, 45(2), 92–99.
- Bishop, C.H. (1938). *The five Chinese brothers*. New York: Coward-McCann.
- Burton, V.L. (1939). *Mike Mulligan and his steam shovel*. Boston: Houghton Mifflin Company.
- Cai, M. & Sims Bishop, R. (1994). Multicultural literature for children: Towards a clarification of the concept. In A.H. Dyson & C. Genishi (Eds.), *The need for story: Cultural diversity in classroom and community* (pp. 57–71). Urbana, IL: NCTE.
- Council on Interracial Books for Children. (1994). Ten quick ways to analyze children’s books for racism and sexism. In *Rethinking our classroom: Teaching for equity and justice* (pp. 14–15). [Special edition of *Rethinking Schools*]. Milwaukee, WI: Rethinking Schools, Ltd.
- Darigan, D. (1991). The effects of teachers reading aloud on elementary children’s attitudes toward African Americans. Unpublished dissertation, University of Oregon, Eugene.
- Douglas, M. (Producer) & Zemecki, R. (Director). (1983). *Romancing the stone* [Motion picture]. United States: Twentieth Century Fox Film Corporation.
- Galda, L. (2001). High stakes reading: Articulating the place of children’s literature in the curriculum. *The New Advocate*, 14(3), 223–228.
- Galda, L. & Cullinan, B.E. (2002). *Literature and the child*. Belmont, CA: Wadsworth/Thomson Learning.
- Gove, M. (2001). *Literature immersion*. Unpublished manuscript.
- Hansen-Krening, N., Aoki, E.M. & Mizokawa, D.T. (Eds.), and the Committee to Revise the Multicultural Booklist. (2003). *Kaleidoscope: A multicultural booklist for grades K-8*. Urbana, IL: NCTE.
- How to choose the best multicultural books. (2003). NY: Scholastic. Retrieved from <http://teacher.scholastic.com/products/instructor/multicultural.htm>
- Jacobs, J. & Tunnell, M.O. (2004). *Children’s literature briefly*. Upper Saddle River, NJ: Pearson.
- Kruse, G. & Horning, K. (2001). Fifty multicultural books every child should know. Retrieved from <http://www.education.wisc.edu/ccbc/books/detailListBooks.asp?idBookLists=42>
- Mahy, M. (1990). *The seven Chinese brothers*. New York: Scholastic.
- McLoyd, V.C. (1998). Changing demographics in the American population: Implications for research on minority children and adolescents. In V.C. McLoyd & L. Steinberg (Eds.), *Studying minority adolescents: Conceptual, methodological, and theoretical issues* (pp. 3–29). Mahwah, NJ: Erlbaum.
- McTighe, J. & Lyman, F. (1988). Cueing thinking in the classroom: The promise of theory-embedded tools. *Educational Leadership*, 45(7), 18–24.
- Notable books for a global society. (2004). Retrieved from <http://www.csulb.edu/org/childrens-lit/proj/nbgs/intro-nbgs.html>
- Pappas, C.C., Kiefer, B.Z., & Levstik, L.S. (1999). *An integrated language perspective in the elementary school*. New York: Longman.
- Pate, G.S. (1988). Research on reducing prejudice. *Social Education*, 52(4), 287–291.
- Sims Bishop, R. (1997). Selecting literature for a multicultural curriculum. In V.J. Harris (Ed.), *Using multiethnic literature in the K-8 classroom* (pp. 1–19). Norwood, MA: Christopher-Gordon.
- Slapin, B., Seale, D., & Gonzales Ten Fingers, R. (1998). How to tell the difference. In B. Slapin & D. Seale (Eds.), *Through Indian eyes: The Native experience in books for children* (p. 179). Berkeley, CA: McNaughton & Gunn.
- Soto, G. (1997). *Snapshots from the wedding*. New York: Penguin Group.
- Starko, A.J., Sparks-Langer, G.M., Pasch, M., Frankes, L., Gardner, T.G., & Moody, C.D. (2003). *Teaching as decision making: Successful practices for the elementary teacher*. (3rd ed.). Upper Saddle River, NJ: Merrill Prentice Hall.
- Steele, J.L. (2001). The reading and writing for critical thinking project: A framework for school change. In D.J. Klooster, J.L. Steele, & P.L. Bloem (Eds.), *Ideas without boundaries: International education reform through reading and writing for critical thinking* (pp. 2–21). Newark, DE: International Reading Association.
- Yin. (2001). *Coolies*. New York: Philomel Books.

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Using Everyday Tools to Deepen Children's Mathematical Understanding of Decimals

Introduction

There is considerable evidence from studies involving both school students and adults that the system of decimal numbers is neither simple to learn nor generally understood (Hiebert, 1985; Stacey & Steinle, 1999). A central problem seems to be that few connections are made between the form students learn in the classroom and understandings they already have (or could acquire quickly).¹ Thus it is important that teachers recognize the numerical culture acquired outside the scholastic environment in order to offer children the opportunity to develop new mathematical knowledge preserving the focus on meaning found in everyday situations (Bonotto, 2004).

The exploratory study presented in this report involves a teaching experiment in upper elementary school aimed at enhancing, through extensive use of a ruler, the understanding of some aspects of decimal numbers; and the construction of a comprehensive numerical structure, which integrates both the natural and the decimal number systems.

This study is part of an ongoing research project aimed at showing how an extensive use of suitable cultural artifacts can play a fundamental role in bringing students' out-of-school reasoning experiences into play, by creating a new tension between school mathematics and everyday-life knowledge with its incorporated mathematics (Bonotto, 2004).

As in our other studies, the classroom activities are based on the use of a variety of complementary, integrated, and

interactive teaching methods, and on the introduction of new socio-mathematical norms, (in the sense of Yackel & Cobb, 1966, for example), in an attempt to create a substantially modified teaching/learning environment.

Theoretical and empirical background

In recent years connections between mathematical content and the home cultures of learners have been advocated. Researchers also recommend connections among different branches of mathematics, various disciplines in which mathematics is used, historical roots of mathematical content, and between the real world and the world of work.

The task of connecting mathematics classroom activities with students' everyday experience and knowledge is not easy to carry out because the two contexts differ in some significant ways. "School learning focuses on individual cognition, pure thought activities, symbol manipulation, and general principles, while out-of-school learning is characterized by shared cognition, tool manipulation, contextualized reasoning, and situation-specific competencies" (Schliemann, 1995, p. 52). In particular in "out-of-school" mathematics practice, people may generalize procedures within a context but may not be able to generalize to another context since problems tend to be context specific. Generalization, which is an important goal in school mathematics, is not usually a goal in out-of-school mathematics practice. On the other hand, "local strategies" developed

¹ "The absence of these connections has been documented at three sites in the problem-solving process: (1) symbols and their referents; (2) procedures and their motivating rationales; and, (3) solutions and their reasonableness in light of other knowledge" (Hiebert, 1985, p. 432).

in extra-school practices are sometimes more effective than the arithmetic algorithms; these are usually taught in school to give the students powerful general procedures, but in fact they are frequently useless in out-of-school contexts, as many international studies have shown (e. g. Nunes, 1993; Schliemann, 1995).

In our approach, mathematics, whether encountered in or outside of school, even with specific differences in both practices and learning processes, is not seen as two disjunctive and independent entities. Furthermore, we think the conditions that often make out-of-school learning more effective can and must be re-created, at least partly, within classroom activities. That can be implemented, for example, by encouraging the children to analyze the mathematics incorporated in appropriate “cultural artifacts.” We are talking here of objects such as supermarket bills, bottle and can labels, a weekly TV guide, and so on (see Bonotto, 2001; Bonotto & Basso, 2001; Bonotto, 2003a; Bonotto, 2003b), or tools such as a ruler that are meaningful because they are part of the children’s real-life experience and allow them to refer to concrete situations. We can thus make use of the children’s familiarity with the materials we have chosen and let the children develop new mathematical knowledge, while preserving the focus on meaning found in everyday situations.

We can ask children to point out the embedded mathematical facts, to look for analogies and differences (different number representations), to generate problems (discovering relationships between the quantities involved), to express their intuitions, and to produce their own anticipations. These anticipations can be used as motivating stepping stones to launch, at a first stage, new mathematical knowledge, through those special learning processes that Freudenthal (1991) defines as “anticipatory learning” or “learning by advance organizers.”² This process makes the fullest possible

use of the student’s intuitions, and to the greatest extent possible encourages anticipation of results. We think that this type of learning is better enhanced by a “rich context” as outlined by Freudenthal: that is, a context that does not only serve as the application area but also as source for learning mathematics.³ Freudenthal defines this type of learning as “prospective” in contrast to what he calls “retrospective” learning, which occurs when old notions are recalled in order to be considered at a higher level and within a broader context.⁴ As in the Realistic Mathematics Education perspective of the Dutch school of thought, we deem that progressive mathematization should lead to algorithms, concepts, and notations rooted in a learning history that starts with students’ informally experientially real knowledge. The idea is not only to motivate students with everyday-life contexts but also to look for contexts that are experientially real for the students and can be used as starting points for progressive mathematization.

In particular we deem that children’s understanding of decimal numbers can be fostered by classroom activities where learners can transfer their out-of-school knowledge and experiences, for example in measurement that requires the use of particular cultural artifacts, such as rulers. “The roots in the student’s reality are expected to foster the meaningfulness and usefulness of the so-developed mathematical knowledge” (Gravemeijer, 1997).

According to our experience, when children are confronted with this type of activity they also exhibit flexibility in their reasoning processes, by exploring, comparing, and selecting among different strategies; these strategies are sensible to the context and the number quantities involved, and sometimes they are closer to the procedures emerging in the out-of-school contexts.

But is there a reverse side of the coin, if the word *reverse* can be used?

² The following is one example: “Ratio, for instance, has profound visual roots, which can be arithmetized early on by estimate and measurement. There are many informal opportunities in contexts for common-sense ratio in everyday language before it is dealt with more systematically and formally. Long before fractioning the traditional “cake,” the clock dial is divided according to halves and quarters of an hour, which, unlike the cake segments, have an existence of their own” (Freudenthal, 1991, p. 117).

³ The cultural artifacts and classroom activities we introduced fall under this type of context.

⁴ “Retrospective learning serves a dual purpose: It roots the new matter in the old one, and it strengthens the old roots. Learning a new idea is often nothing but becoming more conscious of a complex of previously less conscious pieces of knowledge and abilities and of their interrelatedness” (Freudenthal, 1991, p. 118).

In order for these kinds of classroom activities to be implemented, a radical change on the part of many teachers will be required. Many will have to try:

- To modify their attitude to mathematics, and to counter influences originating with how they were taught;
- To revise their beliefs about the role of everyday knowledge in mathematical problem solving;
- To see mathematics incorporated into the real world as a starting point for mathematical activities in the classroom, thus revising their current classroom practice;
- To investigate the mathematical ideas and practices of the cultural, ethnic, and linguistic communities of their pupils, and finally,
- To be ready to create and manage open situations, which are continuously transforming and of which the teacher cannot foresee the final evolution or result.

As a matter of fact, these situations are sensitive to the social interactions that are established, to the students' attitudes and reactions, and to their ability to ask questions and find links between school and extra-school knowledge; hence the teacher has to be able to modify at the point of implementation the content objectives of the lesson. The teacher has to be and to feel very strong and qualified, both with respect to the mathematical content and the educational objectives that are potentially contained in these artifacts. In this way, all aspects of the class cannot be prepared for in advance, or from above; the teacher should rather plan for various "branches" to be then drawn together through a process, the management of which is quite hard. We believe that the effective establishment of this type of learning environment makes very high demands on the teacher, and therefore requires revision and change in teacher training, both initially and through in-service programs.

The traditional approach to introducing decimal numbers

The exploratory studies described here find their origin in our early research on the difficulties typical of the learning-teaching process for decimal numbers

in elementary and middle schools. In previous studies (e.g. Bonotto, 1993; Bonotto, 1995), we have analyzed these difficulties, in particular the conceptual obstacles that elementary and middle-school students encounter in mastering the meaning of decimal numbers, the relationship between fractions and decimal representations, and the ordering sequences of decimal numbers. Our findings are consistent with those of classical studies (Nesher & Peled, 1986; Resnick, et al., 1989) and more recent studies (Stacey & Steinle, 1999; Irwin, 2001).

We hypothesized that these findings may depend not only on the inherent difficulty of the subject matter but also on teachers' conceptions and educational strategies. The results of two questionnaires involving elementary and middle-school Italian teachers, concerning the way they teach the topic of decimal numbers in class, shed light on the way the usual instructional practice seems totally extraneous to the richness of the experiences students develop outside school (Bonotto, 1996). Many teachers introduce decimal numbers by extending the place-value convention. They tend to spend little time allowing children to understand the meaning of decimal numeration or to reflect on decimal number properties and relationships; efforts to connect decimals and decimal measures are often lacking. As a consequence, children learn to carry out the required computations, but have difficulty in mastering the relationship between symbols and their referents, and between fractional and decimal representations.

Measuring activities as an alternative introduction to the decimal numbers

In agreement with other researchers (Hiebert, 1985; Irwin, 2001) we maintain that children's decimal number understanding can be fostered in rich classroom environments, where learners can transfer their out-of-school knowledge and utilize familiar tools, which they also use in out-of-school contexts, to accomplish a recurrent set of mathematical activities. In particular we think that measuring activities requiring extensive use of a ruler can offer the children good opportunities to move toward the construction of an encompassing numerical

structure, which integrates in a consistent whole both the natural and the decimal number systems (Bonotto, 2001).

Furthermore we wish to avoid the usual practice, at least in Italian elementary schools, of setting up the decimal metric system in this way: One starts with pre-measuring activities, then uses unofficial instruments to express the result of a measurement, and finally gets to the stage of official instruments and decimal numbers in the fourth grade. We believe it is possible to attempt an innovative teaching path in which decimal numbers are introduced as early as the second grade through contextualized measuring activities, for example by using the stadiometer (instrument for measuring children's height) and the ruler. We propose that a set of measuring activities that require extensive use of the ruler can offer the children:

- An initial approach to the decimal number as the result of a given measurement;
- A good opportunity to move toward the construction of a comprehensive numerical structure, which integrates both the natural and the decimal number systems.

On the role of the ruler

When we conceived the research presented in this paper, we were aware that the use of weights and lengths may foster the understanding of decimal writing, and hence the ordering between decimal numbers—difficult topics to deal with. In particular the recourse to weight or length units of measurement has allowed children to reflect on the fact that under the decimal writing lies also the addition structure of decimal numbers, not only the multiplication one.

Furthermore, we were aware that the ruler is a cultural artifact, present in the daily experience of any child, who normally uses it as a simple measuring instrument and as an aid in solving certain problems related to real contexts. It can, however, be used not only for these activities involving the mathematization of reality (measuring and approximating), but also for activities that concern the understanding of numerical structures (decimal numbers and fractions).

The ruler can offer the children a first approach to the decimal number as the

result of a given measurement. On the metric ruler, “mathematical facts” are represented through a particular symbolic system: the natural-number sequence is visible and legible, and fractional parts are marked in a way visible but not legible. Therefore, the ruler might symbolize for students the additive structure of the written decimal number notation. For example in order to draw a 3.15-dm segment, the child might draw a 3-dm line and mark the final extreme. (A decimeter is 10 centimeters.) Then she/he might add a 1-cm line to it, and finally a 5-mm line, and express each affixture as “plus” or “and.” The child can understand that if there are two decimal digits after the decimal point, then there are units plus tenths plus hundredths, and that each digit specifies how many parts of a given magnitude are included in the addition. The learner is expected to form images out of her/his actions through the use of the ruler, and to visualize relevant properties. The child can map this visualization onto the decimal number representation to attribute a meaning to the decimal digits after the decimal point; her/his ability to solve ordering problems is enhanced.

Furthermore, in the classroom activities we applied a variety of instructional techniques, involving both an extensive use of the children's own written descriptions of the methods they adopted and collective discussions.

The research

A previous exploratory study with third-grade children concerned the introduction of the concept of decimal numbers in the normal classroom curriculum. We have designed classroom activities that engage students in sustained mathematical activity requiring extensive use of the ruler to accomplish different functions (measuring, drawing segments, ordering and approximating decimal numbers). The results obtained showed how the children correctly measured and expressed lengths with numbers containing only one digit after the decimal point; where numbers with a second digit following the decimal point were concerned, the children had difficulties in distinguishing between the decimal digit value—which represents how many parts of a given magnitude there are—and the

meaning to be attributed to each decimal digit position, which represents its magnitude.

The exploratory study reported here aims to enhance the understanding of decimal numbers and to overcome the difficulties encountered by children in the previous study regarding the understanding of the second digit following the decimal point. The idea was also to start the children thinking about the structural properties of a line of numbers. Twenty-one fourth-grade children (aged 9-10 years) in a small school in a village of northeast Italy were asked to represent given decimal numbers as segments, to measure and represent given segments in the written symbol notation, to compare, and to order decimal numbers. Some students used rulers 20 centimeters in length, and some used 30-cm rulers. All the decimal numbers were represented in decimeters to make the second decimal digit representable by a mark on the ruler. In order to make the decimeter a meaningful unit of measure, we introduced the tasks as representing some problematic situations in the imaginary world of an Olympic long-jump game in Lilliput.

As an example, we show the task presented in the second session, in which the students had to measure segments (the jumps made by three Lilliputians), and to report the measurements in a table which already contained the results of the first jump for each of the three Lilliputians, expressed with two digits after the decimal point (see Fig.1).⁵

Lilliputians use a more precise measurement tool for their final long-jump game at the Olympics. Look at the following table of jumps (measured in decimeters):

	1st jump	2nd jump	3rd jump
Alberto	2.83		
Bruno	2.16		
Carlo	2.90		

Fig.1

For each athlete, the table lacks the measure of the second and the third jumps. Remember that the table accepts only numbers with two digits after the point. You will find the Lilliputian jumps represented by line segments on the following page.

Later we decided to carry the study further, to evaluate the influence that the preceding activities with the ruler had had on the children. Thus these same children were given, in the fifth-grade class, a new series of questions on decimal numbers conceived as the result of given measurements, which did not involve the use of a ruler, and some problems involving comparison, ordering, and approximation of decimal numbers. This was also aimed at initiating a reflection on the structural properties of the number line. Each student was given a sheet that listed three tasks:

1. Write down at least two measurements between 1 dm and 2 dm.
2. Write down at least two measurements between 1.2 dm and 1.3 dm.
3. Write down at least two measurements between 1.9 dm and 2 dm.

Explain how you found these numbers.

Discussion of some results

We briefly present a few revealing excerpts from the written work that show:

- The role of the concrete model (characterized by a particular symbolic code system), as well as the conceptual model of the ruler, in passing from the number as a measure to the number as a mental object;
- The emergence, in terms of prospective learning, of some of the properties of decimal numbers and, in particular, of the property of density on the real-number line.

In some protocols (about 30% of the class's total), one sees that the students still reason very much along manipulative and procedural lines linked to the image of the ruler. Here are some examples.

⁵ In the first session the results of the first jumps are expressed with one digit after the decimal point.

Moreno: 1st answer: 11 cm – 12 cm – 13 cm – 14 cm – 15 cm – 16 cm – 17 cm – 18 cm – 19 cm

The measurements I got without looking at the ruler were all between the 10 cm and the 20 cm marks.

2nd answer: 1.21 dm – 1.23 dm

I got them by adding another digit after the decimal point: the millimeters.

Daniele: 1st answer: 1.1 – 1.2 – 1.3 – 1.4 – 1.5 dm

To get these numbers I thought that between 1 dm and 2 dm there are the little pieces that are smaller than are centimeters.

2nd answer: 1.21 – 1.22 – 1.23 – 1.24 – 1.25 dm

I have to go from 1.2 to 1.3 and all I have to do is add the smaller pieces, that is the millimeters.

The numbers as measures found by way of mental operations are in fact thought of as located in the physical space of the ruler as instrumental artifact. This kind of reasoning highlights some of the characteristics of the ruler as model. Mentally the children refer to the physical act and manipulation of the ruler involved in measuring a segment of, say, 1.21 dm: first they draw a 1-dm-long segment and mark off the end point; then they add a 2-cm segment and then a 1-mm one. In this case the physical manipulation they had previously carried out helped them to understand the meaning of a number written with a decimal point and expressing units of measure; it helped them to understand the additive structure underlying the standard written decimal notation.

In other examples (about 50% of the total), the support offered by the ruler proved to be more flexible. Here the ruler no longer served just as a visual and tactile tool (as it had in the activities of the preceding years), but as a tool that induces thinking in terms of relations between numbers and quantities involved—in a certain sense more “conceptual.” Students seem to have progressed from thinking on the basis of concrete, material objects to thinking on the basis of mental, mathematical objects.

Let us look at the examples given by the following two protocols.

Simone: 1st answer: 1.3 dm – 1.4 dm – 1.5 dm – 1.6 dm – 1.7 dm

I went like this: in 1 dm there are 10 cm. Therefore 14 cm is more than 1 dm and less than 2 dm. Since we’re doing marks in decimeters, I did 1.4 dm.

2nd answer: 1.21 dm – 1.23 dm – 1.24 dm – 1.25 dm

I went like this: what’s smaller than centimeters is millimeters.

In this case we have to use millimeters because if you add or take away centimeters you don’t get a number between 1.2 dm and 1.3 dm.

Claudia: 1st answer: 1.1 dm – 1.2 dm – 1.3 dm – 1.4 dm – 1.5 dm – 1.6 dm – 1.7 dm – 1.8 dm – 1.9 dm

I thought that between 1 dm and 2 dm I had to put the numbers with the decimal point because on the ruler are marked the decimeters, and necessarily I have to put a decimal point because I have to divide the units from the decimals, that is decimeters from centimeters.

The students use logical and coherent expressions to justify the location of number measures in the required interval, and the equivalence of different names, or to set up a correspondence between the decimal notation of a number with a decimal point, and that of the number measure.

Other pupils—see Pamela’s protocol—carry out transformations going from one unit of measure to another in a meaningful way using fractional expressions.

Pamela: 1st answer: 1.3 dm – 1.5 dm – 1.7 dm – 1.9 dm – 1.06 dm – 1.32 dm – 1.54 dm – 1.73 dm – 1.99 dm – 1.05 dm

To get these measurements I didn’t make my brain work very hard, I thought of them, first, thinking of all the possible ones, and then out of these, taking the ones that seemed better to me. For example, 1.3 dm equals 13 centimeters while 1.32 dm equals 13 centimeters plus two-tenths of a centimeter.

2nd answer: 1.23 dm – 1.24 dm – 1.25 dm – 1.26 dm, but also 1.2321 dm

For example 1.23 dm consists of one decimeter, two centimeters, and three-tenths of a centimeter. And the same goes for 1.2321 dm which means one decimeter, two centimeters, three-tenths of a centimeter, two-hundredths of a centimeter, and one-thousandth of a centimeter, that is, 12 centimeters and 321-thousandths of a centimeter.

One can see the distinction starting between decimal digit value—which represents how many parts of a given magnitude there are—and the meaning to be attributed to each decimal digit position, which represents its magnitude.

In other protocols then (about 20% of the total), the fact that the subdivisions on the ruler are decimals becomes evident, as does the notion of subdivisions that can go on infinitely, even if one cannot actually see them on the ruler. Thus, the density property of decimal numbers in the number line, in its different aspects, intuitively emerges in terms of “prospective learning,” in the sense of Freudenthal. Here are some examples.

Selenia: *One could go on writing numbers infinitely, because there are always littler spaces that you don't see on the ruler because it would be impossible to see them all because they're infinite. Because you only see centimeters and millimeters on the ruler.*

Veronica: *You can have 1.22 dm – 1.23 dm – 1.24 dm – 1.25 dm – 1.26 dm – 1.27 dm – 1.28 dm – 1.29 dm I found them like this. First of all between 1.2 dm and 1.3 dm there are ten spaces and therefore I can go like this. There aren't only these measurements, but there are infinite ones because every space continues to be divided in 10 parts.*

Sara: 1st answer: 1.2 dm – 1.4 dm – 1.6 dm – 1.9 dm – 1.5 dm
It was very simple to find them I thought what numbers there are between 1 dm and 2 dm and among so many numbers I chose these, because the interval between one decimeter and two decimeters is decimal and you always divide by ten.
2nd answer: 1.21 dm – 1.22 dm – 1.263 dm – 1.25 dm – 1.299 dm
I used the same method as before and if the teachers give me another task like this to do, I'll use the same method again. It's like a cycle that repeats itself . . . because the spaces inside a centimeter are infinite.

We can see that although there is an explicit reference to the ruler, decimal numbers are becoming autonomous (mental) objects with features that are different with the ones stated in practice. Furthermore the activities with the ruler (a physical cultural artifact) suggest a new mathematical idea (the density

property of decimal numbers in the number line) according to “prospective learning.”

Conclusion and open problems

In this paper we have presented some results of an exploratory study in an upper elementary school. The results obtained indicate: (a) the passage from the number as a measure to the number as a mental object, (b) the role of the concrete model, as well as the conceptual model, of the ruler—in other words the transition of the ruler from *working model* to *thinking model*. The use of the ruler first gave meaning to the operations of measuring, to decimal numbers as the result of given measurements, and to decimal number notation in general; then it favored integration between acting and thinking in mathematics. Furthermore, anticipatory intuitions of some of the properties of the decimal number, and in particular the density property of decimal numbers on the real-number line, also were investigated.

Concerning the role of the ruler, we believe that the transition from working with a ruler as a visible and tactile model to its use as a model inducing the child to think in terms of numerical relations and quantities comes about, as Gravemeijer (1994) says, when there exists an *isomorphism*, or a correspondence between the manipulative action and the mental action pursued. For example, to draw a segment 3.15 decimeters in length, the student traces a line three decimeters long and marks the end point; then he adds a segment one centimeter in length, and finally one of five millimeters, and expresses these additive processes with a plus or an “and.” This process reflects the additive structure of decimal notation. Thus by using the ruler the child finds a correspondence between the physical action undertaken, and the mental representation of the number.

In our studies we revealed that the capacity to mentally run over a ruler in order to locate number measures is a stage that requires the formation of mental operations requiring mastery in the reading of the marks incorporated on the instrument, awareness that the splitting of the distance between one integer marking and another is formed by ten spaces, and the understanding of the

relation between the visible quantities on the ruler.

As regards the learning processes, we hold, in agreement with Freudenthal, that mathematics teaching should try to exploit both forms of learning: *prospective* and *retrospective*: "Prospective learning should not only be allowed but also stimulated, just as retrospective learning should not only be organized by teaching but also activated as a learning habit. . . . Just as prospective and retrospective learning aims at an integration of past and future learning processes, so does intertwining learning strands locally, yet with a view on the involved learning processes as a whole" (Freudenthal, 1991, p. 116).

References

- Bonotto, C. (1993). Origini concettuali di errori che si riscontrano nel confrontare numeri decimali e frazioni. *L'Insegnamento della Matematica e delle Scienze Integrate*, 16 (1), 9–45.
- Bonotto, C. (1995). Sull'integrazione delle strutture numeriche nella scuola dell'obbligo. *L'Insegnamento della Matematica e delle Scienze Integrate*, 18A (4), 311–338.
- Bonotto, C. (1996). Sul modo di affrontare i numeri decimali nella scuola dell'obbligo. *L'Insegnamento della Matematica e delle Scienze Integrate*, 19A (2), 107–132.
- Bonotto, C. (2001). How to connect school mathematics with students' out-of-school knowledge. *Zentralblatt für Didaktik der Mathematik*, 33, 75–84.
- Bonotto, C. (2003a). About students' understanding and learning of the concept of surface area. In D.H. Clements, G. Bright (Eds.) *Learning and Teaching Measurement: 2003 Yearbook of the National Council of Teachers of Mathematics* (pp. 157–167). Reston, VA: National Council of Teachers of Mathematics.
- Bonotto, C. (2003b). Investigating the mathematics incorporated in the real world as a starting point for mathematics classroom activities. In N.A. Pate-man, B.J. Dougherty, J. Zilliox (Eds.), *Proceedings of the 27th Conference of the International Group for the Psychology of Mathematics Education* (II, pp. 129–136). Honolulu: Hawaii University.
- Bonotto, C. (2004). On the relationships between informal out-of-school mathematics and formal in-school mathematics in the development of abstract mathematical knowledge. *Regular Lecture at ICME X*, Copenhagen, July 4–11, 2004.
- Bonotto, C. & Basso M. (2001). Is it possible to change the classroom activities in which we delegate the process of connecting mathematics with reality? *International Journal of Mathematics Education in Science and Technology*, 32, 385–399.
- Freudenthal, H. (1991). *Revisiting mathematics education. China lectures*. Dordrecht: Kluwer.
- Gravemeijer, K. (1994). *Developing realistic mathematics education*, Utrecht, The Netherlands: University of Utrecht, Freudenthal Institute.
- Gravemeijer, K. (1997). Commentary solving word problems: A case of modelling. *Learning and Instruction*, 7, 389–397.
- Hiebert, J. (1985). Children's knowledge of common and decimal fractions. *Education and Urban Society*, 17, 427–437.
- Irwin, K.C. (2001). Using everyday knowledge of decimals to enhance understanding. *Journal for Research in Mathematics Education*, 32(4), 399–420.
- Nesher, P. & Peled, I. (1986). Shifts in reasoning: The case of extending number concepts. *Educational Studies in Mathematics*, 17, 67–79.
- Nunes, T. (1993). The socio-cultural context of mathematical thinking: Research findings and educational implications. In A.J. Bishop, K. Hart, S. Lerman, & T. Nunes (Eds.), *Significant influences on children's learning of mathematics* (pp. 27–42). Paris: UNESCO.
- Resnick, L.B., Nesher, P., Leonard, F., Magone, M., Omanson, S., & Peled, I. (1989). Conceptual bases of arithmetic errors: The case of decimal fractions. *Journal for Research in Mathematics Education*, 20(1), 8–27.
- Schliemann A.D. (1995). Some concerns about bringing everyday mathematics to mathematics education. In L. Meira, D. Carraher (Eds.), *Proceedings of the XIX PME*, 45–60, University of Recife (Brazil): Centro de Filosofia e Ciências Humanas.
- Stacey, K., & Steinle, V. (1999). A longitudinal study of children's thinking about decimals: a preliminary analysis. In O. Zaslavsky (Ed.) *Proceedings of 23rd Conference of the International Group for the Psychology of Mathematics Education* (II, pp. 233–240). Haifa (Israel): Dept. of Education in Technology and Science.
- Yackel, E. & Cobb, P. (1996). Classroom sociomathematical norms and intellectual autonomy. *Journal for Research in Mathematics Education*, 27(4), 458–477.

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Expanding Comfort Zones: An Instructional Model to Broaden Cultural Awareness of Future Teachers

Rationale for the pre-service teacher training model

UNESCO (2000) emphasized the need in this new century for educational policy, curricula, materials, and strategies focusing on human rights, peace, international understanding, tolerance, and nonviolence. This statement is an overarching guide for preparing future citizens to live successfully in an increasingly global world. Just as importantly, UNESCO's statement can serve as a moral compass for pedagogic decisions made in primary and secondary schools—which in many cases around the world serve ethnically, religiously, and racially diverse student populations. In the best possible scenario, our classrooms become microcosms of democratic ideals providing equal opportunities to all and establishing an atmosphere of justice and tolerance.

We do not, however, live perfect lives in paradigmatic places. Schools certainly are not such places. Discrimination (whether it be unconscious or on purpose) unfortunately often lurks in classrooms and school corridors. Prejudicial beliefs about the capabilities, language patterns, learning styles, attitudes, and behaviors of minorities and marginalized groups put these students at risk for segregation, inferior pedagogic practices, lower graduation rates, and, in general, less success in the academic sphere. Finding examples of unfair treatment is far too easy. In the United States, Latino/Hispanic students' educational experiences reflect negative attitudes and unfair practices despite the fact that they are the fastest-growing population in North America. Their reading scores are

appreciably lower than those of White students, drop-out rates are four times higher than for their White peers and national test scores do not reach the levels achieved by White students (Valverde & Scribner, 2001). Perceptions of African-American students have been heavily shaded by historical hostilities among the different racial groups; in particular, African-Americans continue to be seen as less intelligent by many Whites (Durodoye, et al., 2005). Native American populations continue to be discriminated against in housing, employment, and education (Digital History, 2005). In the U.S. state of Montana, which has a large Native American population, 41% of eighth-grade Native Americans were proficient or advanced in math compared to 75% of White eighth graders. In reading, 44% of Native Americans were proficient or advanced in reading versus 75% of White students (Montana Office of Public Instruction, 2004).

Romany communities throughout Europe suffer systematic discrimination, with schools being hostile and insensitive to their culture and language, and indifferent to the children's best interests (Roma in Serbia, 2004). Surveys show white Czechs continue to believe the Romany people are inferior and are best suited to special schools (Closs, 1999). In Hungary, a basic feature in schools is the segregation of Roma children from the rest of the population (National Institute for Public Education, 1997). One thousand black South African student teachers at the University of Durban-Westville characterized their education as being fraught with violence, steeped in an authoritarian culture with memorization

being a major learning tool, and displaying an insensitivity for languages other than the mainstream language (Suransky-Dekker, 1997). Turkish sources in Western Thrace agree the gravest problem is the need for appropriate education for the Turkish minority (Utku, 2004). In areas of former Yugoslavia, some schools segregate students so that Serbs attend one shift and Croatian children attend another (Gosselin, 2000). This litany of injustice is a small indication of the indignities far too many students face around the globe.

Breaking the cycle of intolerance

To raise the self-esteem of children and to promote their success in school, respect for each child's culture and incorporation of these different cultures in course content, materials, and learning practices are of paramount importance (Ramirez and Ramirez, 1994). Teachers are in the powerful position of establishing either a classroom environment that is just, respectful, and fair-minded, or one with prejudicial biases and practices. It seems logical, therefore, that cultural sensitivity and multicultural and global education be infused throughout pre-service teacher training. Pre-service teachers must recognize there is "a special ethical significance to people's cultural commitments" (Bull, et al., 1992, p. 2). These novices also must acknowledge that sensitivity to diversity issues means the courage to change an assumed belief and embrace new concepts, realize that all students must be included in the whole educational process, and acknowledge that every individual must be valued for her/himself (Sapon-Shevin, 1999). It is requisite that pre-service teachers truly understand that a teacher's insight into students' cultural backgrounds and subsequent adaptation of pedagogic behaviors sensitive to those cultures are directly linked to student achievement (British Columbia Ministry of Education, 2004).

However, what happens in education courses and accompanying field experiences does not always translate into greater cultural awareness on the part of pre-service teachers or enhance their ability to establish an equitable, caring environment for all students. Many potential teachers, throughout their own schooling, have not themselves exper-

rienced much multicultural education. Also, teacher education experiences do not automatically or necessarily change attitudes and beliefs about minority children (Appelbaum, 2002). Those learning to teach need not just exposure to diverse environments and cultures but direct and extended interactive experiences with them (Haberman, 1991).

The pre-service teacher project

I wanted to find a way to link my students with the lives of children whose cultures differed from their own: to give them direct, concrete, and immediate multicultural experiences. Keeping the aforementioned research in mind, I embedded a multicultural project with the Philadelphia Latino/Hispanic community within a pre-professional course on teaching literacy and social studies in the elementary classroom. These third-year pre-service teachers, who had had little or no direct experience with this particular cultural group, were asked to gain cultural understanding through visits to the Latino community in the northern part of the city. They were asked to interview people of Latino/Hispanic heritage, to undertake observations in schools and educational programs serving Latino populations, and to do secondary research. The pedagogic task was to determine the cultural accuracy and authenticity of a bilingual, multicultural book called *Las Nanas de Abuelita/Grandmother's Nursery Rhymes* (Jaramillo, 1994).

I had a pedagogic balancing act on my hands. This learning project had the potential of being threatening. It could rub against students' own prejudices and fears, as well as put many of them in information-gathering situations different from any they had been in before. I had a responsibility to carefully offer guidance through the maze of learning. I also wanted to promote the ideology that reading is far more than decoding and comprehending, more than skimming the surface of words. It is delving into each word's very essence—its heart and soul (Freire, 1970). I wanted the university students to understand the power of language and to think seriously about its ramifications. I needed, therefore, to organize class content and materials to scaffold students' intellectual inquiry and boost their confidence. Simultaneously

I wanted to maintain an open-ended problem-solving instructional model that promoted critical thinking, that encouraged “skills to process and generate information and beliefs,” and that fostered the “habit, based on intellectual commitment, of using those skills to guide behavior” (Scriven & Paul, 2002, p. 2).

I turned to the research of Robert Sternberg (1985) who has expressed concern that schools fail to provide viable instruction in critical thinking and problem solving, despite well-meaning and diligent efforts. He urged that school-based problem solving not be packaged in neat units; rather we should create learning situations that reflect the pell-mell, non-linear profile that real problems present. To do this, Sternberg offers five guidelines.

1. Everyday problems tend to be ill-structured and “messy.” In schools we have a tendency, in a most earnest attempt to guide students, to provide neat formulas for finding solutions. Avoid formulaic answers.
2. In everyday problem solving, it is not usually clear just what information will be prove useful; therefore it is best to look at multiple sources and in various places. In schools we frequently direct students to reference sources and dictate how many are required (for the number of resources consulted is often linked to a student’s final grade). Limit these directions.
3. Everyday problems do not necessarily have a right or wrong answer because of the varying contexts in which the solution may be used, and the varying consequences that may occur once the solution is set in motion. In academe, students expect to find one correct answer because often we teachers expect one right answer, and that answer is linked to a grade. Stay away from one-problem, one-answer mentality.
4. Until recently, students worked independently on almost all school endeavors. It is recommended that everyday problems be solved collaboratively.
5. Everyday problems are complicated and stubbornly persistent. School problem-solving situations should be worked on over a period of time. Stu-

dents should adopt an attitude that the answer will not be found easily.

These five points served as my guide as I designed and developed the project’s goals, structure, assignments, and assessment criteria.

The mechanics of the project

The project was organized to go throughout the semester and to provide students with multiple opportunities to explore Latino culture. The students’ ultimate goal was to write a paper discussing the cultural relevance of *Las Nanas de Abuelita/Grandmother’s Nursery Rhymes* to the Philadelphia Puerto Rican community and to speculate whether this book will be culturally authentic in fifty years, thereby reflecting on the concept of cultural dynamism. Students gathered information by interviewing Arcadia University professors, graduate students, and alumni of Latino descent; by sharing information among classmates; by visiting schools and educational programs whose main thrust was to create environments reflective of, and nurturing to, the Latino community; and by visiting a Puerto Rican Cultural Museum and public library located in the heart of North Philadelphia’s Puerto Rican community. They kept a research log, noting specific information gained and their personal reflections. This was handed in with the paper. Students also did secondary research involving children’s literature texts, multicultural education texts, professional journals and the Internet.

Throughout the semester this information was scaffolded with pertinent classroom discussions. Critical literacy was discussed as well as criteria for determining cultural accuracy in children’s literature, such as noting if minority figures are aided by White characters to achieve their goals or if minority characters are represented as always living in poverty. The university students were then required to do several things.

1. Determine a definition of cultural authenticity. Most students echoed what LJK, a student in the class, wrote: “Cultural authenticity is when a book presents an accurate portrayal of a particular culture’s history, customs, values, language, and daily living. Authors of authentic books should either



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be a member of that culture or be very knowledgeable [about it].”

2. Extrapolate on the importance of including multicultural children’s books in the curriculum.
3. Assert a rationale for the need for accurate portrayals of various cultural groups in both pictures and texts used in the classroom.

The students knew ahead of time that there were no right or wrong answers to the questions dealing with cultural authenticity. Rather, grading would reflect the logic of arguments, the intertwining of relevant primary and secondary research to support conclusions, and the depth and clarity of the overall presentation.

The reasoning behind the multicultural literature context

Pre-service teachers often stress universals of the human condition rather than cultural differences to avoid being perceived as racist or stereotyping. It simply is safer to speak of the qualities that link all of humanity. Prejudice is less likely to rear its ugly head; the tone of classroom conversations remains relatively neutral although not necessarily banal. The danger in this lies in the failure to demonstrate that cultural and racial dif-

ferences are valuable in themselves, to be valued by the group’s members as well as outsiders, and worthy to be highlighted in the classroom. Perhaps even more significant is that our personal culture, our ethnicity, our race is so deeply ingrained that it should never be glossed over or dismissed (McCabe, 1997). Also, “[m]any teachers who feel confident selecting literature on the basis of curricular goals or literary criteria lose that confidence when it comes to selecting multicultural literature. Aware of past controversies over specific books and general charges of stereotyping or racism, they fear being accused of insensitivity or worse. Feeling a lack of knowledge about cultural groups other than their own, they worry whether they can detect authenticity or its lack” (Bishop, 1993, p. 43). Obviously, this is even truer for inexperienced undergraduate students.

Two decades of research (Heath, 1983; Galda & Pellegrini, 1985; Howard, 1991; Meier, 2003) have shown that children learn to use, comprehend, and relate to language in culturally specific ways. Stories are not written in a vacuum—they reflect the cultural and historical milieu in which they are produced, as well as the author’s ethnicity, age, race, and gender. Likewise stories are not read in a vacuum. Readers bring their own set of cultural expectations and literacy

experiences. Cultural differences in storytelling style—including story grammars, student response patterns in oral language and writing, and physical behaviors during the listening to and reading of stories—affect classroom life in many important ways, influencing comprehension and retention of stories, and ultimately reading assessments.

“If books are not compelling to children [and evidence suggests that students respond more easily to a recognizable story grammar and characters that resonate familiar behaviors and values], then no amount of time spent on rhyming games, phonemic awareness exercises, or any other literacy activity will result in their becoming proficient and empowered readers” (Meier, 2003, p. 246). Culturally authentic books that relate to the various cultures in the class are not merely “good” additions but a necessity. They level the playing field by offering all students stories that are meaningful and that reflect each reader’s language patterns and values. In 1991, Elizabeth Howard wrote, “We must aim for that authentic literature which can lead us—members of majority and minority cultures, mainstreamed and disenfranchised groups—toward goals of enhanced self-esteem and enlightenment” (cited in Bishop, 1993, p. 43).

An effective and carefully constructed multicultural literature program cannot eradicate the pernicious effects of racial and ethnic prejudice, poverty, and unequal power structures, but there is evidence that reading stories about children from cultures different from one’s own can diminish prejudice (McCabe, 1997). Selecting books that are culturally authentic is a difficult task, but a crucial one (Fox & Short, 2003). As Norton wrote in 2005, “Positive multicultural literature has been used effectively to help readers identify cultural heritages, understand sociological change, respect the values of minority groups, raise aspiration, and expand imagination and creativity” (p. 2). It certainly provides opportunities for meaningful community discourse and illuminates experiences for the cultural group to reflect upon and for others to share vicariously. However, misrepresented content and images subvert the very cultural, ethnic, and racial insights such literature

can build upon, and literally betray the members of the represented culture (Temple, et al., 2002). “If the purpose of literature is to liberate, the purpose of authentic multicultural literature is to help liberate us from all the pre-conceived stereotypical hang-ups that imprison us within narrow boundaries” (Bishop, 1993, p. 43). Once individuals are liberated from stereotypes, then the door for pro-active behavior, socialization, and change is opened (*ibid.*).

Besides, my project was designed to explicitly and implicitly teach, promote, and inculcate critical literacy skills. Symbolic representation—in image and text, on paper and floating through cyberspace—is never neutral. Subconsciously or consciously, texts are artifacts of the culture, reflecting its myriad social, economic, and political systems as well as the author’s own particular values and beliefs. They are created with specific purposes and functions; they promote particular versions of reality (Serafini, 2003). As Freire (1970) commented, it is these symbolic forms that create the world, not vice versa. So it is incumbent upon us all to determine what kind of world—what version of reality—is being constructed through symbolic messages. Critical literacy provides a lens to analytically challenge values, attitudes, and beliefs that lie beneath the surface of texts, whether they are written, spoken, visual, performance, or multimedia.

When one searches for cultural authenticity, the reader must question the text—searching for who is and is not represented, who is and is not in power, and how accurate depictions of cultures are in regard to economics, speech patterns, and inter/intrapersonal, group, and familial relationships. Pre-service teachers need to comprehend critically. They need to recognize a symbolic message’s intentions and potential impact, and make judgments about what is being said and shown to them. Then they in turn can incorporate this knowledge into their present and future classroom attitudes and activities.

The pre-service teachers originally found the text “cute,” with “bright and colorful pictures” and with rhymes that were somewhat different from ones they learned as children. As they discussed the rhymes with children and adults of

Latino/Hispanic heritage, almost all students found the rhymes and illustrations free from bias and accurately reflecting Latino/Hispanic culture and mores. Approximately 80% of the students decided the book was culturally authentic for the Puerto Rican community because child and adult interviewees related to the rhymes in terms of familiarity with the rhyme itself, the content of the rhymes, the rhyme pattern, and the illustrations. Some of the remaining students concluded that the rhymes were more relevant to Argentine or Columbian populations. Others felt the rhymes and illustrations were too generic and, although enjoyed by the Latino schoolchildren in North Philadelphia, were not culturally relevant specifically to the Puerto Rican community.

Informal feedback from the participating pre-service teachers

I designed an open-ended, informal evaluation, asking students if they thought this project had direct implications for their future teaching and if they would recommend continuation of the project for future students. I was looking for anecdotal comments on their attitudes and beliefs about the experience as a whole. Students wrote, “I have learned to leave my own cultural bias at the door”; “I gained a new respect for the Latino culture and all they go through when they come to the U.S.”; “The difficulty people have in adapting to life in America”; “How hard it is to be stuck between being both Puerto Rican and an American”; and “Life here is different from life on the island.”

Forty-five students commented they believed this experience would filter into their teaching philosophy and practice, two said “no,” and one said “maybe.” The pre-service teachers remarked on gaining insights regarding students’ cultural differences: “Students can know each other not only on a personal level but also on a cultural level”; “I am so much more aware of the need for children to appreciate and understand other cultures, races, abilities and people”; “Reaching out into communities [creates] the concept of a global environment and [provides] opportunities for hands-on, self-driven learning”; “I want to incorporate how critical it is to be aware of

the many different cultures in your class and to create a classroom that is inviting and encouraging to all students”; “I’ll be more culturally sensitive now”; and “school materials need to be checked for cultural authenticity so that we are not propagating stereotypes and incorrect information.”

Students highlighted how much they enjoyed the primary research: “[T]he importance and ease of getting first-hand experience if you put in the time and effort,” and “I like the idea of doing first-hand research and interacting with the community.” I was truly delighted when I read, “I am very interested in staying connected to this culture and expanding my knowledge even more.”

Forty-seven students recommended continuing the project next year, and only one said not to. Thirty-seven students responded that they really enjoyed doing the primary research, going to the various sites, and interviewing graduate students, alumni, and professors of Latino heritage. Other students noted the positive experiences of peer collaboration, immersion into the project, and the diversity of people they encountered—old/young, variety of religions, and educational levels. Among their comments: “We were able to see things in this country from another culture’s perspective”; “It made you think about questions that you normally would not have,” And “[this project] pushed students out of our comfort zones. This is important.”

I also found a few instances of lingering prejudices. One student admitted: “I actually expected this school [i.e. one of the after-school programs] to be disorganized and poorly managed and it was. It confirmed [my] opinion about North Philadelphia before I got there. It is poor and dirty.” Another commented: “The neighborhoods were even more dangerous than I thought.” I need to think further about this. Is there a way to better prepare my pre-service teachers? Should I encourage an honest dialogue about what the students think Puerto Ricans are like, in order to air prejudices and stereotypes? Perhaps I should bring a person of Latino heritage from a North Philadelphia neighborhood to answer students’ questions? I will continue to mull this over.

Conclusions

I found this project to be exciting and fulfilling. The pre-service teachers demonstrated through their research logs, comments in class, final paper, and the informal evaluation that they were cognizant of the importance of cultural sensitivity in teaching, of including multicultural literature in the curriculum, and of the need to carefully review these books for authenticity. New and very positive connections were made between Arcadia University and individuals and organizations in the Latino community. This project also reinforced, very specifically, several values:

1. Instilling in pre-service teachers the significance of critically reading the symbols of our world, in both text and image.
2. Increasing pre-service teachers' sensitivity to, respect for, and knowledge of the diverse cultures they will encounter in their own classrooms.
3. Expanding pre-service teachers' comfort zones, to create "a pedagogy of transformation in a real and material sense, and not merely a recognition and acknowledgment of difference" (Jackson & Solis, 1995, p. 2).
4. Stressing the importance of selecting culturally authentic and accurate children's literature. As Hazel Hochman wrote in 1993, "The best [multicultural] books break down borders. They surprise us—whether they are set close to home or abroad. They change our view of ourselves, they extend that phrase 'like me' to include what we thought was foreign and strange" (cited in Norton, 2001, p.2). These pre-service teachers traveled into "foreign" neighborhoods, interacted with a wide range of new people, and were exposed to a different culture through primary and secondary sources. Ultimately my goal was to create a multicultural experience that would break down borders and expand comfort zones. I truly hope I accomplished this.

References

- Appelbaum, P. (2002). *Multicultural and diversity education: A reference handbook*. Santa Barbara, CA: ABC-CLIO.
- Bishop, R. (1993). Multicultural literature for children: Making informed choices. In V. Harris (Ed.). *Teaching multicultural literature in grades K–8*, pp. 39–53. Norwood, MA: Christopher Gordon.
- British Columbia Ministry of Education. (2001). Effective schools research – teachers who understand different cultures and backgrounds, recognize student differences, and provide a sense of inclusiveness for all students. Retrieved October 26, 2004, from <http://www.bced.gov.bc.ca/abed/research/esr/recogdif.htm>
- Bull, B., Fruehling, R., & Chattergy, V. (1992). *The ethics of multicultural and bilingual education*. NY: Teachers College Press.
- Closs, A. (1999). Including the excluded in Czech schools. Retrieved December 16, 2004, from www.eenet.org.uk/newsletters/news3/p3.shtml
- Digital history. Native American voices. Retrieved 2005, from www.digitalhistory.uh.edu/native_voices/native_voices.cfm
- Durodoye, B., Combes, B., & Bryant, R. (2004). Counselor intervention in the post-secondary planning of African American students with learning disabilities. *Professional School Counseling* 7(3), 133–141.
- Fox, D. & Short, K. (Eds.). (2003). *Stories matter: The complexity of cultural authenticity in children's literature*. Urbana, IL: NCTE.
- Freire, P. (1970). *The pedagogy of the oppressed*. New York: Herder and Herder.
- Galda, L. & Pellegrini, A. (Eds.). (1985). *Play, language, and stories*. Norwood, NJ: Ablex.
- Gosselin, T. (2000). Info-Klub Vukovar (NGO): building a communal and open local public forum for the Serbian and Croatian communities in Vukovar, Croatia 1999 (newsroom, Internet access, citizens fora). Retrieved December 16, 2004, from www.cemes.org/current/LGI/163-eng.htm
- Haberman, M. (1991). The rationale for training adults as teachers. In C. Sleeter (Ed.), *Empowerment through multicultural education*. Albany, NY: State University of New York Press, pp. 275–286.
- Heath, S. (1983). *Ways with words: Language, life, and work in communities and classrooms*. New York: Cambridge University Press.
- Howard, E. (1991). Authentic multicultural literature: An author's perspective. In M. Lingren (Ed.). *The multicolored mirror: Cultural substance in literature for children and youth*. Ft. Atkinson, WI.
- Jackson, S. & Solis, J. (1995). Introduction: Resisting zones of comfort in multiculturalism. In S. Jackson & J. Solis (Eds.). *Beyond comfort zones in multiculturalism*:

- Confronting the politics of privilege*. London: Bergin and Garvey, pp. 1–14.
- Jaramillo, N. (1994). *Las nanas de abuelita/ Grandmother's nursery rhymes*. New York: Henry Holt.
- McCabe, A. (1997). Cultural background and storytelling. *Elementary School Journal*, 97, 453–475.
- Meier, T. (2003). Why can't she remember that? The importance of storybook reading in multilingual, multicultural classrooms. *The Reading Teacher*, 57, 242–252.
- Montana Office of Public Instruction. (2004). American Indian education data fact sheet. Retrieved November 11, 2005, from www.opi.state.mt.us/PDF/IndianEd/IESummit/statistics.pdf
- National Institute for Public Education, Hungary. (2003). Executive summary (Hungarian Roma education policy). Retrieved December 16, 2004, from www.oki.hu/article.php?kod=integration-executive.html
- Norton, D. (2001). *Multicultural children's literature: Through the eyes of many children*. Upper Saddle River, NJ: Merrill Prentice Hall.
- Ramirez, G. & Ramirez, J. (1994). *Multicultural children's literature*. Albany, NY: Delmar.
- Roma in Serbia: Introducing Romany language and culture into primary schools. Retrieved December 16, 2004 from www.minorityrights.org/Dev/mrg_dev_title5_roma/mrg_dev_title5_roma_pf.htm
- Sapon-Shevin, M. (1994). *Playing favorites: Gifted education and the disruption of community*. Albany, NY: State University of New York Press.
- Scriven, M. & Paul, R. Defining critical thinking (a draft statement for the National Council for Excellence in Critical Thinking). Retrieved December 8, 2002, from <http://www.criticalthinking.org/University/univclass/Definig.html>
- Serafini, F. (2003). Informing our practice: Modernist, transaction, and critical perspectives on children's literature and reading instruction. *Reading Online*, 6(6). Retrieved December 18, 2003, from http://www.readingonline.org/articles/art_index.asp?HREF=serafini/index.html
- Sternberg, R. (1985). Teaching critical thinking, part 1: Are we making critical mistakes? *Phi Delta Kappan*, 67, 3, 194–198.
- Suransky-Dekker, C. (1997). Portraits of black schooling in South Africa. ERIC Doc. ED412619.
- Temple, C., Martinez, M., Yokota, J., & Naylor, A. (2002). *Children's books in children's hands*. Boston: Allyn and Bacon.
- UNESCO. (2000). Education for human rights, peace, international understanding, tolerance and non-violence. In A. Osler & K. Vincent (2002), *Challenge of global education*, p. 2. Stoke on Kent, UK: Trentham Books.
- Utku, S. (2004). Greek policy on Western Thrace thawing, but questions remain. Retrieved December 16, 2004, from www.turkishforum.com/thrace/tdn.html
- Valverde, L. and Scribner, K. (2001). Latino students: Organizing schools for greater achievement. *NASSP Bulletin*, 85, 22–31.

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Preparing for Change: Creating Conditions to Support Teachers' Reassessment of Their Practice

Introduction

It is no secret that innovative teachers who are just beginning to introduce principles of interactive pedagogy into their practice have to face numerous challenges: students reluctant to accept innovations, colleagues looking skeptical, school administrators annoyed with the noise in the classroom. But there is one more difficulty all of us encounter: In order to work in a new way, we must first learn to think in a new way. How can we achieve this end? How can we help teacher-practitioners change their own thinking, so that they approach new practices with an open mind and reconsider those they currently use?

Teachers at the school where I work also ask these questions and strive to find answers to them. This article is about some of the answers we have already found, and about how our colleagues are working on their own professional thinking in response to change.

Mental stereotypes in teaching

One important term related to human thought and particularly to the structure of a teacher's professional thinking, is *mental stereotype*. According to the RWCT glossary, a stereotype is a "simplified image or notion of a social object or phenomenon; it is emotionally colored and possesses a high degree of stability. In teaching it is a rigidly preset behavior of a teacher toward students" (Nizovskaya, 2003, p. 22). Thus, a mental stereotype in teaching is an attitudinal component of a teacher's thinking that determines his or her professional behavior.

In our country the realities of the Soviet period affected all spheres of social

life, the methods of school teaching being no exception. These methods, in their turn, formed in the minds of many teachers a mental stereotype of *universal sameness*: the same methods are used, and the same curriculum is delivered to everyone in the class, regardless of individual need, interest, or ability. One of the necessary conditions for the current transition to a qualitatively new approach to schooling and to new instructional content is to challenge this stereotype, which restricts the creative and professional development of teachers.

On the surface, the solution seems to be very simple: Just change the methods, and the respective stereotypes will disappear by themselves. But in reality the problem is far more complicated. Discarding old attitudes is a long process. The interrelations between mental stereotypes and teachers' practice may be illustrated by some examples from the experience of our School-Lyceum #2 (Kyzyl-Kiya, Kyrgyzstan).

Traditionally a pilot institution for new educational programs, our school has been actively applying various interactive teaching methods since 1999. Practically all teachers have mastered some interactive methods and strategies. But does that mean all of them have rejected the above-mentioned universal-sameness stereotype?

In 2001, I completed the Reading and Writing for Critical Thinking course. Back at the school, I shared what I had learned with my colleagues, and many of them were eager to see my lessons and asked many questions. To respond to their interest, I prepared a presentation of the RWCT program for teachers in our school and arranged a few workshops devoted

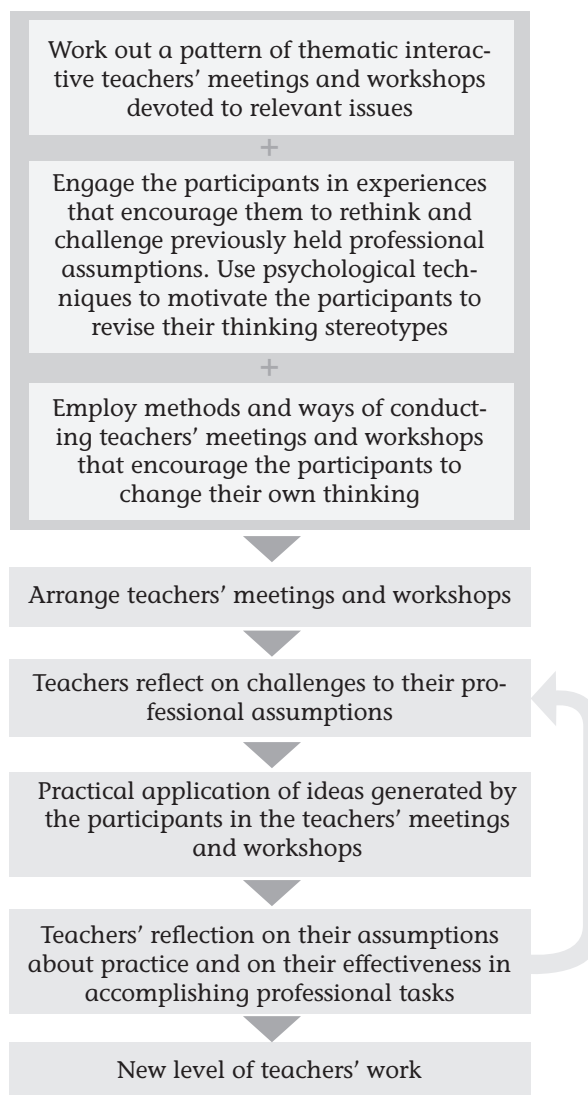
to particular educational problems. In the course of these workshops I became aware that, even while acknowledging the advantages of the new approach, many teachers continued to compare it with the traditional ones. Thus, in evaluative questionnaires filled out by my colleagues after the RWCT presentation, I read:

- *It is interesting, but **does not quite agree with our customary idea of education.*** (bold added)
- *I observe a **discrepancy between the traditional and new teaching methods.***
- *And what about **the universally accepted approach** to text analysis?*

Later, while trying to apply the new strategies in their own classes, these teachers obviously remained guided by habitual notions of the teaching/learning process and the teacher's role in it. Here is a typical example of a teacher introducing the *concept map* to her elementary students. In accordance with principles of active and cooperative learning, her students work in small groups, generating ideas and trying to elaborate their own ways of presenting the material, while the teacher, basically aware of her role in the process of group work, observes their work as a facilitator, listening to different opinions. But very soon she chimes in on the conversation in order to explain to the group her own vision of the concept map and how it should look. Reflecting on the episode after the lesson, she is absolutely sure she was in the right: "Yes," she says to her colleagues, "working in groups is good for schoolchildren; they develop speech habits and learn to communicate with their peers. But with all participants having their own opinions, they will never find the correct answer, so one of the teacher's tasks during group work is to come up at the *right moment* and *push* them gently toward the answer that is expected from them." Reviewing the situation, I came to the conclusion that, for many of my colleagues, old attitudes (in this case *I know how to make the map, and I'll teach my students how to do it correctly*) become a hampering factor reducing the effectiveness of new methods and strategies. Can we help teachers who are willing to master new teaching methods get rid of the professional assumptions of yesterday? Can we help them adjust their own thinking patterns

to the new tasks? These were the questions asked by our school administration.

Our reasoning was as follows. Thought processes are studied by psychology and are extremely complicated, so to interfere with them one should possess special knowledge and special methods. Moreover, the very task set by school administrators—to change the teachers' thinking, even through eliminating certain outdated stereotypes—would perhaps be regarded as an attempt to come back to the authoritarian school of the Soviet period which did try to "govern" the nation's thinking. So, after a long discussion, we decided to focus our efforts on a task that we found more appropriate and manageable: creating conditions that would help the teachers themselves realize the necessity of changing their own thinking, of dismissing old stereotypes. The diagram below is a graphical representation of the approach we used:



As you can see from the diagram, in creating conditions to support teachers' reflection on their professional assumptions we decided to concentrate our efforts on the implementation of concrete educational tasks. The first step was to arrange teachers' meetings and workshops aimed at accomplishing particular tasks; however, these were deliberately designed in a new format, using materials, methods, and techniques that could help teachers gradually question and change their own thinking patterns. The changes were to be determined by teachers themselves, on the basis of their professional needs, temperaments, and moral and ethical beliefs.

Changes in thinking involve not only the rejection of old conceptions and "unwanted" stereotypes, but also the formation of new conceptions as a basis for a new behavior; thus, we also aimed at creating conditions for the formation of new notions that would help teachers accomplish current professional tasks.

Here is one example to provide an insight into the character and mechanics of this work. Traditionally, the duty of analyzing students' progress in our school was performed by the administration, which examined teachers' reports and class books, studied the results of standardized tests, and registered progress dynamics for all classes and disciplines. This job took a lot of time and effort from administrators, while very few teachers realized the importance of the task. The analysis reports were presented at our monthly meetings: the bored teachers listened to long series of figures, some took notes, others didn't. In general, our colleagues' attitude to the situation was one of indifference.

To overcome this, we developed an original pattern of a teaching staff meeting where each teacher was given a chance to become an "acting administrator" and carry out the progress analysis. The meeting was arranged in the following way:

1. Teachers were divided into groups.
2. Each group received two class books.

3. The task for each group was as follows:

- Using the class books, analyze the dynamics of student progress in particular disciplines;
- Discuss possible causes of the changes;
- Compare the progress data across the terms;
- Draw conclusions and work out recommendations for promoting progress;
- Evaluate the progress analysis procedure;
- Make a presentation of the analysis results for the teaching staff.

Just as we had expected, the presentations of our "research groups" were followed by a lively discussion. Some teachers remarked on the importance of the accomplished task for all the interested parties: for parents, who are interested in the effectiveness of school education, and for teachers, who have learned at first hand how complicated such analytical work is. Others made suggestions about how to improve the analytical procedures, and what instruments can be employed. As we found later, for some of our colleagues that meeting became the beginning of a conscious departure from an attitude of indifference to the instructional and evaluative policies and practices of the school. Their own participation in the analytical work and the follow-up discussion helped them change their personal attitude to progress analysis, and to recognize it as an important component of the teaching profession.

Moreover, such interactive teachers' meetings in our school have become an effective instrument for involving the whole teaching staff in the analysis of a particular situation or problem. Now, whenever we have an urgent matter, we often arrange for teacher teamwork, giving them responsibility for generating information, rather than merely being passive recipients of information created by others.

Reflection: An essential component in the development of teachers' thinking

As the diagram shows, reflection, or the teacher's ability to evaluate the effectiveness of his or her own thinking regarding the performance of

professional tasks, plays an important role in our work aimed at the development of teachers' professional thinking. "Pedagogical reflection is the process of becoming aware of one's prior activity, one's own emotional condition, successes and challenges, means and instruments employed, problems encountered, and solutions found, a way from emotion to analysis of the pedagogical activity" (Nizovskaya, 2003, p. 21). In order to help our colleagues engage in pedagogical reflection, we suggested using Peter Senge's left-hand column (Senge, 1990).

What I think while saying what I say	What I say

The technique is appealingly simple (i.e., reconstruct verbatim what you said in a particular conversation, write down your own words in the right column, then fill the left column, and analyze your comments), but it allows the thinker to delve more deeply into his or her own mental processes, and hence to identify the communication problem and find a way to its solution. With some practice, it can also be effectively used in communication planning. Today, many teachers at our school apply the left-hand-column technique while elaborating lesson plans. It works as follows: At the planning stage the teachers identify potentially problematic moments where deviations from the main topic can be predicted to happen. Here is an example of a typical deviation: When explaining an issue that allows various approaches, or a problem that has more than one solution, many teachers (especially those who know their subject backward and forward) tend to forget about time limitations and the learning task in view, and try to give a detailed account of all possible approaches to the matter. Time runs out, the lesson plan goes to pieces, the students do their best to follow the drawn-out explanation, but many eventually give up. To avoid such a discouraging situation, teachers should

attempt to identify where in the lesson such teacher-dominated digressions are likely to occur, and be prepared with alternative strategies for making the students aware of the optional solutions. This can be done using a modification of the Senge technique: You write down in the left column your own thoughts concerning the anticipated disconcerting moment, and in the right one, wording that you believe will best allow you to communicate what is necessary for the students to accomplish the current learning task. Here is an example from a math teacher's lesson plan:

I think that...	I'll tell my students that...
<p>A standard solution for this system is by substitution . . .</p> <p>The use of the Cramer's rule is also possible, but it is too difficult for some students at this level . . .</p> <p>Or we may approach the problem differently . . . Or use the following solution . . .</p>	<p>The substitution method is not the only possible solution for this system. There are some other approaches, but I would like you to find them independently . . . (Suggest possible directions of the search)</p>

As a result of such specific strategizing, teachers point out that they are now planning and conducting their lessons with more confidence. The left-hand-column method helps them consider controversial points in advance, and use these moments to activate students' thinking without digressing from the learning task at hand. In the above example, the left-hand-column technique enabled the teacher to optimize the learning process; instead of expanding on the numerous possible solutions, the teacher initiated independent, creative student work.

There is also a second important result of the reflective activity: The feedback arrow on the diagram indicates that reflection upon their own mental processes makes teachers strive to adjust their own thinking—that is, having realized what mental stereotypes hamper the accomplishment of the current professional tasks, they consciously try to abandon

these stereotypes. Just a few years ago an ineffective lesson was, for most teachers, a cause for frustration—"I'm a complete failure! I can't use the new methods effectively" (stereotype: *I didn't succeed—hence I can never succeed*). Now the reactions have notably changed. "Maybe the strategy I employed was not the best choice... Perhaps at this level it would be better to use..." That's what you will most likely hear from my colleagues when they feel they have not reached their goal for the lesson. This also demonstrates a shift of attitude: People are ready to learn from their own failures and mistakes; they are beginning to search for and try out new solutions for the old dilemmas.

Vertical and lateral thinking in teaching

Along with teachers' meetings and workshops, which were intended to help teachers gain insight into their own professional thinking, we arranged a special training session on the *Principles of Lateral Thinking*, demonstrating different types of human reasoning. The aim was to promote the psychological literacy of the teaching staff and to introduce techniques for activating unconventional thinking. We focused on the ideas of Edward de Bono, a world-renowned authority in creative thinking, innovation, and the teaching of thinking as a skill.

Here is an excerpt from a text used in our workshops.

Why is some people's activity always rich in new ideas, whereas that of others, also educated people, remains futile? Since the times of Aristotle, logical thinking has been praised as the only effective way of reasoning. However, the utmost subtlety of new ideas makes us doubt that all of them have come from logical reasoning. Some people have a different way of thinking, and it is easier for them to generate original ideas. It is often called unconventional or lateral thinking. According to Harry Alder, a well-known U.S. psychologist, it may be defined as horizontal thinking, whereas logical reasoning may be defined as vertical or conventional thinking. The term lateral was first suggested by Edward de Bono, who also set up the main principles of lateral thinking (materials translated from the site <http://www.superidea.ru>).

The following legend provided by Edward de Bono in *The Use of Lateral*

Thinking (De Bono, 1967) was cited in the course of the training session, to illustrate the difference between vertical and lateral thinking.

A merchant who owes money to a moneylender agrees to settle the debt based upon the choice of two pebbles (one black, one white) from a money bag. If his daughter chooses the white pebble, the debt is canceled and the girl remains with her father; if she picks the black pebble, the debt is still canceled, but the moneylender gets the merchant's daughter. However, the moneylender "fixes" the outcome by putting two black pebbles in the bag. The daughter sees this and when she picks a pebble out of the bag, immediately drops it onto the path full of other pebbles of different colors. She then points out that the pebble she picked must have been the opposite color of the one remaining in the bag and suggests looking at it. Unwilling to be unveiled as dishonest, the moneylender must agree and cancel the debt. The daughter has solved an intractable problem through the use of lateral thinking.

The training encouraged the participants to activate fresh and innovative approaches to their thinking and to discard old habits of mind that often become obstacles on the path to educational innovations.

At the same session we introduced the participants to various visual organizers that can assist a thinker to optimize the mental process—diagrams, tables, maps, etc. (Alder, 2003, p.123).

These activities proved to have a beneficial effect on the teaching/learning process. Having observed and practiced a number of applications for lateral thinking, our teachers began to use its elements in their own classes and in their individual work with students.

In the past, the usual pattern of working with *difficult* students in our school was always the same: The supervising instructor of the class invited the student for a talk and administered a rebuke. The reasoning behind this kind of educational work was very simple: "The more we say to our students, the more they improve; each conversation with a teacher is educationally valuable and affects the student's behavior" (a deep-rooted stereotype in teaching). Unfortunately, endless admonitory talks didn't work and only annoyed the intended beneficiary. After the lateral-thinking training, some of our

teachers have started to use an entirely different approach. While talking to a difficult student, they try first to help him or her figure out the cause of the conflict, and then encourage the student to look for an optimal escape from the dilemma. In most cases such an unconventional (for our educational system) solution turns out to be more effective than the traditional one.

What we gained from the work on our own thinking

Of course we are not going to assert that due to our efforts aimed at creating conditions for the development of teachers' professional thinking, all our colleagues have abandoned the old mental stereotypes and have started to think *in a new fashion*, employing only original, unconventional solutions in all problematic situations. Even if such changes were possible, they would hardly be consistently positive for the teachers and their students. However, we can state that our work has already yielded some results of practical significance, both for the accomplishment of concrete educational tasks and for the realization of school goals.

These results are:

- The school has found suitable solutions for particular educational/organizational problems.
- An effective instrument for handling such problems has been created (an interactive teachers' meeting, where the whole teaching staff is involved in the analysis of a problematic situation).
- The teachers consciously work on being reflective about their professional thinking; when needed, they employ unconventional solutions.

There are also indirect results, which do not manifestly ensue from our work on our own thinking, but are related to

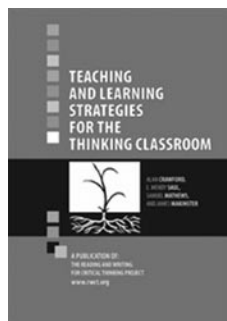
it in various ways: The use of innovative teaching methods has become more proficient; the creative potential of our teachers has been enhanced; we are publishing a school journal; and we have created a number of unique teaching manuals, among them collections of lesson plans and teacher books that are well-known to many colleagues in our country.

On the whole, our experience suggests that by helping teachers work on the development of their own thinking, school administrators can significantly contribute to the personal and professional growth of their staff. The development of thinking is a process that cannot be confined "to the mind of a single person (be it a teacher or a student), but requires like-minded colleagues" (Garayeva & Rahmanjanova, 2003, p. 47). That is why, working to accomplish this momentous task, we are trying to incorporate the efforts of all participants in the teaching/learning process.

References

- Alder, H. (2003). *NLP. Modern psychotechnologies*. Moscow – Saint-Petersburg: Peter Publishers.
- De Bono, E. (1967). *New Think: The use of lateral thinking in the generation of new ideas*. New York: Basic Books.
- Garayeva, Y. & Rahmanjanova, Z. (2003). Our point of view: learning to think. *Thinking Classroom/Peremena* 4(2), 46–47.
- Nizovskaya, I. (2003). *Glossary of the Reading and Writing for Critical Thinking Project*, Bishkek: Soros Foundation - Kyrgyzstan.
- Senge, P. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday.

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Pros and Cons

Armchair Experts*

Lorraine Ling

We often hear the question, *Is teacher education mainly a matter of theory or a fact of practice?* The answer is *no* to both. Like many other questions in teacher education, this is the wrong one. This question instantly reinforces the total impossibility of there being opposing poles of theory and practice, when in fact they are inextricably linked and interact with each other to create and re-create each other continuously.

It is not possible to conceive of one concept without the other. In semiotics a sign is as much defined by what it is not as by what it is. Thus we understand *hot* because of its not being *cold*. To polarize theory and practice as separate zones of meaning is as flawed as to think of day without night, black without white, on without off. Theory relies for its identity on practice and vice versa.

Theory occurs at a number of levels. Taking the theory that underpins teacher education as an example, we can see that at the global level, theories pertaining to psychology, sociology, anthropology, philosophy, and ethics are all drawn upon to illuminate the concept of education and learning. At the next level, which might be called the macro level, the big-



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picture or grand theories are further filtered to address issues such as access to resources, equality, freedom, empowerment, autonomy, and independence. At the next, or meso level, theories are further refined to address the contexts of education and learning; here we consider learning styles, approaches to teaching, curriculum theory, theory pertaining to assessment and evaluation, theories about management and discipline, and more. At the micro-theoretical level, which may pertain to the classroom itself, we consider theories about grouping of students, organization of timetables and codes of curriculum construction, effects of teaching styles on learners, interpersonal and environmental dynamics, and the roles of teachers and learners. Each of

these levels of theory is implicated in the formation of a philosophy of education which all educators who expect to act consistently and in an empowered way will be required to have, and constantly seek to develop and amend.

However, in education everyone considers him- or herself an expert who is competent to offer advice, because everyone has had some experience of schooling or of something that purports to be an educational institution or activity. Therefore, unlike most other social processes where professionals are engaged, in education we have everyone voicing opinions and beliefs about the way teachers *ought* to teach or learners *ought* to learn. In this paper I will refer to these untrained opinion holders as *armchair experts*, as distinct

* This article was first presented as the keynote speech at the **Association for Teacher Education in Europe (ATEE)** conference, Sicily, 2004.



from those who have been trained in the knowledge, skills, and modes of inquiry of the profession of education.

First we will tease out the metaphor of *armchair expert*. Metaphor is a very useful teaching tool, since it makes concrete something that might otherwise be ephemeral or abstract. Thus in thinking through the features of the object that is the focus of the metaphor, we can be more creative in our thought processes. This is no ordinary armchair—it is an overstuffed one. It is comfortable, has supports on either side for leaning upon, is familiar and homely, promotes a relaxed frame of mind and posture, reflects informality, and allows one to sit back and pontificate. *Armchair educational experts* therefore are prepared to scatter their opinions about with comfort and ease, basing them upon no formal information or training and feeling relaxed and secure in these ideas because they are familiar and unchallenging. *Armchair educational experts* do not turn to the theoretical underpinnings of the concepts they espouse, nor do they rely on evidence gathered systematically through a process of rigorous research. Rather they rely on hunches, on prevailing myths and legends about education, and often on what they read or hear in the media. They are likely to be the people who cry out for more and more hours of teaching practice in pre-service teacher education courses. They are also likely to claim that what really matters in

teaching and teacher education is the practice, and that theory is just a distraction which university academics hide behind due to their presumed deficiencies as practitioners.

In contrast to *armchair educational experts* we have trained professional educators. These people have undertaken systematic study and training to acquire specific skills and knowledge about the profession to which they aspire. They have undertaken research in the particular modes of inquiry that are consonant with their professions. These professionals not only possess knowledge specific to the profession but create and recreate new professional knowledge constantly. Professionals are able to be insiders in the discourse of the profession and indeed to manipulate and manage that discourse so as to promote the profession and its standards and values in society. A professional relies on evidence for statements and judgments and does not offer opinions that have no basis in theory or research.

Here then are two contrasting positions—that of the educational *armchair expert* and that of the trained professional. But where do we expect to find each of these roles being played out? The obvious answer to this question is that the *armchair expert* will be Mr. or Mrs. Average Person who is not a “real” educator, and that the professional educators will be paid staff within the education and university system. The more

realistic answer to this may, however, reveal that universities have their share of *armchair experts* as does the community at large. We certainly do nothing to overcome the *armchair syndrome* by trying to polarize theory and practice in our writings, in our lectures, in the curriculum of teacher education, in our conference themes, and in our own discourse and conversations with each other and the media. A professional will not apologize for dealing with theory and practice as interactive and interrelated, nor will a professional apologize for requiring teacher education students to constantly link practice and theory.

The concept of theory implies a “coherent group of general propositions used as principles of explanation for a class of phenomena; a system of rules or principles arising out of research into a phenomenon” (Macquaire Dictionary, 1981). Theory arises from systematic and rigorous research and study where data are collected, analyzed and interpreted so as to produce some defensible and evidenced conclusions and premises. Theory is, of course, always endlessly revisable. Unlike the positivists who may seek generalizable truths and laws, educational theorists are more prone to see theory as constantly emerging and renewable, even while it is employed as the basis for decisions and policies in the education profession. Theory and research are challenges to the comfort of the *armchair*. The

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armchair represents tradition and fundamentalism, while the professional represents what Giddens refers to as cosmopolitanism and post-traditionalism.

Giddens makes the point that traditions “are needed, and will always persist, because they give continuity and form to life” (1999, pp. 44–45). However, he also claims that in a globalized world, tradition becomes more entrenched. He aligns fundamentalism with tradition. By fundamentalism, Giddens means a call for a return to basic scriptures and texts, supposed to be read in a literal manner; fundamentalists propose that the doctrines derived from such a reading be applied to social, economic, or political life. Fundamentalism gives new vitality and importance to the guardians of tradition. Giddens notes: “Fundamentalism is beleaguered tradition. It is tradition defended in the traditional way—by reference to ritual truth—in a globalizing world that asks for reasons. Fundamentalism, therefore, has nothing to do with the context of beliefs, religious or otherwise... Fundamentalism isn’t about what people believe but, like tradition more generally, about why they believe it and how they justify it... Fundamentalism is a child of globalization, which it both responds to and utilizes” (1999, pp. 48–50).

The notion of the traditionalist or fundamentalist then aligns in this metaphor with the *armchair expert* who feels more comfortable espousing traditional opinions

and so-called truths than having to provide evidence or a defense for these opinions. The use of the term here is broader than that which confines itself to religious beliefs—so-called religious fundamentalism. In this broad sense, fundamentalism results in thinking and acting that are uncritically and unquestioningly based on tradition, habit, routine, and a lack of rationale or evidence for beliefs. In a world that is globalizing, it is more and more necessary and expected that opinions be justified and that there be valid and acceptable reasons provided for decisions and actions. This leads to the concept of cosmopolitanism which is linked here with the context of the professional.

Giddens states that “the battleground of the twenty-first century will pit fundamentalism against cosmopolitan tolerance. In a globalizing world, where information and images are routinely transmitted across the globe, we are all regularly in contact with others who think differently, and live differently, from ourselves. Cosmopolitans welcome and embrace this cultural complexity. Fundamentalists find it disturbing and dangerous” (1999, pp. 4–5).

Educational professionals cannot take a fundamentalist mindset. They are faced with diversity in terms of the colleagues with whom they work, the students taught, the curriculum concepts explored, the values and attitudes experienced, the backgrounds and cultural influences of the learners

and their community, and the ever-changing educational approaches and strategies being propagated. It is not defensible to claim that we should continue to take a particular course of action because it has always worked in the past. Professionals must create and recreate constantly the interaction of theory and practice, must engage in research into the profession, must challenge existing theories, and must replace those found to be out of date, with new and more contemporary ways of dealing with teaching and learning.

To even suggest that there can be practice without theory, or vice versa, undeniably aligns the speaker with a fundamentalist camp, which, in the current context, is not only naïve but dangerous. The context in which we work as professional educators is like no other, and it relies upon the constant interaction of theory and practice. All of this, however, is not to say that there are not academic traditions worth retaining, after they have been subjected to scrutiny as to their continued applicability and appropriateness. Giddens addresses this point in stating that “without intellectual traditions, ideas would have no focus or direction. However, it is part of academic life continuously to explore the limits of such traditions and foster active interchange between them. Tradition can perfectly well be defended in a non-traditional way—and that should be its future... Traditions will continue to be sustained in



as far as they can effectively be justified, not in terms of their own internal rituals, but as compared to other traditions or ways of doing things” (p. 45).

This sends a challenge to all professionals to get out of the overstuffed armchairs, move beyond their comfort zones of tradition, and hold those traditions up to careful, theory-based scrutiny. To grind blindly and relentlessly on, regarding practice as the be-all and end-all with no underpinning in soundly conceived and challenged theoretical principles, is to ensure that teacher education remains impoverished and anachronistic. It is bad enough, but understandable, that we have a community full of educational *armchair experts*, but it is indefensible that we have a profession which tolerates them.

Teaching and learning are practical activities but they depend for their past, present, and future on theorizing. The theory-free zone in which some teacher educators and teachers in schools attempt to live and work, reflects a distinct disregard for creativity, innovation, reflection, and curiosity about the profession in which they work. Eagleton addressed this point: “Non-theorists look remarkably lacking in curiosity. Though they may have been studying, say, prose fiction for years, they never seem to have paused to ask themselves what prose fiction actually is. It would be like caring for an animal for years without having a clue whether it was a badger, a

rabbit, or a deformed mongoose” (2003, p. 88).

Likewise, some people have been teaching or have been teacher educators for years without asking themselves what they are doing, why they are doing it, and whether new and innovative approaches could be developed. The whole theme of economic rationalism, with its obsession with outcomes, productivity, and measures of success, has reinforced the notion that practical outcomes and actions are the be-all and end-all. There is a sense in which instrumentalism, which of course is itself a theoretical construct, can be the enemy of theory and theorizing. The product or outcome becomes an obsession and anything than could be labeled theory must be seen as directly

leading to some measurable outcome. Eagleton observes:

Critics of theory sometimes complain that its devotees seem to find theory more exacting than the works of art it is meant to illuminate. But sometimes it is... The assumption that theory is valuable only if it illuminates works of art is an interesting idea. Somewhere behind it lurks the puritanical conviction that anything which is not useful, which has no immediate cash value, is a form of sinful self-indulgence. Everything from thinking to love-making must justify its existence before some grim-lipped tribunal of utility. Even our thoughts must be rigorously instrumental. Unless thinking is directly tied to doing, it is worthless. . . . The political left has its own version of this philistine pragmatism, in the assumption that “theory” must always be directly geared to “practica” (2003, p. 86).

Questions for reflection and action:

- What strategies can we employ to overcome the myth of the theory-practice gap in teacher education?
- Teacher educators should not apologize for overtly addressing theory and its link with all forms of practice in teaching. How can we ensure that we model this?
- To what extent should we resist attempts to privilege predominantly practical apprenticeship models of training over theoretically based reflective teacher education?
- How can we ensure that the *armchair experts* in our universities are replaced with professional educators?
- Are we as teacher educators aligned more with the fundamentalist camp or with the cosmopolitan camp, and what does this mean for the future of teacher education?
- How do we decide which traditions are worth keeping and which need revision or replacement in teacher education?
- Who are the most prominent and influential *armchair experts* in teacher education and how do we deal with them?

Pros and Cons



However, rehashing old approaches to theorizing is not enough to inform the practices of an era that is unique, with features different from those of previous eras. In teaching and teacher education we are preparing learners for a world that demands different knowledge, skills, values, and attitudes than the past or even the current context. Certainly the elements of the world for which learners are being prepared will reflect elements of areas with which we are familiar, but which will be differently organized and thus need to be differently theorized. Eagleton states: "It cannot afford simply to keep recounting the same narratives of class, race, and gender, indispensable as these topics are. It needs to chance its arm, break out of a rather stifling orthodoxy, and explore new topics, not least those of which it has so far been reasonably shy" (2003, p. 221).

The concepts about which theories are generated are constantly changing, and in education new challenges for theory are constantly emerging. These challenges may revolve around factors that are part of the current and future context of teaching and perhaps include dealing with uncertainty and with change, which is continuous and unremitting, as well as with new concepts of risks and trust in a world becoming increasingly globalized and instantaneous. Other factors include

preparing learners for a society where knowledge is constantly revisable and fostering in learners the skills of resilience, coping, and self-sufficiency. In other words, the theory of teacher education will need to focus on developing cosmopolitans who "welcome and embrace cultural complexity" rather than fundamentalists who "find it disturbing and dangerous" (Giddens, 1999).

Eagleton claims that "we can never be 'after theory' in the sense that there can be no reflective human life without it" (2003, p. 221). Without reflection and theorizing we can all be *armchair experts* who can tell others what they *ought* to do about everything under the sun, from the war on terror to learning to read and count.

As professionals we rely on theorizing and on the creation of the new directions and ideas that result. We should stop apologizing for theory and realize that it is more necessary than ever in a world which we need to understand in radically different ways and which requires new and innovative approaches and directions. The social, political, and economic context in which teaching and teacher education are enacted certainly requires decisive action and practice, but such action and practice must stem from radically new and intensive theoretical efforts. As Eagleton (2003) says: "It is true that in a social order which urgently needs repair, theory must

indeed be harnessed to practical political ends. But we would know that a social order had improved in this respect when we no longer felt the compulsion to justify our thinking at the bar of utility. We would then be able to think for its own sake, without feeling the neurotic impulse to apologize for it."

Let us take up the challenge to be proud of being theorists who inform our actions by soundly articulated theoretical positions, rather than claiming that we are above, beyond, or outside of theory and that we are mainly practitioners. Such a position renders us fundamentalists, and it is vital for education in this and subsequent eras that we be cosmopolitans. Leave fundamentalism to the *armchair experts*, although even this is dangerous because, being untheorized, fundamentalism is "edged with the possibility of violence and it is the enemy of cosmopolitan dialogue" (Giddens, 1999, p. 50).

References

- Eagleton, T. (2003). *After theory*. London: Allen Lane.
- Giddens, A. (1999). *Runaway world: How globalization is reshaping our lives*. London: Profile Books.

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Teaching with Informational Text to Engage Young Learners: Making our Thinking Explicit

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Today it is more important than ever for youth to know how to read for and critically evaluate information. This is because much of what they will encounter in the later grades and must negotiate as adults is of an informational nature. We assert, therefore, that early in their schooling experiences children need to be exposed to a variety of informational texts (Benson, 2003; Kamil & Lane, 1997).

Informational text comes in a number of forms, from magazine articles and supplemental books to electronic text from the Internet or even newspaper clippings. In whatever form they appear, informational texts may hold a key to engaging curiosity as well as expanding ideas and content knowledge (Brozo & Simpson, in press). If properly selected, and with appropriate instructional support, informational text can ignite students' innate curiosities about the world around them and build vital reading and thinking skills (Duke & Pearson, 2002).

Yet, many teachers in the early grades may not be giving informational text the kind of attention it deserves. Indeed, Duke (2000) has found that primary-level teachers in the United States still include a preponderance of fiction in their classrooms. This is true in spite of the fact that some

children, especially young boys (Brozo, 2002), may actually prefer informational texts to narrative stories (Caswell & Duke, 1998). For these children, informational texts may be an entryway to literacy learning. On the other hand, limiting children's contact with informational text is likely to leave them ill-prepared for the demands of standardized tests and subject area textbooks (Brozo, 2005), as well as those placed on them as citizens in an information age.

Using *Think-Alouds* to model meaning-making of informational text

To help their students comprehend informational text, some teachers use *think-alouds*. Think-alouds have been shown to be an effective way to help novice readers "see" what good readers do as they negotiate understandings of informational text (Duke & Pearson, 2002).

When Maria was teaching her second-graders about sharks she used a short informational article found on the Internet. With pairs of students sharing this common text, she read the article aloud, while explaining the thinking strategies she used to understand it. Through her explanation, her students learned when, how, and why to use particular comprehension strategies. A closer look at how Maria taught important comprehension strategies follows.

Maria began the lesson by talking with her students about the subject of the article in front of them. Since none of her students had ever seen a shark in real

life and most had never been to an aquarium or the ocean, she began by asking them what the article might be about and what they already knew about sharks. As the children offered ideas and information, Maria recorded them on the board for further reference while talking about the importance of activating their prior knowledge of the topic. She then began previewing the text and the photographs, pointing out connections that she could make between her past experiences swimming in the ocean and the article. She also related the text to a nature documentary that she had seen recently that dealt with ocean animals, including various species of sharks. As she continued to preview the text, she also asked herself questions about what the bold-faced words might mean, what she thought the pictures were about, and what she might find in different sections of the article based on the subheads, sidebars, and captions featured in the article. The students were encouraged to ask questions and make comments about the previewing process.

Maria followed the preview by reading only the first few paragraphs and then stopping. She openly pondered the information she had just read. She asked questions aloud of herself about the most important information. She talked about what information she found interesting and what information she thought the author was emphasizing. She had discovered from earlier lessons that sometimes determining importance was a difficult process



for some of her students to learn, so she spent time talking about how she looks for related details, bold-faced and italicized type, and key terms to determine the author's main points. Maria read through the rest of the page, modeling strategies such as asking questions, making connections, and determining importance as she went along. She also modeled how to use the nonfiction text features in the article, including captions, labels, and reading a sidebar about where to find additional articles about sharks. As she used these features, she explained how they helped her understand the information and ideas in the text.

Once Maria modeled the think-aloud process for the first page of the article, she then provided her class guided practice. The students worked with their partners to read the remainder of the article together, taking turns reading and thinking aloud. Maria walked around the room and worked with each pair, providing assistance as needed. Maria's goal was for all her students to learn to apply the strategies they were developing with the shark article to other informational texts they encountered in her classroom and outside of school. Throughout this lesson and others, she gradually limited explicit modeling of comprehension processes as students learned to become strategic, independent readers themselves of informational text.

A final word

While we have stressed the importance of teaching with informational text beginning in

the very early grades, we also acknowledge the difficulty many teachers have obtaining appropriately leveled and interesting nonfiction reading material for each student. One challenge has been simply finding informational texts on a variety of topics written for very young readers. Fortunately, publishers and authors are starting to fill this need, producing more informational books, magazines, and articles than ever before. However, some teachers still do not know where to look for extra classroom materials. Maria has solved the problem of lack of resources by searching for and printing short, engaging informational texts from the Internet. When she locates an interesting text with a reading level too difficult for her second graders, she makes simplifications. In addition, she forms pairs and groups of students to share texts, which saves on paper and printing.

Maria is one of countless teachers worldwide who have come to recognize the importance of providing their young students access to engaging informational prose. They have seen how these texts draw on their students' interests and innate curiosities, and how they prepare them for texts that they will encounter in the later grades, in the workplace, and in their everyday lives. Using think-alouds to model effective meaning-making processes is a useful way to help students see how they, too, can successfully comprehend nonfiction and become strategic, independent readers of the information all around them.

References

- Benson, V. (2003). Informing literacy: A new paradigm for assessing nonfiction. *The New England Reading Association Journal*, 39(1), 13–20.
- Brozo, W.G. (2002). *To be a boy, to be a reader: Engaging teen and preteen boys in active literacy*. Newark, DE: International Reading Association.
- Brozo, W.G. (2005). Avoiding the "fourth-grade slump." *Thinking Classroom/Peremena*, 6(4), 48–49.
- Brozo, W.G. & Simpson, M.L. (in press). *Content literacy for today's adolescents: Honoring diversity and building competence*. Upper Saddle River, NJ: Merrill/Prentice Hall.
- Caswell, L.J., & Duke, N.K. (1998). Non-narrative as a catalyst for literacy development. *Language Arts*, 75(2), 108–117.
- Duke, N.K. (2000). 3.6 minutes per day: The scarcity of informational text in first grade. *Reading Research Quarterly*, 35(2), 202–224.
- Duke, N.K. & Pearson, P.D. (2002). Effective practices for developing reading comprehension. In A.E. Farstrup & S.J. Samuels (Eds.), *What research has to say about reading instruction* (pp. 202–242). Newark, DE: International Reading Association.
- Kamil, M.L. & Lane, D. (1997). *Using information text for first-grade reading instruction: Theory and practice*. Retrieved February 21, 2005, from <http://www.stanford.edu/~mkamil/nrc97b.htm>

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Thinking Classroom strives to maintain a balance of practical and theoretical information. The writing should take the form of a narrative, rather than a formal research report. Examples from classroom experience, quotations from colleagues or students, or examples of students' work can help communicate ideas to journal readers.

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